



United Nations Report
Economic Commission for Europe
2008

United Nations Economic Commission for Europe Report 2008

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Governance and organizational structure

Introduction by

THE CHAIRMAN OF THE COMMISSION

Good cooperation and good governance are the hallmarks of this organization in 2007.

The Reform of UNECE that was embarked upon in 2005 and implemented in 2006 has led to a successful re-focusing of the organization on its key strengths and areas of structural comparative advantage in the region.

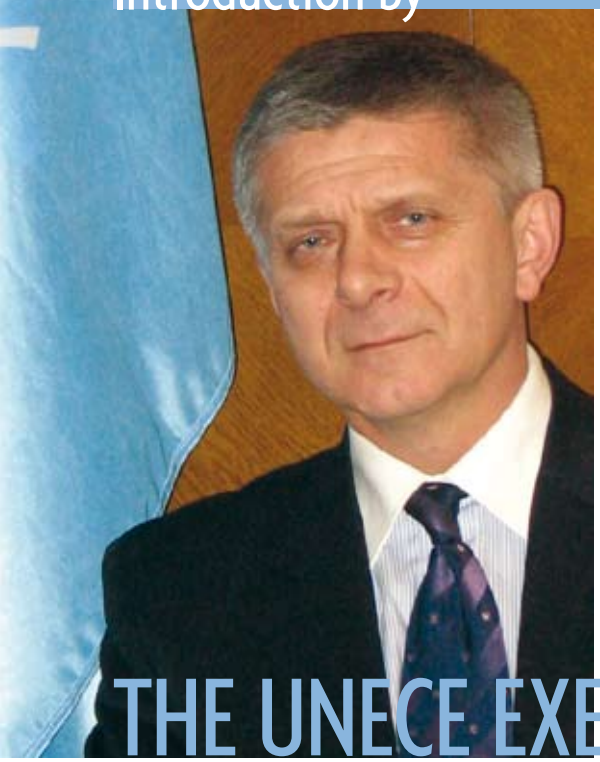
Based on assessments made so far, I can safely state that the organization has emerged stronger thanks to a better functioning governance structure, improved accountability, transparency and horizontal coherence of UNECE's activities, all of which have led to a UNECE that is more responsive to the needs of its member States. Following these changes, I have definitely observed an increased involvement of member States in the work of the Executive Committee, the Sectoral Committees and UNECE as a whole. Not least, a strengthened partnership has emerged between the secretariat and member States which is essential for the good functioning of the UNECE.

And here I would like to express my appreciation for the continued valuable support from the UNECE secretariat, working with member States in an open and constructive atmosphere. A big part of this positive state of affairs can surely be attributed to Mr. Marek Belka and his team, who have continued to work hard to address the concerns of member States and to ensure that the organization evolves in line with the changing needs of the pan-European region.

Belgium has now held the Chairmanship of the Commission for the last three years. It has been encouraging for us to steer and witness the transformation in the governance of UNECE during this time. In my view, UNECE is a well-functioning and coordinated organization that brings clear value added to the region. At the same time, to ensure that it continues on this path, it cannot afford to rest on its laurels and under its current leadership I feel confident that it will not do so.

Alex Van Meeuwen,
Ambassador
Permanent Representative of Belgium

Introduction by



THE UNECE EXECUTIVE SECRETARY

The broad-reaching impact of UNECE work

After two full years of managing and facilitating the functioning of UNECE, I clearly realize that one salient characteristic of the organization is its ability to use its sectoral focus – based on in-house expertise and well-established networks of governmental experts – for such key objectives as promoting integration and sustainable development throughout the region. In other words, the organization is much greater than the sum of its parts. This broad-reaching impact of our core and sectoral activities is also reflected in the fact that several of them stretch well beyond the borders of the UNECE region.

Placing UNECE work in a broader context is actually the main reason why the Annual Report for 2008 does not entirely follow the format of previous Reports. The first section is a collection of thought-provoking essays that reflect the activities of UNECE from a more analytical assessment and wider view. This deeper and enhanced intellectual insight serves not only to promote consideration of our technical work in a policy perspective, but also to adopt cross-sectoral approaches that enable us to achieve a higher level of coherence in our various activities. The series of ten discussion papers shows that if there is an overriding framework uniting all the economies in the UNECE region, it is a desire for combining pan-European integration, strong economic growth, environmental sustainability and social cohesion. All these essays have been prepared by staff members and it was my decision that these authors should not rest in anonymity. This Report is thus an opportunity to recognize and place the spotlight on just a fraction of the immense wealth of individual talent and expertise that is the hallmark of UNECE.

Key past events...

In its second part, the Report provides an overview of the wide range of activities carried out during the last year by UNECE in its various areas of work. Here, I would like to underline in particular the major events which took place in 2007. It is noticeable that all of them were held at the ministerial level and in partnership with other concerned regional organizations as well as with the host countries for those taking place outside Geneva. This clearly confirms the convening power of UNECE and its willingness to team up with the other regional organizations which are also involved in the issues addressed at such events.

The Sixth Ministerial Conference "Environment for Europe" (EfE) took place in Belgrade, 10 to 12 October 2007. The Ministerial Declaration adopted by the Conference underlined that the EfE process provides a valuable response to the common intention of UNECE member States to improve the environment throughout the region; it also initiated a reform of the process in order to further ensure its alignment with the environmental needs and priorities of the UNECE region. The UNECE Ministerial Conference on Ageing held in León, Spain, 6-8 November 2007, discussed progress achieved in the implementation of the Regional Implementation Strategy for the Madrid International Plan of Action on Ageing adopted at the 2002 Ministerial Conference in Berlin. The Declaration adopted in León constitutes a roadmap for policymaking in an area which has a decisive impact on the development prospects of the UNECE region. Finally, the Fifth Ministerial Conference on the Protection of Forests in Europe (MCPFE) took place in Warsaw, 5 to 7 November 2007, on the theme "Forests for Quality of Life". UNECE together with FAO, as partners of MCPFE, made several major contributions to the Conference, including notably the report on The State of Europe's Forests 2007 which addresses all criteria for sustainable forest management in our region.

UNECE additionally took an active part in organizing the First United Nations Global Road Safety Week, 23-29 April 2007, in cooperation with the World Health Organization and the four other regional commissions. Some 400 young people from over 100 countries attended the event. The importance of this issue

is obvious: worldwide, road traffic injuries are the leading cause of death among 15-19 years old, while for those in the 10-14-year and 20-24-year age brackets they are the second leading cause of death. Road safety is precisely one of the areas where UNECE can share its experience as well as its policy and legal instruments with the other regions of the world.

...and challenges ahead.

UNECE needs to address a number of challenges which are specific to the region and to call for strategic priorities to be pursued during this year and beyond.

First, the UNECE region is still marked by countries with startlingly different levels of development in terms of poverty, competitiveness and environmental performance. Fostering regional integration and, in particular, opening borders are key for reducing these development disparities. This is why one of our strategic priorities is to play an active expert role in subregional processes. Such an approach multiplies our outreach and thereby the impact of our work. Hence our efforts, among others, for strengthening the United Nations Special Programme for the Economies of Central Asia (SPECA), supporting the European Union's Strategy for Central Asia and contributing our expertise to the Regional Cooperation Council (RCC), the new institutional framework succeeding to the Stability Pact for South Eastern Europe. I am convinced that we have much to offer to these important subregional initiatives, particularly in terms of expertise relating to norms standards and best practice.

Energy efficiency will continue to be a key pillar of our work. A global consensus appears to be growing among experts and policymakers that energy efficiency is the most effective and non-controversial method of mitigating energy security risks and, above all, reducing greenhouse gas emissions. The UNECE efforts to promote the formation of an energy efficiency market in Eastern Europe have therefore to be vigorously pursued.

Another challenge is to implement the milestone decision to reform the "Environment for Europe" Process (EfE). Ministers invited our Committee on Environmental Policy to develop by the end of 2008 a consultative plan for EfE reform so that it can be endorsed, at a political level, by UNECE at its next session in the first quarter of 2009. We welcome a reform of this nature, and indeed after six Ministerial Conferences it is very timely.

Promoting the application of the Aid-for-Trade concept to transition economies is another task ahead of us. Aid-for-Trade is primarily a political process looking to obtain high-level support for the inclusion of trade in national development plans and to facilitate the funding of related activities, particularly in terms of capacity building. In this respect, Ministerial regional reviews have already been held in Asia, Africa and Latin America. UNECE plans to play a catalytical role in applying such an approach to the Eastern part of the region, bringing together a coalition of concerned United Nations entities (such as UNDP and UNCTAD), non-UN institutions (such as EBRD and ADB) and country groupings (such as EurAsEC, RCC and SPECA), with the overall support of WTO.

Being part of the global efforts of the United Nations for better delivery at the country level is also an emerging direction for UNECE work. Along this line, as outlined in a UNECE senior management retreat which took place in November last year, we will strive towards strengthening the plugging of our work into national development strategies, particularly by bringing the transboundary and regional integration dimension into these strategies. This should be reflected in the "One UN programmes" which are being established in a number of countries with transition economies. Albania is a pilot country in this respect and we have been part of an interagency mission whose objective was to strengthen and support, in a coordinated way, the trade aspects of the One UN programme for this country.

In conclusion, with two full years now behind us since the start of the implementation of the UNECE reform process, I perceive that we are operating at an increased level of intensity. This results from an amplified demand for our services which demonstrates confidence from the beneficiaries of our outputs as well as a much appreciated recognition of the value added we bring, both sectorally and as an organization. However, there is no room for complacency if we want to rise to the challenge of meeting the new demands from our member States. Thanks to a dedicated and competent staff, I am convinced that we are in a position to pursue this intensive work and deliver results, thus ensuring that we continue to fulfil our mission and facilitate a better future for the people of our region.

Marek Belka
Executive Secretary
United Nations Economic
Commission for Europe

PART I
UNECE ACTIVITIES IN THEIR BROADER CONTEXT – SELECTED ESSAYS

OVERVIEW

Robert C. Shelburne

One of the first requests made by Executive Secretary Marek Belka upon arriving at UNECE was that the staff should be encouraged to broaden their focus from the narrow and technical activities of their particular jobs and the mandates of their sectoral programmes towards a fuller appreciation of the problems and challenges facing a wider Europe and the possible role that an international organization might play in addressing them. The 10 essays presented in this section of the 2008 Annual Report represent voluntary contributions from several senior staff to this initiative. In these papers, the authors attempt to provide the broader context in which a number of more specific activities of UNECE are conducted. Each paper attempts to describe the essence of the overall issue: what the current situation is, where the problems lie and what the possible policy alternatives are. These essays provide the individual authors' perspectives on subjects that they have chosen; in most cases their assessment is based upon years if not decades of working on the more technical aspects of the issue. Often this work has taken place here at UNECE but in some cases at other international organizations, government agencies or even in the private sector. As such, these papers should be taken for what they are – thoughtful discussions of important issues by knowledgeable experts to help the reader more fully understand and appreciate the subject and the context in which various UNECE activities take place. They should not, therefore, be interpreted as necessarily reflecting the "official position" of the secretariat or any official proposal for altering UNECE activities. These papers are really not targeted to experts or government officials overseeing specific subprogrammes of UNECE, but to a wider audience of those interested in being generally informed about European economic affairs and the challenges that the region faces.

If there is one issue that unites all the economies in the UNECE region it is a desire for strong economic growth. Growth in turn is dependent on increased investment in public infrastructure, private plant and equipment, and human capital in the form of education and health services. This investment, however, must come from somewhere, and the first four papers in this series examine issues regarding the financing of this investment. The first paper examines this issue at the most general level: do the funds come from domestic savings or are they obtained from abroad? If the latter, what form do they take; that is, are they private capital flows, remittances or aid, and how does this vary across regions? The second paper examines official aid flows more closely by discussing a general polarization that has developed between the donors and recipients and how the European experience with assistance may provide some common ground towards its resolution. The third paper discusses how public infrastructure can be financed from private sector resources using public private partnerships. The final paper in this first group looks at a very small but quite important segment of financial markets by asking how do new entrepreneurial firms get start-up capital. The next set of papers begins with two examining competitiveness in the region; one examines the role of innovation and the other considers the implications of environmental standards. This is followed by a paper describing how pan-European environmental policy is being formulated. Next we have papers addressing the challenge of increasing energy security and one discussing the interaction between transportation systems and a number of important global trends. The final paper describes the progress that is being made in achieving the Millennium Development Goals (MDGs) in the pan-European region.

The emerging markets in the UNECE region have recently experienced fairly robust economic growth which has been supported by strong investment. The first paper examines the question of the origin of the funds that were used to finance this investment. Exactly where countries can obtain scarce investment resources has become a central theme of United Nations developmental activities since the global conference on Financing for Development (FfD) which was held in Monterrey, Mexico in March 2002. This question of financing development arose after it became apparent that the development objectives

incorporated in the MDGs could not be achieved unless the developing countries were provided far more in terms of external resources. The General Assembly has now decided to hold in Doha, Qatar in Autumn 2008 a major follow-up conference to review the implementation of the conclusions, referred to as the Monterrey Consensus, of that first conference. Preceding the Doha meeting that will evaluate progress to date, a number of preparatory events are scheduled in order to ensure that all the important facets of this issue are fully explored and studied beforehand. Some of these events have already occurred while others are planned for the first part of 2008. UNECE, being a Regional Commission, is an integral part of the United Nations system and thus has an interest in supporting this initiative as it does for all of those that come out of United Nations global conferences. As a more general part of this process Mr. Belka has been asked to discuss the status of the Monterrey commitments in regard to the UNECE region in several recent forums including the Dialogue of the Second Committee and a General Assembly roundtable at United Nations Headquarters.

Given the important role this issue will occupy in United Nations discussions during 2008, I provide in the first essay a description of what the motivations and logic were behind the FfD initiative and assess what has been achieved in the UNECE region and what still needs to be done. An important conclusion is that Central, Eastern and South-East Europe, along with several of the non-energy exporters in the Caucasus and Central Asia, have been following a development model that differs in several important ways from what most other emerging markets have been doing. In particular, these economies have relied much more extensively on obtaining private external resources to finance their development. Why this has happened is discussed along with its implications not only for these economies' future development but for world development in general.

An important source of finance for poorer economies, including some in the UNECE region, is foreign aid; the second paper examines some controversies surrounding its provision. The advanced economies have provided hundreds of billions of dollars in aid to the developing world over the last several decades; although this has done much good in some cases, many of these countries have grown very little, especially during the last two decades of the twentieth century. In fact some have argued that this aid has actually hindered development by creating perverse incentives and hindering democratic governance. Thus it would appear that much of this money has been wasted, but whose fault has it been and what can be done to improve the situation in the coming decades? Abdur Chowdhury, the then Director of the UNECE Technical Cooperation Unit, and Deputy Executive Secretary Paolo Garonna analyse these aid issues and propose that the answer to these questions can be partially found by examining the European experience in proving assistance to its disadvantaged regions. Of particular importance in this regard has been the way aid has been used to promote economic integration and how it has been distributed using the subsidiary principle.

The third paper dealing with financing development addresses how public infrastructure can be paid for and managed in an environment where public resources are limited but the investment needs for these services are great. This is a characteristic that succinctly describes many of the emerging markets of the region. With insufficient resources in government budgets there has been a need and an increasing tendency to rely more on the private sector to build, maintain and manage infrastructure projects. Public-private partnerships (PPPs) represent a flexible institutional arrangement that allows the public and private sectors to share responsibility in achieving social objectives with specific responsibilities entrusted to the entity that can accomplish it most effectively. However, as with any other institutional structure, the devil is in the details, and in many of the transition economies in the 1990s the details were not appropriately designed. In the next essay, Geoffrey Hamilton, Chief of the Cooperation and Partnerships Section of the Economic Cooperation and Integration Division, who has spearheaded UNECE's PPP activities, focuses on what is required for governments to be able to effectively use this financial model. Eight lessons are provided based upon an analysis of many PPPs that have been implemented in a number of different sectors and countries. In addition, it is emphasized that the effective use of PPPs, which properly considers developmental objectives, can help society not only achieve the cost-effective provision of services but can also increase accessibility of services to the poor and to geographically disadvantaged regions. It is interesting that he raises this last issue, because failure to provide services to the poor is often alleged to be a disadvantage of the PPP approach, however he argues that if properly implemented, it is an advantage.

Creating more innovative and dynamic economies is one of the fundamental challenges facing the entire UNECE region, both its advanced and emerging market economies. An important ingredient of this involves the creation of entrepreneurial firms which can quickly translate creative ideas and scientific discoveries into viable products. These firms, however, need financing because it takes time and money to turn ideas into marketable products. However, investing in these types of activities is risky as a lot of new ideas simply do not work out in practice. Due to these risks, banks tend to avoid lending to these types of firms. There is, however, a small segment of the financial sector referred to as the venture capital market that specializes in finding and developing these entrepreneurial businesses. José Palacin, UNECE's focal point on innovative finance in the Economic Cooperation and Integration Division, provides an overview of this important financial sector and concludes that public policies have historically been quite important in nurturing a venture capital industry as it is an area characterized by numerous market imperfections. From these experiences some lessons are drawn as to what actions Governments can take

to overcome the obstacles in establishing a venture capital market which can adequately finance dynamic new companies. It is also emphasized that although obtaining finance is often a significant constraint, it is nevertheless just as important to ensure that the other ingredients for entrepreneurship are also present; these include a proper regulatory and legal framework including protections for intellectual property, low start-up costs with minimum paper work, a favourable tax regime, and a well-educated workforce. More generally, it is pointed out that the policies needed to promote innovation in advanced economies may not be appropriate for catching-up economies.

A recurrent theme in many of the previous papers concerns the issues of competitiveness and innovation and their role in fostering higher living standards. The next two papers look at these issues in more detail. Rumen Dobrinsky, Chief of the Innovative Policies Section of the Economic Cooperation and Integration Division, examines the link between these two concepts at the level of both the firm and the country and then outlines some important policy implications. It appears that the innovative capacity of many of the UNECE emerging markets would be enhanced considerably if the link between knowledge creation and its incorporation into marketable products could be strengthened. In many economies the basic national institutions supporting innovative activities could be improved, and the management of private firms has yet to fully appreciate the importance of innovative activity. The interrelationship between various economic policies, such as those for competition policy which seeks to limit firms' market power, is also explored; it is found that these other policies often conflict with the objectives of increasing innovation and thus all these policies need to be formulated within a coherent framework that considers all these interactions.

The next paper addresses another set of conflicting national objectives, that between economic competitiveness and environmental quality. Although this is a fundamental trade-off that confronts all economies, it is particularly acute in the emerging markets of the UNECE region. These economies find themselves sharing the atmosphere and water networks with many wealthy economies that highly value environmental quality while at the same time they are having to compete against countries from Asia and elsewhere where environmental standards are lower. In lower-income economies, the perceived benefits of improved environmental quality may be valued less than in richer economies, while the perceived opportunity costs of abatement or compliance may be valued higher, especially when they have an impact on employment levels or result in lower wages and profits. There is also the fear that more stringent standards might have a negative impact on foreign investment as multinationals seek out locations where operating costs are low. As such, these countries are therefore quite concerned about mandating environmental regulations that could impose significant costs on their enterprises and thereby reduce their global competitiveness. In addition there is a free rider problem regarding transboundary pollution as a country can benefit from the higher environmental standards negotiated amongst its neighbours while avoiding all the costs by deciding not to participate themselves.

Dieter Hesse, former Senior Economic Expert in the Environment, Housing and Land Management Division, however, argues that this trade-off is far more nuanced than is commonly believed. In examining environmental policy in the former transition economies he finds that their environmental institutions, especially the government ministries, are weak, their regulations are often inadequate, and their enforcement efforts need to be improved. At the same time he finds these economies attach a high priority to increasing living standards and view that this can only be achieved by increasing their global competitiveness in a number of non-traditional industries. Nevertheless it is argued that high environmental standards are only a minor factor in determining cost competitiveness for most industries and locational decisions for multinationals. Even to the degree that they might be a competitive disadvantage in the short-run, they can actually turn out to be an advantage in the longer-term as they promote technological upgrading, the efficient use of resources, and can reduce adjustment costs involved with future trade policy initiatives or integration into production-sharing networks. In addition there are other benefits external to the firm including improved public health, increased tourism and additional recreational resources. Furthermore, the costs of undoing degradation, which will be desired at some future date as national incomes rise, can be avoided altogether. Thus in essence, when these dynamic factors are combined with the social benefits, the real costs of setting high environmental standards are much less than what their current costs might suggest. However, environmental policies need to be integrated fully into a country's overall economic development plan, be cost-effective, conform with international agreements and be gradually implemented as part of a predictable regulatory framework; income distribution effects may also need to be addressed. These messages are important not only for the less developed former transition economies in their attempts to integrate and compete with the more advanced economies of the region, but are important for the advanced economies as they contemplate environmental policies to deal with the newer global challenges facing the world such as global warming.

This issue as to what degree there is a trade-off between economic growth and environmental quality was one of the topics discussed at the recent "Environment for Europe" Ministerial Conference held in Belgrade in October 2007. In our next paper, Kaj Bärlund, former Director of the UNECE Environment, Housing and Land Management Division, provides his

overall assessment of that conference in Belgrade and describes its conclusions and decisions. This was the sixth Ministerial Conference (and Mr. Bärlund's fifth) under this process in which Governments of UNECE member states, United Nations and other intergovernmental organizations, non-governmental organizations and other stakeholders come together to appraise the state of the environment in Europe. Since they began in 1991, the UNECE has had a leadership role as the secretariat of this process. The conference is important because it is here that the future priorities are discussed as to where cooperative actions can be implemented in order to promote pan-European environmental protection and sustainable development. More specifically, the focus of this process has been on upgrading the environmental policies in those economies with lower environmental performance standards.

In his essay, Mr. Bärlund evaluates the "Environment for Europe" as a political process and generally concludes that it has been a success although he provides several suggestions as to how the process might be reformed in order to increase its overall effectiveness. In regard to the substantive issues concerning the state of the environment in Europe, the conference concluded that significant progress is being made but that the results obtained so far in Eastern Europe, the Caucasus, and Central Asia have fallen below expectations. The problem there seems to be related to the failure to strengthen environmental institutions in these economies and the need to focus more on the implementation of commitments. The importance of donor support and private sector involvement are likely to be additional important components in improving this situation.

Central to the goals of competitiveness and sustainable development is the issue of energy. Is there enough? Where will it come from? What will it cost? Is its production and use environmentally sustainable? Many of these questions are now discussed under the general topic commonly referred to as "energy security." George Kowalski, then Director, and Sead Vilogorac, Senior Economist, both of the Sustainable Energy Division, in their paper discuss more specifically what is meant by "energy security" and provide some reasons why it has been so difficult to forge a common approach to its achievement. A key factor includes substantively different views amongst countries on the optimal role of the market mechanism, the private sector, and Governments either as an owner or regulator. Although different types of insecurity are discussed, the focus in this essay is on the long-term physical availability of energy supplies. Interestingly, it appears that long-term security is not just an issue for consuming nations but also for the supplying nations, due to concerns that future markets might not exist which would justify massive long-term investments today. However, long-term commitments by consuming and producing nations could lower the risks faced by each. In order to achieve increased security, the consuming countries need to diversify the types of energy used and their geographical sources, yet in many ways the trends have been the opposite as the geographic concentration of energy reserves, especially oil and gas are projected to increase. The ability of countries to increase alternative sources, such as renewables or nuclear, have considerable potential in the long term but in the medium term are limited by technological, environmental and political constraints. For oil and gas which will remain for the near future the most important energy sources, the most immediate problem is not one of insufficient supplies under the ground, but the lack of either government resources for public development or of a sufficiently investment friendly environment for private sector development in those countries that have the reserves. In addition there are a number of other complementary issues that need to be addressed such as improving the transport infrastructure and enhancements for research activities and technology transfer.

Next, Eva Molnar, the new Director of the Transport Division, examines the two-way interaction between transport systems and several mega-trends that have been and are likely to continue to characterize the world. These trends include globalization, technological change, increased intergovernmental cooperation, the changing role of the public sector, the increased emphasis on security, and the need to ensure that economic growth is more environmentally sustainable. It is stressed that numerous policy responses are needed to address these developments, some at the global level, others at the regional level and some at the national level.

Besides creating a growing, prosperous, and peaceful Europe, we all have an interest in ensuring that the benefits of this extend to the most unfortunate of those amongst us. The MDGs provide a yardstick for how well this objective is being addressed. In the final paper Patrice Robineau, Senior Advisor to the Executive Secretary, provides a concise overview of the progress that is being made in achieving the MGDs in the region. The central message is that although significant progress is being made based upon strong economic growth, the fulfilment of these objectives is likely to require some new policy initiatives that more precisely target the needs of the region. The importance of resolving existing political conflicts and maintaining the momentum in promoting pan-European economic integration are also emphasized.

In sum, these essays provide some important background information for understanding the context in which UNECE technical activities take place. Hopefully you will also find them interesting and enjoyable to read.

FINANCING DEVELOPMENT IN THE UNECE EMERGING MARKETS

Robert C. Shelburne

Developing and emerging market economies need more resources than are usually accessible domestically in order to fully exploit the investment opportunities available to them while also addressing the basic needs of their populations. Although it is often possible to reallocate some additional domestic resources towards these developmental objectives, there are limits, and a more viable option exists based upon obtaining them from abroad. These external resources can be obtained by earning them primarily through exports, being given more in terms of aid or borrowing more from global capital markets. This is the basic economic logic behind the global initiative to increase the resources available to developing countries that was formalized in Monterrey, Mexico in 2002. Prior to this, the world community had agreed in 2000 on an ambitious programme, referred to as the United Nations Millennium Project, to cut global poverty in half by 2015; however it was immediately recognized that this goal could not be achieved unless the developing and emerging market economies (henceforth, simply emerging economies) were provided far more in terms of external resources. There were, in fact, estimates made as to how many additional resources would be required in order to meet the Millennium Development Goals (MDG) and the amount that could reasonably be raised domestically; the difference between these two was termed the MDG financing gap. For the poorest countries this gap was estimated to be over 20 per cent of GDP; in five of UNECE's lowest income countries (Armenia, Kyrgyzstan, Moldova, Tajikistan, and Uzbekistan) it was estimated to be approximately 10 to 20 per cent of GDP.

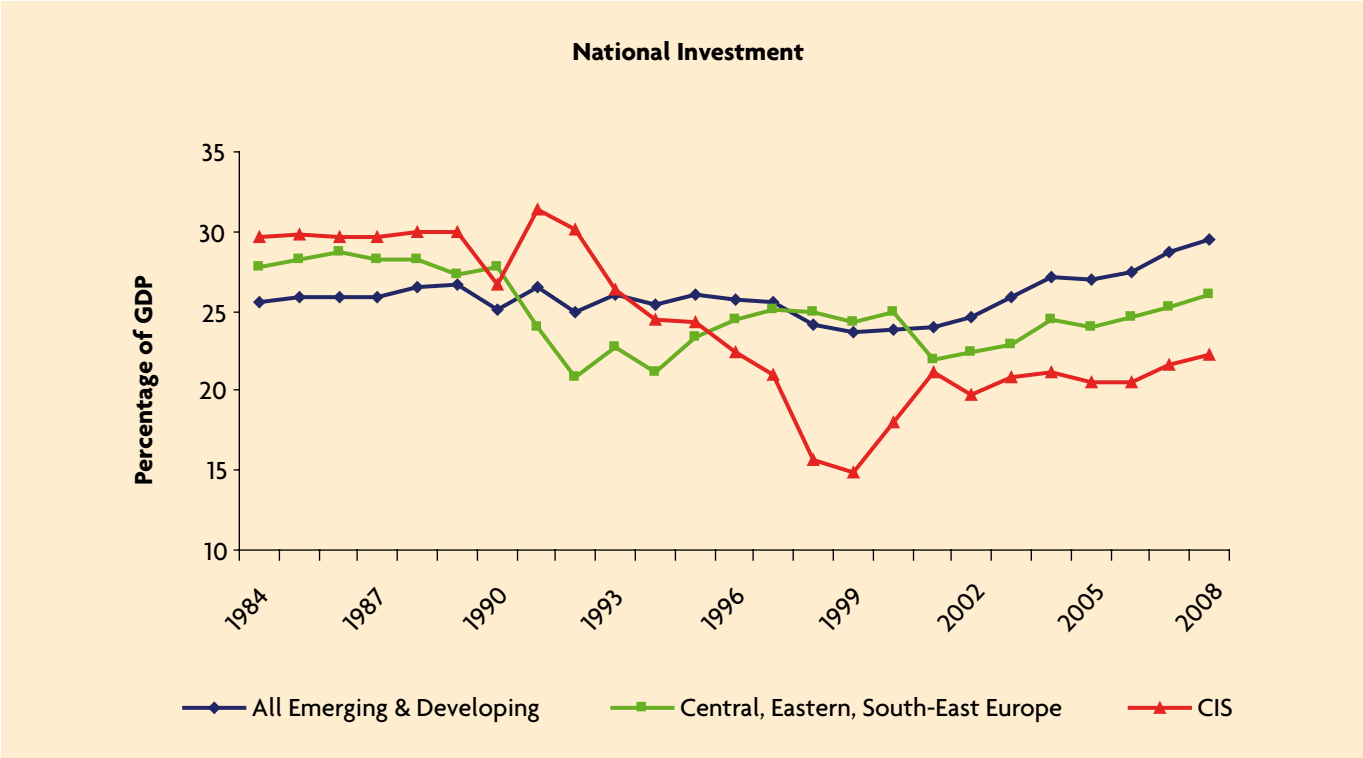
Thus in Monterrey, the United Nations Member States convened the International Conference on Financing for Development (FfD) and agreed on a set of actions to address this resource shortfall so that the developing world could eradicate poverty, educate its children, and provide basic health care while achieving sustainable economic growth within a fully inclusive and equitable global economic system. More specifically, the agreed-upon actions can be grouped into the following six categories: (1) mobilizing more domestic resources, (2) encouraging foreign direct investment (FDI) and other international capital inflows, (3) promoting international trade and market access, (4) increasing international financial and technical assistance, (5) reducing external debt whose interest payments are consuming too many resources, and (6) enhancing the coherence and consistency of the international monetary, financial, and trading system, all with a view to fostering economic and social development. This set of actions must be viewed as part of a global partnership with the ability of each country to fulfil its responsibilities being contingent on others fulfilling theirs.

Although some progress has been achieved in advancing the objectives set out in Monterrey, in some areas progress has been disappointing. In November 2008 there will be a follow-up United Nations conference in Doha, Qatar to assess what has and has not been achieved and what is required to ensure that the developing countries have the resources they need in order to ultimately achieve the MDGs by 2015. The meeting will discuss best practices, identify constraints, reaffirm goals and based upon the discussions and negotiations could give rise to some new global mandates. This paper attempts to provide an overview of the FfD project with an emphasis on its status in the UNECE emerging markets. It is noteworthy that the experiences of the UNECE economies are significantly different in several important respects from those in much of the rest of the world. There are potentially important lessons for the world's emerging economies in understanding these differences and why they have occurred.

The primary reason living standards are higher in the advanced economies is that their workers are better educated and have more machinery and infrastructure with which to work. Therefore to increase national income in the emerging economies, more must be invested in physical and human capital. As shown in figure 1, investment rates in the emerging economies have increased marginally over the last five years after being relatively stable for much of the 1980s and 1990s. Although the investment rates for the UNECE emerging markets have also picked up recently in both of its subregions – Central, East and South-East Europe (CES Europe) and the Commonwealth of Independent States (CIS) – they remain below the developing world average and below their own levels prior to the transition[1]. However the high average investment rate in the emerging countries is due to very high rates (around 35 per cent) in the developing economies in Asia; CES Europe has rates similar to or even above most of the other regions of the developing world while investment in the CIS has been especially low.

[1] *The data values for CES Europe used in this paper often do not include several of the former states of Yugoslavia because of data limitations; nevertheless the general points made in this paper regarding the CES region apply to these economies as well. The regional grouping Commonwealth of Independent States (CIS) is used to refer to the 12 former members of the Soviet Union (excluding the three Baltic States) and does not explicitly refer to the institutional arrangement of that name; some CIS aggregates do not include data for Turkmenistan or Uzbekistan due to data limitations.*

Figure 1. Investment rates in UNECE emerging economies



MOBILIZING DOMESTIC RESOURCES

For most countries, the majority of investment comes from domestic savings; thus if there is a perceived need for more development finance, the first step would appear to be to increase domestic savings and to ensure that this supply of funds finds its way into useful investment projects. However, increasing savings means reducing consumption; if there is significant existing poverty and the objective is to maximize social welfare over time, it is not clear that this is best achieved by further reducing the poor's current living standards so that future generations, which are likely to be much richer anyway, might be even richer. Thus although increasing economic growth is desirable, it is not necessarily optimal if it comes at the cost of significantly reducing current living standards; thus it is not clear that public policy should be directed towards increasing savings. This same basic trade-off exists not just for societies in the abstract but for individuals in the society; we could all be richer tomorrow by saving more today, but most choose to give considerable weight to consuming today. In fact, many consumers in fast-growing developing economies may not only not save, but may wish to borrow now against their expected future income. This desire to smooth one's consumption over time is one of the most basic principles of economics; this is referred to as the permanent income hypothesis and was one of the major contributions of Milton Friedman which won him the Nobel Prize in 1976. Obviously overall saving within a society is the sum of what different age cohorts chose to do, with the young wishing to borrow, the elderly dis-saving by living off previously acquired wealth, and the middle-aged saving for retirement. In addition, the poor in low-income economies often do not even have the option of saving as they need their entire income just to survive; this explains, for example, the relatively low savings rates in much of sub-Saharan Africa. Thus the predicament for these emerging economies is that the demand for funds in order to finance development is very high but it is not clear where those funds should come from.

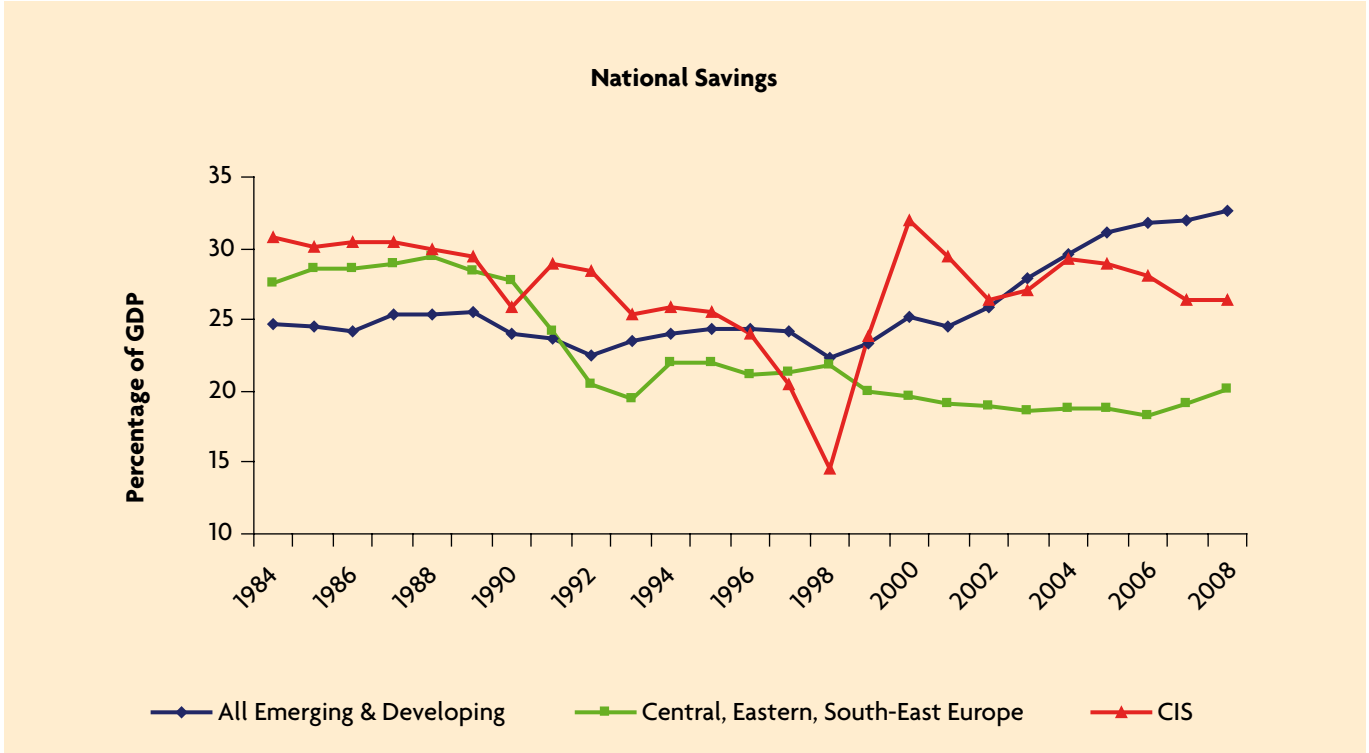
Low domestic savings has particularly characterized the UNECE emerging markets since the beginning of the transition process. In Figure 2 the overall savings rates for these economies are compared to those for all of the emerging economies. Before the transition to market economies, the UNECE emerging markets had higher savings rates than the other emerging economies; these savings rates then fell during the 1990s. After 2000, savings in the rest of the world began to increase substantially (due partially to improved economic growth) while they only marginally improved in the CIS and actually fell further in CES Europe. The savings rate in this latter region is now only 60 per cent of the average rate of all emerging economies. Thus in terms of the FfD objective of mobilizing domestic resources, to the degree that it is dependent on increasing savings, the developing world has made some progress since 2002 although many of the UNECE emerging markets

have not. This is somewhat paradoxical in that CES Europe is one of the richer emerging regions and thus could potentially better afford to postpone consumption by saving more.

There are several factors that have contributed to the low savings of the UNECE emerging markets. Incomes fell significantly during the early transition years, perhaps by a fifth in central Europe, a third in South-East Europe and up to half in some of the CIS. Therefore consumers have been smoothing their consumption not only in anticipation of future income growth but also in order to maintain living standards during this drop in income. Also during periods of uncertainty, conflict and rapid inflation, individuals are likely to put more emphasis on the short-run by consuming and this certainly characterized much of the region during the 1990s. Although economic factors are likely to provide most of the reasons for the UNECE region's low savings, cultural factors especially in regard to Asia's high savings rates may also be important. In market economies, a significant proportion of savings comes from business profits, and these have not been particularly high as it has taken time to establish profitable private firms. In comparison, an important component of China's high national savings is its high business savings which results from high business profits due to low wages, a competitive exchange rate, and minimal dividend payments since shareholder rights are limited and state enterprises do not pay dividends to anyone (even the government). Chinese personal savings are also high given limited retirement benefits and health insurance.

Another domestic source of funds for financing development, especially of public infrastructure and other public goods, is from government resources obtained from taxation or borrowing. Increasing taxes, however, is subject to the same qualification as increasing savings in that it comes at the expense of current consumption. The alternative, government borrowing, however,

Figure 2. Comparison of overall savings rates of UNECE emerging economies and all emerging economies



uses up private savings and thus crowds out private investment. Although there is some evidence that a fiscal deficit is partially offset (generally estimated by half) by increases in private sector savings (referred to technically as Ricardian equivalence)[2] it is still believed that public borrowing lowers national savings and this relationship is found to be stronger in emerging markets. Although there are a few exceptions, government deficits throughout the region are not particularly large; nevertheless they are too large to be prudent given the overall macroeconomic situation and the fact that private savings are so low.

[2] *The logic being that people realize that a tax cut today implies a tax increase in the future, thus they start to save more now so they will be able to pay their future taxes. Although this sounds a bit far-fetched, the empirical evidence tends to at least partially support it. If this equivalence does hold, then there is no difference between financing government through taxes or borrowing.*

Thus the degree to which economic policy should attempt to increase domestic savings is somewhat unclear; what is clearer, however, is that the available savings should be used efficiently. Translating domestic savings into productive investment is referred to as financial intermediation, and the degree and efficiency with which this is achieved is dependent on having well-developed banking and financial markets which are supervised within the proper regulatory framework. Fundamental to creating an effective financial system is the ability of the banks to attract deposits from consumers. Historically savers in many emerging economies, including some in the UNECE region, have been distrustful of the banking system; this is especially the case in those economies that have experienced financial crises where the population suffered significant losses on their deposits after banking failures. In these countries, individuals often choose instead to deposit their funds abroad (external capital flight) or if that option is not available, they may simply hide them in their mattresses (internal capital flight); in either case the funds essentially disappear from the economy. Thus although the population saves, the savings are not converted into domestic investment. Currently in South-East Europe and the Russian Federation only a third of households have a bank account while less than a tenth have one in the other CIS. There are a number of policies, such as introducing bank deposit insurance, that can help increase confidence in the banking system.

Inefficient financial intermediation has been a problem for many of the UNECE emerging markets as their financial systems came out of the transition underdeveloped compared to other economies with similar per capita incomes; however, this is an area in which significant progress has recently been made. Central to this effort has been the extensive privatization of the banking sector especially in CES Europe, which in many cases also includes foreign (mostly EU) ownership or participation. Although the privatization process has proven to be important in improving intermediation, technically this step is neither necessary nor sufficient. Many of the UNECE economies have now progressed from a state of having repressed financial conditions characterized by small banking sectors and low consumer debt to one more consistent with a "normal" market economy. However, financial intermediation remains low in a number of the poorest CIS economies such as Turkmenistan and Uzbekistan, and thus they have the most to gain from further improvement. For example, in 2005, bank lending accounted for only 3 per cent of fixed capital investment in Moldova; the majority was self-financed (69 per cent) with state and local governments financing most of the remainder. Stock markets provide another avenue for channelling savings into productive investment; the capitalization of domestic stock markets of the EU new member states have been increasing quite rapidly over the last several years, while these markets are still immature or non-existent in much of South-East Europe and the CIS.

As a result of this restructuring of their financial systems, bank loans, especially to households often for mortgages, have been growing extremely fast and have doubled in a number of countries over the last several years. In Kazakhstan, for example, domestic credit in August 2007 was 7.5 times what it had been at the beginning of 2004. Although rapid credit growth is a normal process and characteristic of financial deepening in emerging markets, it has recently been much faster in the UNECE region than elsewhere and may now represent a significant vulnerability for the region. The problem is that much of the financial-institutional and regulatory infrastructure in these economies is relatively new and untested. This includes such things as credit rating agencies, ownership registers, appropriate legal instruments for repossessing collateral, instruments for securitization of risks, and management practices for assessing risks. Nevertheless this rapid increase in private sector lending is a positive sign that concerns about property rights and contract enforcement, which had been problematic, have now improved to a sufficient degree so that banks have confidence in making these loans. A mitigating factor is that the fastest growth in credit has generally occurred in those economies where the outstanding "stock" of credit is the lowest as a percentage of GDP. In addition to rapid credit growth, an additional vulnerability concerns the fact that loans in a number of these economies continue to be denominated in foreign currencies; this could present problems if their currencies were to depreciate significantly.

This expansion of banking credit has increased funding for small enterprises and women entrepreneurs, and this has been especially useful given that it promotes employment of unskilled workers prone to poverty. In addition, this credit expansion has been used to finance house mortgages when previously only those with existing resources were able to purchase homes. Increasing access to bank credit, however, results in not just additional investment but additional consumption as households borrow to improve living standards. In fact financial development often increases household consumption-borrowing more than investment; thus improved intermediation is only marginally effective in obtaining more development finance from the domestic market.

EXTERNAL FINANCE

As explained above, although there are a number of things that can be done to increase the amount of domestic resources available for addressing developmental objectives, they are often of limited effectiveness or involve serious trade-offs that a society may not wish to make. An alternative option is to obtain these additional resources from abroad. The difference between

the UNECE region's low rates of domestic savings and their higher rates of domestic investment is due largely to their dependence on external resources. In fact, it is in this area that the experience of UNECE emerging markets has been quite different from most other developing countries. Within the region there has been a significant distinction between CES Europe that has relied on external resources and the CIS that has not. Within the CIS, however, the non-energy exporters (Armenia, Belarus, Georgia, Kyrgyzstan, Moldova, Tajikistan and Ukraine) have also received sizable external resources and have a pattern somewhat similar to CES Europe, while the Russian Federation and the other energy exporters have actually provided resources to the rest of the world.

In analysing the use of external resources a key concept to understand is what is referred to as the net resource flows to an economy. It represents the difference between what a country produces and what it absorbs, the latter being the sum of what a country (private and public) consumes and invests. It also is equivalent to the trade balance on merchandise and services; it thus represents what a country either gets or gives to the rest of the world in terms of real goods and services. One of the central objectives of the FfD initiative has been to increase net resource flows into the emerging countries, in order to allow them to absorb more resources than they produce, the idea being that these additional resources would be used to increase either investment for development or consumption for poverty alleviation. However, the emerging economies as a group, instead of actually receiving real net resource inflows (i.e., goods and services) have actually provided net resources to the advanced economies, averaging 3.2 per cent of their GDPs over the 2001-2007 period. This transfer has been increasing and reached 5.1 per cent of their GDP in 2006. Thus they have only absorbed about 96.8 per cent of what they have produced over the last seven years. This, of course, is the opposite of the objective implicit in the FfD Consensus. This is true not just for the developing countries as a group but for all the major regions of the world – Africa, developing Asia, the Middle East, Latin America and the Caribbean, and the CIS (due to the weight of the energy exporters).

The one major exception to this pattern has been CES Europe which received net resource inflows that averaged over 4.4 per cent of their GDPs during 2001-2007; thus these economies have been able to absorb 104.4 per cent of what they have produced. This resource transfer into CES Europe has been on an increasing trend, as it was 5.3 per cent of GDP in 2006, and is expected to be 5.9 per cent of GDP in 2007 and 6.3 per cent of GDP in 2008. This result is not due to a few large countries dominating the CES average but is a characteristic of almost all of the countries of this region. However, reliance on external resources is much greater in South-East Europe and the Baltic economies than in Central Europe. In addition, this is not just a recent phenomenon; during the previous seven years (1993-2000) CES Europe had net resource inflows of 3.9 per cent of their GDP, while all other emerging countries had inflows of only 0.1 per cent of GDP and none of the other regions had net inflows of even one half of those of this region. When you combine the fact that CES Europe absorbs more than it produces with the fact that the rest of the emerging world does the opposite, the result is that CES Europe has been able yearly to absorb resources valued at about 8 per cent of GDP above what it would have if it had followed a similar pattern as other emerging economies; this increased to almost 11 per cent of GDP by 2006. Thus over the last 14 years these extra resources have allowed the region to build public infrastructure, build plant and equipment, and consume at levels above what other countries have been able to do, after controlling for national income. This significant resource transfer to CES Europe and to a lesser degree the CIS non-energy exporters has undoubtedly been a major factor in the economic development of these regions.

CAPITAL FLOWS

So far the analysis has focused on the real dimension of resource flows, i.e., the real goods and services that have been transferred across borders which are equal to a country's trade surplus. There is, however, a mirror image financial transfer, that being the exchange of paper instruments (or in today's world, electronic entries) associated with this real transfer. In this dimension, net resource flows are essentially equal to its financial inflows minus its financial outflows. Financial inflows are composed largely of net capital flows, foreign aid, and the remittances from those working abroad. Financial outflows are composed principally of a country's payments for previously obtained capital (i.e., interest payments on debt and profit repatriations) and the purchase of international reserve assets by the central bank.

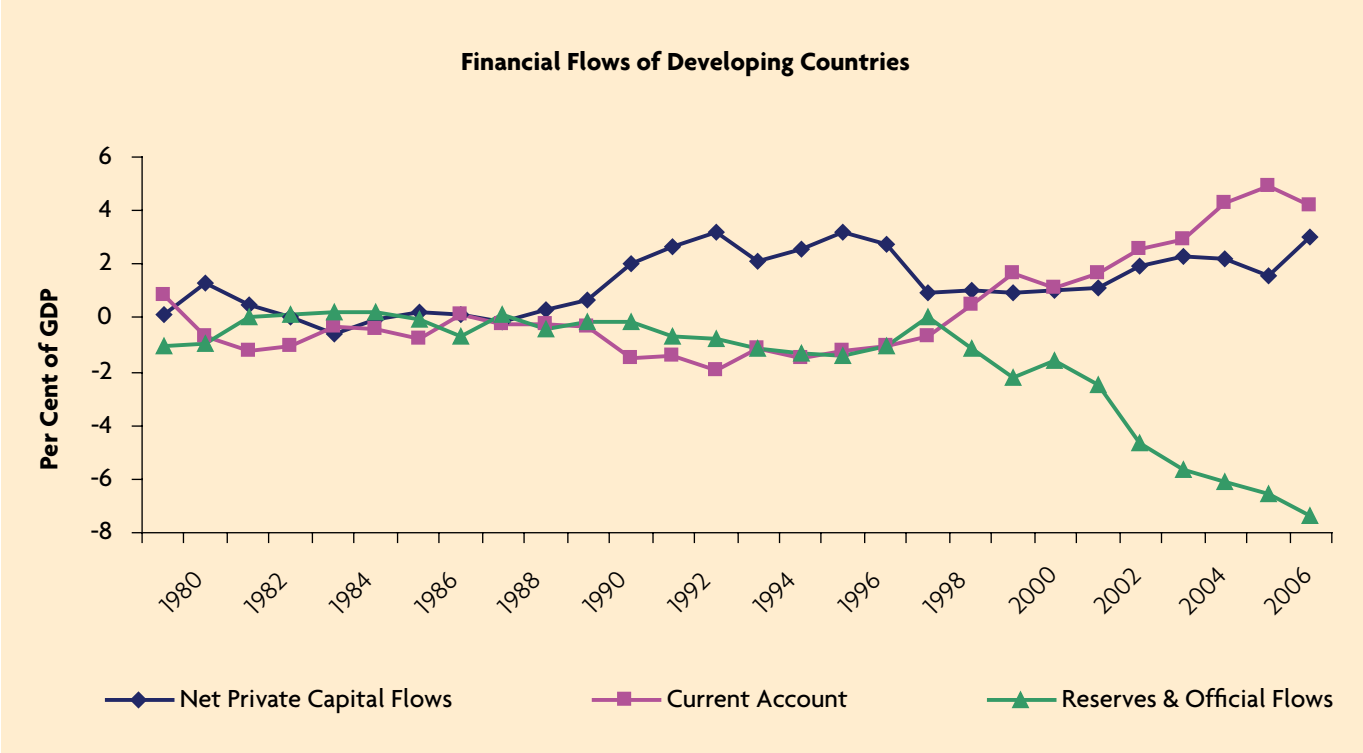
Net Real Resource Transfers

Net Private Capital Inflows
+ Foreign Aid
+ Factor Payments from Foreign Use of Domestic Factors (i.e., Remittances)
– Factor Payments for Use of Foreign Owned Factors (i.e., Profit Repatriations)
– Purchase of International Reserves and Official Capital Flows
= Net Real Resource Transfer = Merchandise and Service's Trade Balance

For emerging countries as a group, the amount they receive in aid and remittances is approximately equal to what they pay out to service their debt or compensate foreign investors; thus these two components essentially cancel each other out in terms of net resource flows. It is therefore the relationship between private capital inflows and governments' purchase of assets (reserves and debt) that determines net resource transfers. In 2006 the emerging countries had net private capital inflows of around 1.6 per cent of their GDPs while they spent 6.5 per cent of their GDPs on purchasing additional international reserves and paying back debt (official capital flows). Subtracting these two (1.6 minus 6.5) and adjusting slightly for aid, remittances and factor payments (-0.3) equals net real resource flows of minus 5.1 per cent of GDP. Thus essentially for every dollar they received in net private capital inflows they purchased over four dollars of international reserve assets (-5.4) or re-purchased their own existing debt (-1.1). The extra three dollars were obtained by exporting more real goods and services (5.1) than they imported.

The current situation differs from the historical pattern in that in earlier periods including the 1990s, at least some of the private capital inflows were used to import real goods and services. In figure 3 these three important financial flows are plotted from 1980 to 2007; positive numbers represent a source of funds and negative numbers represent a use of funds.[3] There has generally been an inflow of private capital to the emerging countries except for a minor outflow in the mid-1980s; inflows peaked in the mid-1990s, fell with the currency crises and stock market collapses at the end of the decade and have gradually recovered. However, it is how these funds have been used that is different. In the 1990s, approximately one-half of the private capital inflows were used to import real goods and services (in excess of what they produced) so there was a real net resource inflow. The other half of net private capital inflows essentially went to purchase additional international reserves or pay off official external debt. The situation today, however, is that not only are the emerging economies using all their net capital inflows to purchase additional reserve assets, they are also transferring real goods and services to the advanced economies (by exporting more than they are importing) in order to obtain additional foreign exchange to purchase even more reserve assets.

Figure 3. Financial flows of development countries, 1980-2007



[3] *The current account is used in this graph to proxy net resource transfers (i.e., the trade balance on goods and services) because of data availability; factor payments and transfers are relatively small and generally cancel each other out.*

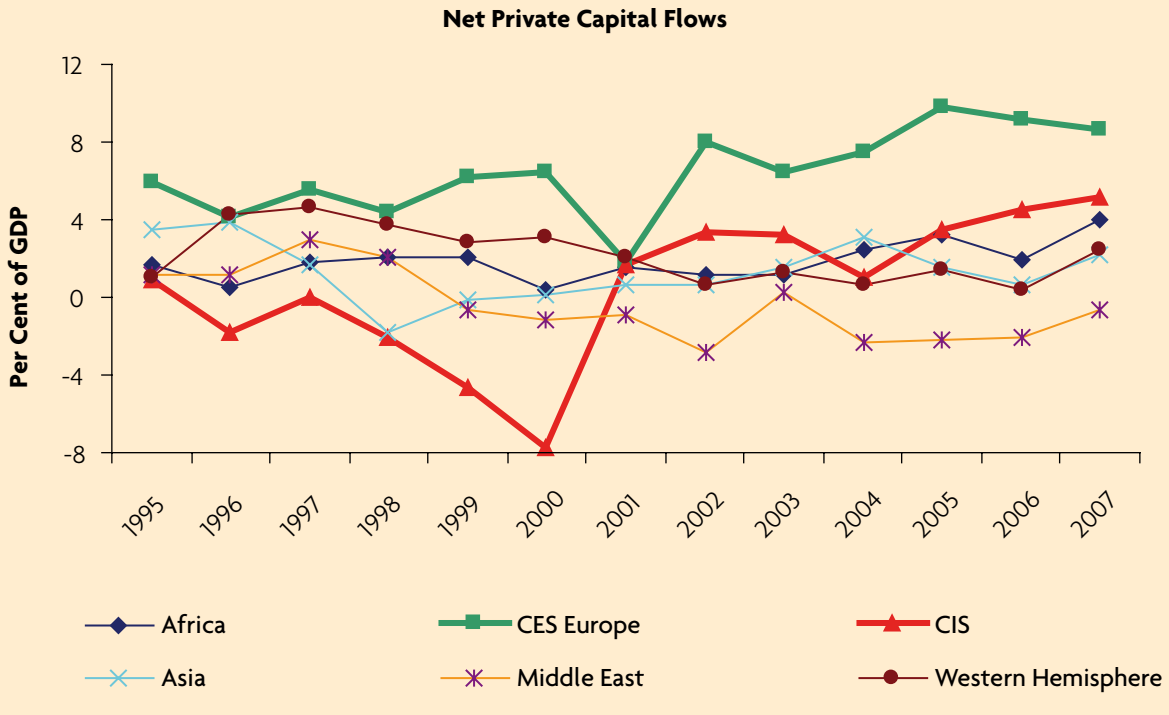
There are a number of possible reasons why these economies have purchased so many international reserves. Generally, it is the result of either an explicit policy choice to acquire more reserves to promote financial stability and avoid the possibility of having to borrow from the International Monetary Fund, or it is a by-product of an export promotion growth strategy that is dependent on having an undervalued exchange rate.

The experience of CES Europe has been substantially different in two important respects from that outlined above for all emerging economies. Firstly, net private capital inflows flows been much larger in this region, and secondly, they have been used to purchase real goods and services instead of purchasing international reserve assets. Figure 4 provides net private capital flows to the major regions of the world as a per cent of their GDPs. Private capital inflows to CES Europe and the CIS have been on an increasing trend (while the other regions have been more stable) and are now significantly larger than to the other regions. Relative to GDP over the 2001-2007 period, they have been approximately five times larger in CES Europe than Latin America and the Caribbean as well as developing Asia, four times Africa, and twice the CIS. The Middle East has experienced private capital outflows over this period. Net private capital flows are the difference between inflows and outflows, and to a small degree one difference between CES Europe and the other regions is that the latter have more capital outflows; however gross inflows are bigger in CES Europe and current levels are unprecedented for emerging markets in recent history. As previously discussed, CES Europe has been using these financial inflows for importing real resources (by running trade deficits) instead of for purchasing reserve assets. It should be noted that the southern EU members – Greece, Portugal and Spain – are also following this same basic pattern of relying on external finance.

The fact that capital flows into CES Europe have been extremely large while savings have been quite low raises an obvious question as to whether one has caused the other. Unfortunately this is a difficult question to answer, as these variables are determined simultaneously with causality running in both directions. The lack of domestic savings in an environment of growth encourages capital inflows, while at the same time the capital inflows have been used by consumers for consumption purposes, and this lowers the savings rate.

The emphasis so far has been on the net flow of funds, that being inflows minus outflows because that represents the real transfer of resources. However, there may be certain characteristics of a given flow that provide benefits in addition to the real resource transfer so that even though the net flow is zero, the gain from a two-way flow is still positive. This is best explained by a few examples. The banks in Kazakhstan, as in many other UNECE emerging markets, have recently been borrowing significant

Figure 4. New private capital flows to major regions of the world *as percentage of their GDP*



amounts from international capital markets in order to obtain funds which they can then lend to their domestic customers. This represents a private capital inflow. At the same time the Government has been using its acquired foreign exchange to purchase significant international reserve assets. As a result the overall net flow has been relatively small; in theory the banks could have borrowed from the Government and most external flows could have been eliminated. Under either option there is no real transfer of resources into Kazakhstan in terms of access to additional real goods. Nevertheless a two-way flow (that cancels out) may be preferable to the case with no external flows in that it allows agents to diversify their activities, imposes better financial controls and promotes better efficiency. For example, reliance on foreign capital markets may force Kazakhstan's banks to perform better than they would if they were able to obtain the funds from the Government. Foreign direct investment is another case in which the capital inflow provides more than just the spending power of the capital: it is accompanied by efficiency-promoting management and technical know-how. Thus an FDI inflow matched by an equal reserve accumulation is most likely better than no FDI and no reserve purchases. There is a cost however, in that the banks and firms have to pay a higher return to borrow from external sources than the government gets paid on its reserve assets. Therefore a full appreciation of the role of foreign capital in promoting development requires an analysis of not just the net inflows but of the gross flows in both directions.

For developing countries, capital inflows can be obtained by either the private or official sector; over the last decade the overall trend has been for private inflows to increase while official inflows (especially as a percentage of inflows) have declined. There can be both private and official outflows as well; however private capital outflows are relatively small except when there is capital flight or during financial crises. Thus recently most of the outflows have been official capital outflows as Governments have paid off their debts. So the last several years have been characterized largely by private capital inflows and official capital outflows. These general trends in private and official flows have been especially notable in the UNECE emerging markets. Over the last five years (2003-2007) there has been a net inflow of $707 billion of private capital while there has been a net outflow of $101 billion of official capital and a $572 billion outflow to purchase international reserves. There is, however, a major difference between CES Europe and the CIS; in the former net private capital inflows have averaged 8.5 per cent of GDP while official outflows averaged 0.5 per cent and reserve accumulation averaged 2.0 per cent of GDP. In the CIS, private capital amounted to 3.8 per cent, official outflows were 1.4 per cent and reserve accumulation was 8.5 per cent of GDP.

Net capital inflows are usually broken down into three components including foreign direct investment (FDI), portfolio (equity and bond) flows, and other flows that generally take the form of debt such as bank loans. Over the last five years (2003-2007) in CES Europe, net FDI has averaged 4 per cent of GDP, portfolio 1.0 per cent and other capital 3.2 per cent. In the CIS net FDI averaged 1.2 per cent, portfolio 0.6 per cent and other capital 2.0 per cent of GDP. Thus net private capital inflows to CES Europe have been much larger and more concentrated in FDI.

Generally, FDI outflows only begin after a country has reached a certain level of development, and thus for most developing countries there is not a significant difference between their FDI inflows and their net FDI flows. The Russian Federation and Hungary in the UNECE region however do have significant FDI outflows. As a result the difference between CES Europe and the CIS in FDI inflows is smaller than for net flows; in 2006 inflows were 6.1 per cent of GDP in the former and 3.5 per cent in the latter (compared to 5.0 and 1.8 for net FDI flows in 2006). The table provides some more detailed information regarding financial flows in the UNECE region over 2004-2006; generally positive numbers represent a source of finance and negative numbers represent a use of finance. A negative real resource flow represents use of funds for the net importation of real goods and services. The values need not add to zero since all categories have not been included.

Financial Flows in the UNECE Emerging Markets *(percentage of GDP, 2004-2006)*

	FDI Inflows	Portfolio Inflows	Net Other Capital	Aid	Remittances	Net Investment Income	International Reserves	Net Resource Flow
CES Europe	5.0	2.7	0.5	0.7	1.7	-3.2	-2.4	-4.9
EU new member states	5.9	2.7	-0.8	0.8	1.4	-4.0	-2.2	-3.2
South-East Europe	6.2	0.3	3.7	2.8	9.9	-1.6	-5.0	-17.8
Turkey	2.9	3.3	2.4	0.1	0.2	-1.7	-2.2	-5.1
CIS	3.2	0.9	-2.9	-0.3	0.9	-2.4	-7.9	10.4
Russian Federation	2.5	0.5	-3.0	-0.7	0.4	-2.2	-8.9	12.9
CIS-11	5.5	2.0	-2.5	1.1	2.4	-3.0	-4.9	2.3

Source: Calculations by the author; aid and investment income values based on 2004-2005

AID AND REMITTANCES

In addition to capital inflows, there are two other important financial inflows; these are aid and remittances. Aid takes several distinct forms in the region, EU assistance, official development assistance and debt relief. Overall, the UNECE emerging markets excluding the Russian Federation receive aid in various forms that amounts to about one per cent of GDP. The EU new member states (NMS) and those approaching accession receive substantial assistance from the EU under various programmes such as its four Structural Funds, its Cohesion Fund, and payments under the Common Agricultural Policy. A comprehensive analysis of each country's share of EU operating expenditures and their share of EU contributions shows that the NMS-8 (excluding Bulgaria and Romania) received a net transfer of €6.0 billion in 2006 or approximately 1.0 per cent of the GDPs. This net EU transfer, however, varied considerably from only 0.4 per cent for the Czech Republic to 2.5 per cent for Lithuania. The candidate countries also received EU assistance under several programmes; for example Bulgaria and Romania received €1.7 billion in 2006 which was about 1.4 per cent of their GDPs. Smaller amounts were provided to Croatia and Turkey under several pre-accession instruments. Over the next budget cycle of 2007-13, EU transfers are likely to increase to around 2 to 3 per cent of the NMS' GDPs; the two newest members, being the poorest, are likely to receive considerably more; EU candidates Croatia, The former Yugoslav Republic of Macedonia, and Turkey and potential candidates in the western Balkans will also receive further EU assistance. It is generally viewed that these EU transfers have been efficiently used and there are undoubtedly valuable lessons in how this aid is planned, implemented, monitored, and evaluated that could be applied more generally to increasing the absorptive capacity of development assistance supplied to the developing countries in the rest of the world. Although difficult to quantify, it should at least be noted that subsidized energy provided by the Russian Federation to many of the other CIS countries over the last decade represented a significant transfer of resources; these subsidies have now been largely eliminated. The Russian Federation has also provided significant debt forgiveness; this was especially large in 2005; this explains the negative value for aid in the table.

Foreign aid is an important component of externally obtained funds in that it can finance projects with a public goods nature or projects which have significant positive externalities and would not be financed by the private sector. Since private capital markets seem to inadequately finance human capital development for the poorer segment of the population, aid used for health and education of this segment can contribute significantly to economic development while addressing equity concerns as well. Creating a more inclusive society is further likely to contribute to development by increasing political stability. Aid is also important in stabilizing a situation after negative shocks. An important objective in the selection of projects to be financed with aid is that they should further encourage private investment flows instead of replacing them.

Most of the poorer developing countries receive official development assistance (ODA); although aid is less than one-half of one per cent of the GDPs of all emerging economies, it is over five per cent of GDP for sub-Saharan Africa and over 20 per cent for 18 of the world's poorest economies. Overall, the amounts currently being provided are insufficient for achieving the MDGs and below what was pledged at Monterrey in 2002 and at the G-8 summit in Gleneagles in 2005. In fact, actual commitments (excluding exceptional debt relief) during the 2005-2006 period fell from previous levels. Seventeen UNECE countries are recipients of ODA including all of the CIS except the Russian Federation and all of the non-EU members of South-East Europe including Turkey. Together they received $5.7 billion or 5.4 per cent of worldwide ODA receipts in 2005; approximately 3.4 per cent went to South-East Europe and 2.0 per cent went to the CIS-11. Montenegro and Serbia received the most in South-East Europe ($1.1 billion) while Ukraine received the largest amount in the CIS ($410 million). Over the last several years, as a percentage of GDP, aid has amounted to about ten per cent of the GDPs of Kyrgyzstan and Tajikistan, and five to ten per cent of GDP for Albania, Armenia, Bosnia and Herzegovina, The former Yugoslav Republic of Macedonia, Georgia, Moldova, and Serbia. For most of the UNECE recipients, ODA as a percentage of GDP has been on a downward trend over the last five years.

An important component of the advanced economies' commitment to this development agenda is an increase in ODA. Most of the advanced economies are members of UNECE; UNECE members accounted for 85.9 per cent of the ODA by the OECD's Development Assistance Committee (DAC) which provides almost 90 per cent of the world's total ODA (which equalled $107 billion in 2005). In 2005 only four countries (all UNECE members) provided more than the United Nations target of 0.7 per cent of their gross national income in aid; these were Luxembourg, Norway, the Netherlands, and Sweden. Several UNECE members provided less than the current (2005) DAC average of 0.33 per cent; these were Greece, Italy, Portugal, Spain, and the United States. The United States however is the largest provider of ODA in terms of dollar value and provides over a quarter of total ODA.

As an interesting piece of trivia, it can be pointed out that that the 0.7 per cent of GDP as an aid target that was reconfirmed in Monterrey is not a new number but has been a suggested target since the 1969 Pearson Commission on International Development. This number was not randomly picked at that time but was arrived at by calculating the amount of annual resource transfer that would be necessary to double net capital formation in the developing world. It should also be noted that for those living in the advanced economies, the 0.7 per cent target amounts to slightly less than $1 a day per person.

Currently most of the official aid is provided by the very advanced economies, but what is the role of the middle-income countries? Within most societies, it is not just the super-rich that pay taxes that go to assist the poorer members of the society; taxes are generally levied on a fairly large segment of the population. Why should the same pattern not apply to the world economy? As part of their EU membership the NMS are committed to becoming donors as their level of development increases. By increasing the number of donors not only can the level of assistance be increased (although probably only marginally) but as stakeholders with different views and experiences they may be able to improve the dialogue between donors and recipients.

Currently there is much discussion about the effectiveness of aid. The advanced economies often allege that it is wasted while the emerging economies complain about the lack of multi-year timetables of aid delivery which would increase their ability to properly plan and manage these aid flows. Similarly, an increase in the amount of aid available to the general budget would give the recipient more flexibility than project-based financing but requires the recipient to take on more responsibility for efficiently using the aid since the donor loses a degree of control over its use.

Another significant source of external funds are remittances, that being money earned abroad by temporary workers or funds sent home by long-term migrants. Remittances to the emerging countries have been increasing quite rapidly and have more than doubled over the last decade and are estimated to be about $300 billion in 2006. The size of remittances has increased substantially from just slightly more than 0.5 per cent of emerging countries' GDP in the 1980s to almost 1.5 per cent now. In the 1980s remittances were the largest form of financial transfer while over the last several years remittances have been second only to FDI inflows; currently they are twice as large as official development assistance. In dynamic terms, remittances are more like aid and unlike capital flows in that they do not create a future obligation that implies a potential outflow of foreign exchange.

Remittances have averaged almost 1.7 per cent of GDP in CES Europe and at least 2.4 per cent of GDP in the CIS-11. These percentages have remained relatively stable in CES Europe since 1999 while they have been increasing in the CIS-11; however a significant proportion of this increase is probably due to improved measurement of remittances. The size of remittances varies extensively throughout the region with remittances as a percentage of GDP being over 30 in Moldova and Tajikistan, and between 10 and 20 for Armenia, Kyrgyzstan, and Serbia, and between five and ten per cent for Bulgaria, Georgia, and Uzbekistan.

EXPORTS

Exports are by far the largest source of foreign exchange for most emerging economies, including those in the UNECE region. However exports, unlike the other financial flows already discussed, require the economy to give up real resources in order to get the foreign exchange to purchase imports. Thus although the value of exports is large, their importance is less, in terms of transferring real resources to the emerging economies. Nevertheless exports are important because the resources used to produce a dollar's worth of exports are valued less than the resources obtained from importing a dollar of imports; that in essence is the fundamental logic supporting trade liberalization. The exports of the UNECE emerging markets have grown substantially over the last several years due to rapid economic growth in their major export markets, improvements in their terms of trade (especially for the natural resource exporters), an improved pan-European infrastructure of roads and rail, progress in implementing regional trade agreements, and the reduction in other trade barriers and other transaction costs associated with trade. Exports have increased by an average of almost 25 per cent a year (2002 to 2006) for CES Europe and 29 per cent for the CIS. Export growth has been solid for all of CES Europe while the variance has been much greater in the CIS; exports have grown the fastest for Azerbaijan at over 54 per cent per year while they have grown the slowest in Armenia, Kyrgyzstan and Moldova; interestingly, these are three of only four members of the World Trade Organization (WTO) in the CIS. As a result of this rapid growth of exports, the ratio of exports to GDP has been on an upward trend for most of the economies in the region.

There are five basic ongoing trade initiatives that can possibly further increase the exports of the region. These include: (1) WTO accession for the non-members, (2) completion of the Doha Trade Round, (3) implementation of the Trade for Aid initiative, (4) further development of regional preferential trade arrangements, and (5) further reduction of transport and border impediments to trade.

CONCLUSION

The emerging markets of the UNECE face many of the same challenges facing similar economies in the rest of the world in obtaining more resources for development. The economies in Central, East and South-East Europe along with the non-energy exporters of the CIS have, however, relied much more extensively on obtaining these resources from abroad than have countries in other parts of the world. This has allowed these economies to achieve investment rates much higher than would have been possible otherwise. This outcome is what was largely envisioned at the United Nations conference on Financing for Development held in Monterrey in 2002. Although there are significant advantages to following this development model, it also exposes these economies to a number of potential vulnerabilities which those that have relied more on internal resources do not face. For some of the UNECE economies more prudence in dealing with these vulnerabilities is probably warranted. In addition, it may be the case that several of the CES economies have over relied on external resources and will have to rely more on domestic resources especially in the light of the less favourable global environment that has recently developed. Historically in earlier decades a number of other countries relied quite heavily on external resources to finance their development, and these episodes often ended poorly with some form of debt or other financial crisis. In addition, many of the most successful economies over the last several decades, including those of east Asia, used a different economic model which was based upon export growth from undervalued exchange rates; this resulted in trade surpluses instead of the trade deficits that have characterized CES Europe. Only time will tell if the UNECE region has finally figured out how to properly develop economically using external resources or if they have simply repeated the mistakes of the past. If the former turns out to be true, then the policymakers in the UNECE emerging markets will have made a very important contribution to world economic development; however it would still need to be determined if this success could be duplicated elsewhere or if it was the result of highly specific characteristics of the region.

EFFECTIVE FOREIGN AID, ECONOMIC INTEGRATION AND SUBSIDIARITY: LESSONS FROM EUROPE[4]

Abdur Chowdhury and Paolo Garonna

INTRODUCTION

More than fifteen years after the end of the Cold War, the world seems poised to fall into another deep seated polarization: the one between the developed and the developing world. The fracture is not only economic and social, linked to the persisting gaps in standards of living and opportunities, but above all political, with the risk of becoming "ideological" and providing support to radicalism, extremism and civilisation clashes. We see this new bipolarism at play in the stalled Doha negotiations, in the aborted reforms of global institutions, in the confrontations concerning human rights, and even in the different approaches to fighting terrorism and building peace and security.

Development assistance is at the heart of this new polarization. The growing distrust and antagonism in the developing world against the rich countries is fed by the widespread persuasion that the developed countries are not doing what they should do, and are not even living up to what they promised to do: sharing opportunities with the less fortunate, supporting development and fighting poverty. This calls into question shared values and builds frustration, a sense of betrayal, sometimes disillusion and despair.

Public opinion in the developed world is also reacting in an "ideological" way: development assistance is nothing else than a way to finance corruption and waste, to instigate a culture of dependency, to buttress undemocratic regimes and unsustainable economic policies. It is not surprising then that, faced with hard public expenditures choices in the context of ever tighter budgets, governments give low priority to official development assistance (ODA) and public awareness and support for ODA eclipse. Moreover the poor of the world do not vote, and in particular they do not vote in advanced industrial democracies.

These polarized views find an echo in the scientific literature, which itself is becoming polarized between the ODA preachers and the ODA bashers. However, there is a growing number of contributions which do not take sides in the political controversy and explore possible "third ways", dwelling in particular on the conditions under which ODA can produce its desired outcomes.

This paper intends to propose another third way approach to development assistance policies, based on a synthesis view, and a new view, of the factors that explain the effectiveness of ODA. The conditions under which ODA produces higher rates of economic growth on a sustainable basis can be summed up in two basic factors: economic integration and subsidiarity. ODA is growth inducing only to the extent that development assistance (i) stimulates and supports the integration of national and local economies at the international level, both globally and regionally, (ii) determines institutional reforms and sound economic policies at the appropriate level of government (global, regional, national and local), and (iii) leaves the private sector to play its fundamental role. This approach is proposed based on a review of the literature and by drawing on the experience of European economies, particularly in the last two decades.

I. TRENDS IN DEVELOPMENT ASSISTANCE: A CONTROVERSIAL PICTURE

Official development assistance: the betrayal of donors?

Are rich countries withdrawing from their commitments? Is the gap in ODA undermining the achievement of the policy commitments of the international community, notably the Millennium Development Goals (MDGs)?

These are some of the questions that are being raised in the development circles. In order to set the stage for understanding the implications of these questions, we begin with a look at the current trends in ODA and other forms of aid flowing from the donor to the recipient countries.

[4] *This is a shortened version of a paper presented at the March 2007 meeting organized in Kiev by the Centre for Social and Economic Research (CASE), Poland.*

According to the estimates of the United Nations Millennium Project, achieving the MDGs requires an increase of aid flows to at least $150 billion per year. This would also be consistent with the commitments the donors have made under the Monterrey Consensus of the International Conference on Financing for Development to work towards reaching the United Nations target of 0.7 per cent of gross national income (GNI).

Following the promises made by the European Union and by the G8 at its summit in Gleneagles to increase aid by some $50 billion by 2010, the ODA from the countries of the Organisation for Economic Co-operation and Development (OECD) to developing countries rose to a record high of $106 billion in 2005. This total represents 0.33 per cent of the Development Assistance Committee (DAC) countries' combined GNI, up from 0.26 per cent in 2004. In order to achieve the target ODA levels, the donors will have to keep increasing aid by an average of over 8 per cent per year, a rate comparable to the 2005 surge of 8.7 per cent in real terms. This means that for most DAC countries, ODA will have to rise at a rate above that of total government expenditure, year after year, which is a challenge at a time when OECD countries' budgets are under considerable pressure.

Chart 1 reports the ODA from the major OECD donors during 1990-2005. In 2005, 22 rich countries ran development programmes, sending overseas more than $100 billion in development aid. In dollar terms, this was fairly high – up from a low of $48 million in 1997, but still less as a percentage of rich-country GDP than the levels of the late Cold War period. The money went to about 180 countries. Seven of them received over $1 billion: China and India, drawing most of their aid from Japan, were at the top; the others were Indonesia, Egypt, Serbia, Mozambique and the Russian Federation. Top recipients of United States aid are usually countries of high security concern, including Israel, Egypt, Pakistan, Jordan, Colombia, and the Russian Federation in recent years. Most aid from Japan, Republic of Korea, Australia, and New Zealand, by contrast, goes to neighbouring Asian and Pacific island nations. Europe's recipients are mixed: Greece's $200 million goes mainly to Balkan-peninsula neighbours such as The former Yugoslav Republic of Macedonia, Albania, Bosnia and Herzegovina, and Serbia; most of Ireland's $400 million goes to Uganda, Ethiopia and other low-income countries in Africa. None of this tells us how well donors choose their priorities, or how well recipients use the money. But underlying all such debates is the suggestion that there really isn't very much foreign aid. The $106 billion for 2005, high by historical standards, was less than 1.0 per cent of the $12 trillion world GDP for low and middle-income countries (excluding India and China). It was about 7 per cent of the $1.5 trillion in developing-country export earnings (again excluding Chinese and Indian exports, as well as oil sales by Persian Gulf states); and perhaps most striking, probably less than the $150-$200 billion in remittances sent home to developing-country families by overseas workers.

Peacekeeping and humanitarian intervention as a complement to development aid

It is well known and widely recognized that without peace and security there can be no development. Conflict is among the major factors affecting poverty and underdevelopment. Another major factor is natural disasters: while they hit both

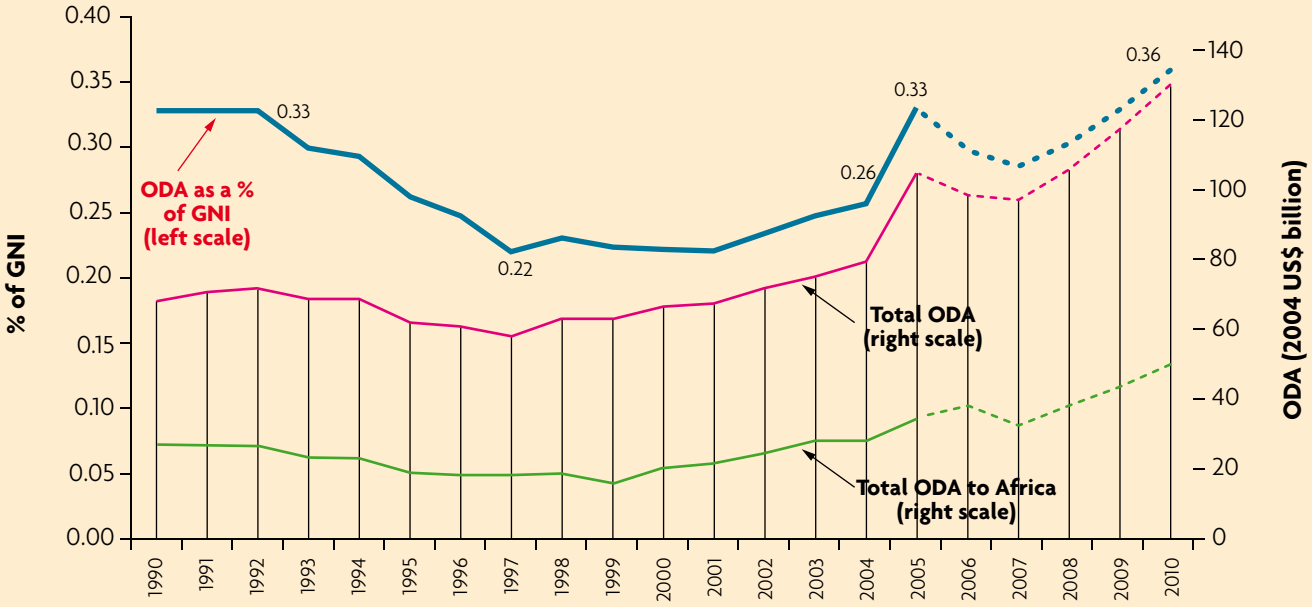
rich and poor countries, they leave a permanent scar in countries and regions where development opportunities are lacking and undermine profoundly efforts made to overcome obstacles and barriers to economic growth and prosperity. A recent example would be the impact of the tsunami on a number of Asian countries including, but not limited to, Indonesia, the Philippines, Sri Lanka, and Thailand. It is therefore appropriate to consider the trends in ODA in connection with those in aid and intervention for peacekeeping, and peacebuilding and for disaster relief and other humanitarian intervention. If we take an integrated approach to development aid, peacekeeping and humanitarian intervention, the picture of trends in assistance related to development changes significantly. Recent years have seen an exponential increase in the peacekeeping budget and humanitarian contribution around the world. The budget for United Nations peacekeeping operations from July 2005 to June 2006 was a record $5 billion – climbing past the previous peak of $4.6 billion in 2004-2005. Some 70,000 soldiers, military observers, and police were serving in 16 peacekeeping missions at the end of 2005. Including international and local civilian staff and volunteers, total personnel came to about 85,000. The United Nations also maintains 10 smaller "political and peacebuilding" missions, with a mostly civilian staff of 2,349 as of late 2005. The largest of these are in Afghanistan (set up in March 2002), Iraq (August 2003), and East Timor (May 2005). Chart 2 provides time series figures for peacekeeping expenditures and peacekeeping personnel and shows the exponential growth in both expenditures and personnel in recent years.

Humanitarian aid has also seen a significant increase in recent years. According to estimates of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), contributions and commitments for humanitarian aid in 2006 exceeded $7 billion. Figures for 2006 classified by donors are given in Chart 3 while the table shows the aggregate trend in global humanitarian aid during 2000-2006. As the table shows, the global humanitarian contribution has increased in every year since 2000 and the magnitude in increase has been more than fourfold during this six year period. However, contributions in 2005 following the tsunami disaster increased to more than $13 billion from $4.7 billion in 2004.

Integrating development aid with aid linked to peacekeeping operations and humanitarian assistance may look politically controversial. One may object that the latter is most often driven by political considerations and strategic foreign policy interests of donor countries. However, this objection does not stand, as development aid is also mostly driven by the strategic interests of donor countries. It suffices to note the strong preference given by countries to tied aid and bilateral arrangements, and the reluctance of donor countries to relinquish control of technical cooperation activities in the multilateral institutions and arrangements. Besides, generosity and altruism should themselves correspond to longer term strategic interests of the developed world in maintaining international peace and security.

We can conclude then that the recent period has seen both a relative stagnation of the resources allocated to development assistance, but at the same time an exponential increase of the resources made available for intervention linked to peacekeeping and humanitarian relief. The experience of the tsunami, when under the impression made by the international media, public opinion mobilized and managed to collect an impressive amount of donations in a short time, is instructive of the kind of response that one can have from the citizens of the rich world when a convincing appeal is made to the need for international solidarity and support. The crisis of ODA therefore cannot be simply explained away by ethical considerations, and corrected by more effective campaigning or preaching or political confrontation. A more structural approach is needed starting from the experience gained from some success stories.

Chart 1. DAC members' net ODA 1990-2005 and DAC Secretariat simulations of net ODA to 2006 and 2010



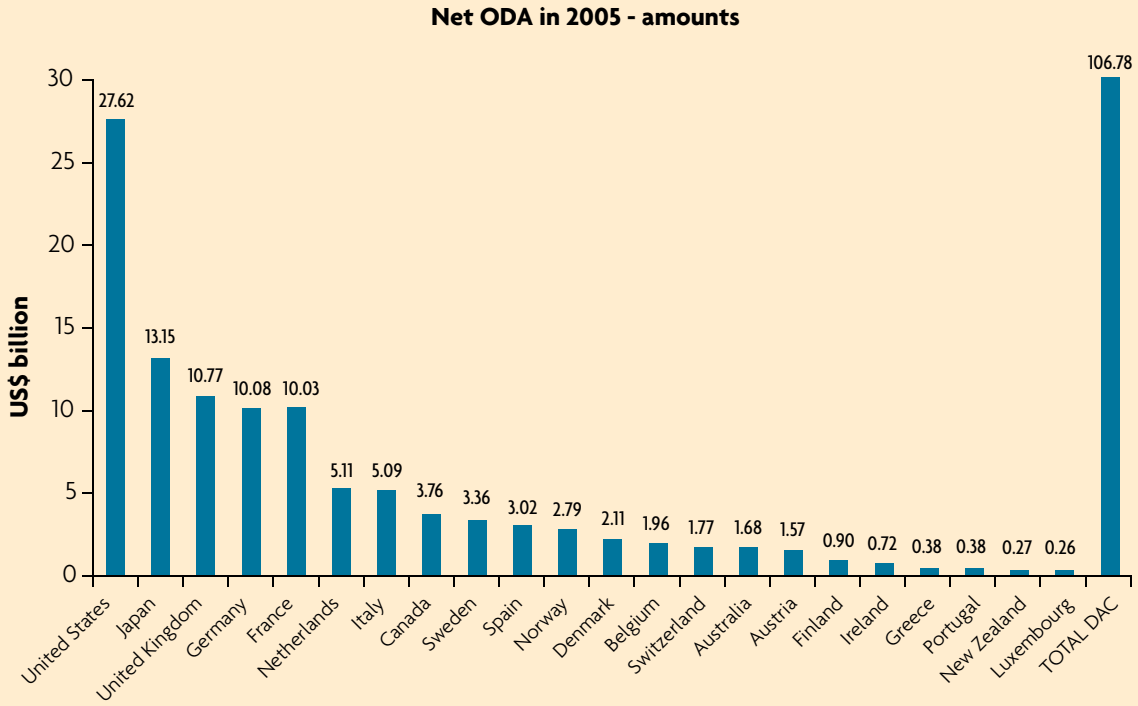
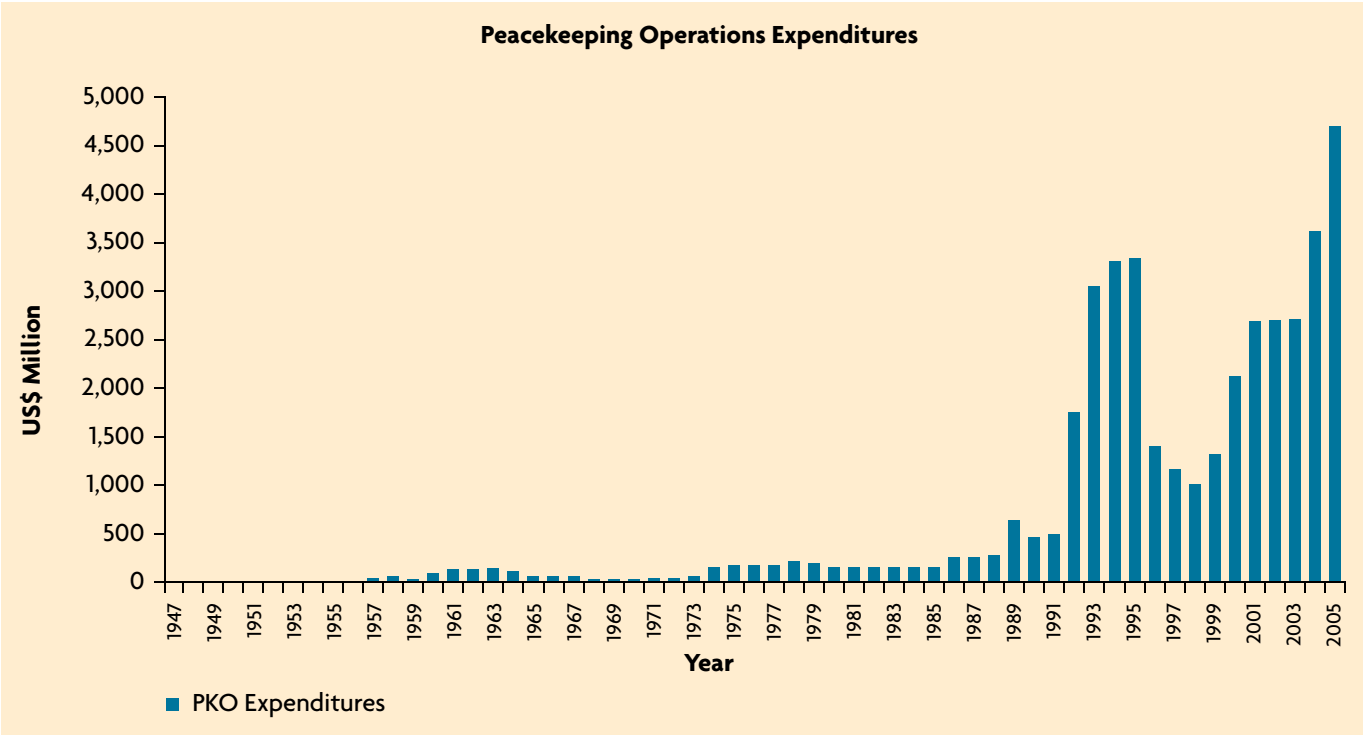
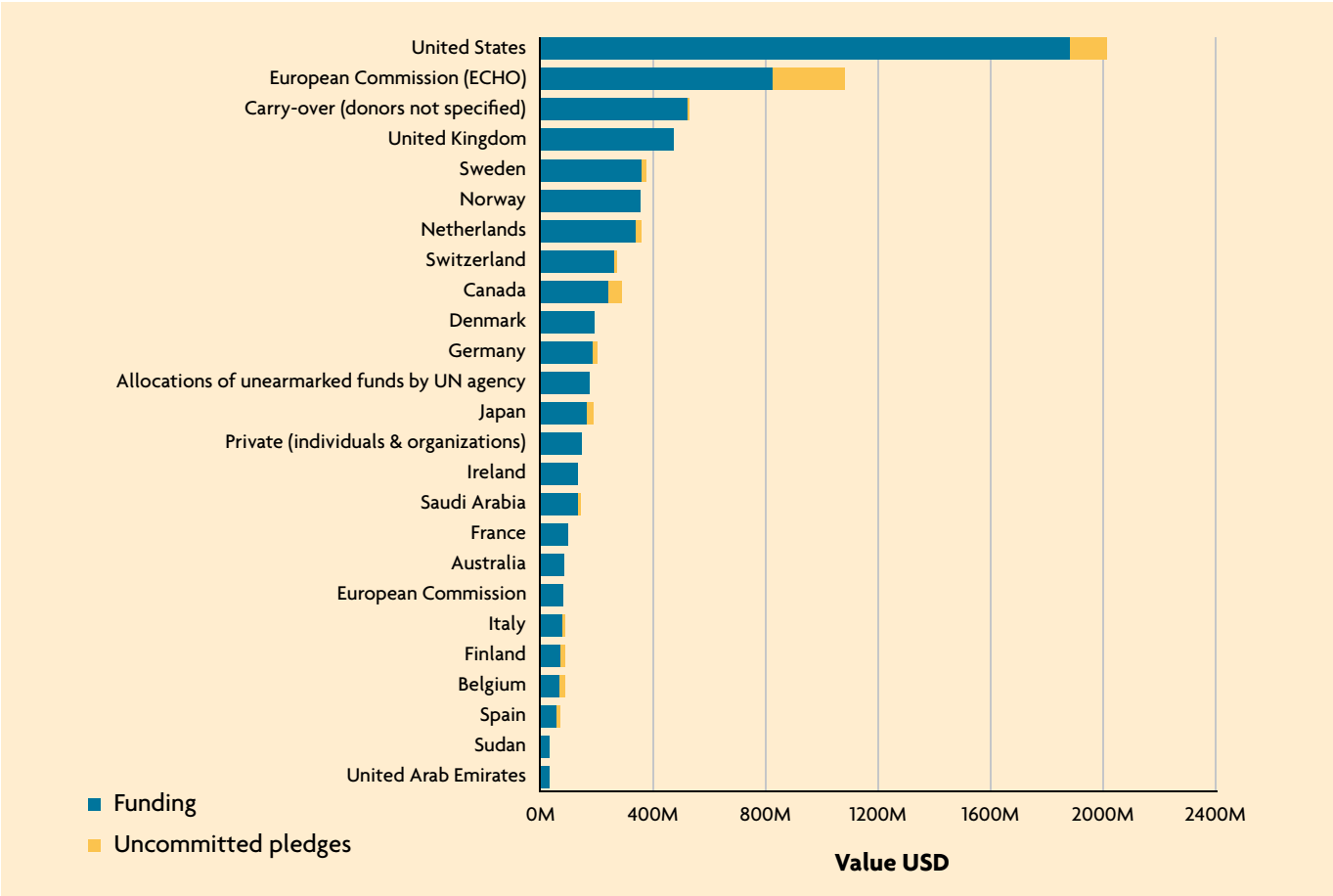


Chart 2. Peacekeeping Operations Expenditures 1947-2005

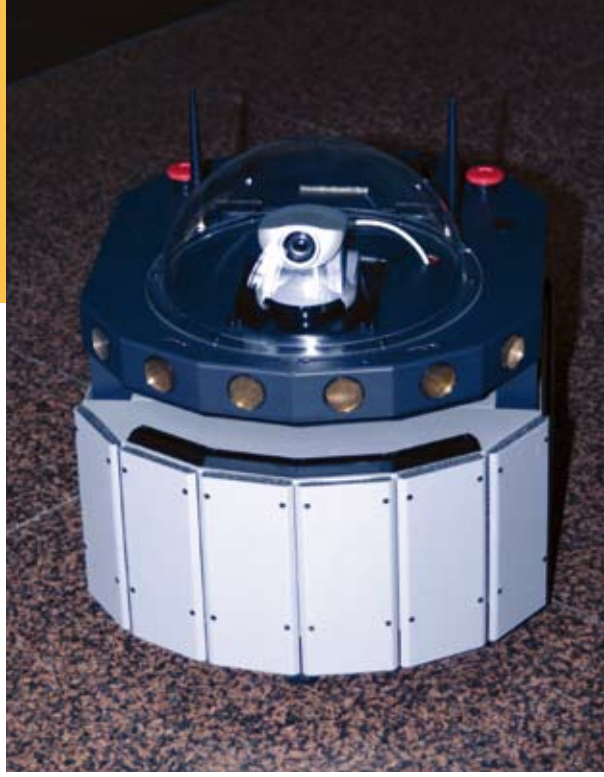


Source: Global Policy Forum

Chart 3. Global Humanitarian Contributions in 2006: Total by Donors



Source: http://www.reliefweb.int/fts



Global Humanitarian Contribution in Recent Years : Total by Donors

Year	Funding in US$ ('000)
2006	7 201 717
2005	13 140 287
2004	4 732 381
2003	7 531 467
2002	5 116 713
2001	3 798 718
2000	1 772 120

Note: Funding means Contributions plus Commitments.
Compiled by OCHA based on the information provided by donors and appealing agencies.

Source: http://www.reliefweb.int/fts

II. THE EUROPEAN EXPERIENCE: WHAT ARE THE MAIN LESSONS

There are two basic stories concerning the European experience of ODA and economic growth. One is the experience of Europe as a main donor and source of funding to support development in other parts of the world and in its neighbourhood; the other is the support provided by the EU for integrating successive waves of new member countries, and promoting economic reforms in the policies of its members at the community, national and regional levels. The two stories have opposite endings: the first story is one of mixed results in line with the evidence on the impact of ODA in all other contexts; the second is the most extraordinary success story of the last 50-60 years. The EU is the main provider of development assistance in the world (see the table and Charts 1 and 3). However, the track record of this considerable financial effort has come under renewed attack from policy analysts. It has been argued that European development assistance is in disarray, lacking political thrust, strategic purpose and institutional support. This has created perverse incentives inhibiting the innovation and boldness that is required to promote sustainable development and democratic governance in poor countries.

If we consider instead the aid provided by the EU to support the economic integration of its member countries, particularly those relatively disadvantaged, or of acceding new members, as in the case of the EU enlargement of the early 2000s, it has to be recognized that these measures have been quite effective in supporting the integration of European economies and in creating the conditions for sustainable development and growth.

We will focus then on the latter assistance policies, to draw lessons of wider applicability. There are several experiences that can be considered emblematic of the European success in supporting economic integration. Here are the main ones:

1. EU enlargement: support for candidate countries

In order to accelerate the EU enlargement process and to support candidate countries in their accession, EU has provided considerable material assistance and technical support and advice through programmes such as Accession Partnership, Instrument for Pre-accession Assistance (IPA), etc. The Phare programme also channels financial and technical assistance. Community assistance for reconstruction, development and stabilization (CARDS, 2000-2006) is the EU policy framework aimed at helping recipient countries to participate in the stabilization and association process with the EU. Another success story is the Technical Assistance and Information Exchange Programme (TAIEX, started in 1996) which is an institution-building framework for providing short term assistance to candidate countries. Poland received a huge amount of financial aid during its accession period. For instance, the 2002 Phare programme allocated more than a billion Euros to Poland. Another candidate country, Croatia, also received about half a billion Euros under the CARDS for investment and institution building programmes.

2. EU regional policies aimed at supporting industrial restructuring, entrepreneurship, innovation and competitiveness

In the context of globalization and international integration, the EU has established many regional policies in supporting industrial restructuring, entrepreneurship, innovation and competitiveness that are essential for the region's development. In October 2005, the European Commission launched a new industrial policy to create better working conditions for manufacturing industries. With seven new cross-sectoral initiatives, such as intellectual property rights, better regulation, industrial research and innovation, market access, etc., the policy aims at supporting adaptability and structural change to boost the competitiveness of EU manufacturing, especially in the light of the increasing competitive pressure from China and other Asian countries.

In addition, the Lisbon Strategy aims to make the EU an attractive place for investors by promoting entrepreneurship, innovation and competitiveness. For example, the "European Agenda for Entrepreneurship" action plan was created to help entrepreneurs fully realize their ambitions, gear them towards growth and competitiveness, improve the flow of finance by creating more equity and provide them with a user-friendly regulatory and administrative framework. Entrepreneurs are also supported by the Community Financial Instruments in order to encourage the creation of new businesses, the establishment of some special venture funds owned by informal investors or business angels to support innovative activities. There are also other EU regional policies which have been introduced to improve the business environment. These include, but are not limited to, the policy to reduce administrative costs (roughly 25 per cent throughout the EU within five years), the Innovation policy or ICT (Information and Communication Technologies) policy which helps to promote activities necessary for the region to strengthen their position in the international market.

3. The single market: policies aimed at supporting the elimination of barriers, the adoption of standards, the better regulation of markets so that there can be a level playing field across the whole European economic space

The EU single market created in 1993 has generated numerous benefits in terms of prices, employment, exports, FDI inflow, etc. for EU citizens as well as the region's economy. The EU has continued to remove non-tariff barriers to trade, reduce cross border bank charges, apply common standards like allowing for free movement of people, goods, service and capital, or offer better regulation of markets like the EU's robust competition policy, EU company law, etc.

4. Policies aimed at giving a role to private players, the social partners, the voluntary sector, the research community, opinion makers, etc. including the role of Public Private Partnerships

In order to promote the role and the capacity of private players, non-governmental organizations (NGOs) or Public Private Partnership (PPP), some policies and actions have been implemented by the European Community, such as the programmes on PPP, Europe INNOVA and some other programmes supporting NGOs, voluntary organizations, etc. One of the programmes promoting NGOs' activities in the field of environmental protection is the Community action laid down by the European Parliament and Council, with a budget of 32 million Euros for the period 2002-2006. The programme encourages the systematic participation of NGOs in protecting the environment and contributing to the development and implementation of community environment policy in all regions of Europe.

In Europe, PPP is present in most sectors including transportation, public health, education, waste management, water and energy distribution, etc. At the regional level, PPP helps implement the Trans-European Transport Networks. At the country level, Hungary's Ministry of Education, for instance, is using PPP to develop university infrastructure.

5. Policies giving a role to regional and local governments, local communities and stakeholders (devolution)

Since regional and local government and communities are the closest sphere of governance to people and have a vital role to play in the creation, delivery and implementation of national, regional and international policies, the Council of Europe and many European governments have enacted policies as well as programmes giving roles to their local bodies.

6. Policies transferring responsibilities from national governments to the community (European) level, as in the case of trade, and the Euro

Because the EU has a common trade policy (Common commercial policy) where the European Commission negotiates on behalf of the Union's 27 member states, it plays an active role in the World Trade Organization (WTO) and is one of the key driving forces behind most of the multilateral trade negotiations in the WTO. The European common commercial policy implies uniform conduct of trade relations with the rest of the world, in particular by means of a common tariff and common import and export regimes. Under this policy, all European member states transfer responsibilities related to external trade to a Community, where the Community speaks with one voice at the global level. The European Commission negotiates and concludes international agreements on behalf of the Community at the bilateral and multilateral levels, ensures that common rules are actually applied, tackles trade barriers, promotes competitiveness, jobs and growth, creates favorable trade environment, etc.

Another case is the use of a single currency, the Euro, in thirteen of the member states. This calls for a single monetary institution at the regional level to manage that system. In order to monitor the whole Euro area, the European Central Bank (ECB) took over full responsibility for monetary policy that includes setting benchmark interest rates and managing the Euro area's foreign exchange reserves. Its responsibilities encompass developing the framework for monetary and exchange rate policy, operating rules and procedures, and the statistical database; preparing the groundwork for issuing EU banknotes; and promoting efficient payments across countries' borders. Therefore, with the establishment of the European Monetary Union and ECB, each individual European country could release or lighten its response to all issues related to monetary such as exchange rate, interest rate, inflation rate, budget deficit or debt to GDP ratio, etc.

In all these cases there is thus evidence that aid and assistance played an important role in stimulating adjustment and translated itself into sustainable economic growth. For example, between 2000 and 2005 public expenditure at the local and regional levels increased annually by 3.6 per cent, faster than GDP (1.7 per cent) and total public expenditures (2.4 per cent).As a result, the share of local and regional authorities in public investment increased from 25.4 per cent to 26.8 per cent. In some countries, such as Spain, Finland and Denmark, this proportion has increased by 10 percentage points over the last decade.

III. THE SECRET OF EUROPEAN SUCCESS: TOWARDS A NEW SYNTHESIS

Why has European aid been successful in all these cases and relatively unsuccessful in the other cases? There are two common threads that can be seen at work in all cases of success, and that can be spelled out in the argument as the main factors explaining the effectiveness of aid in relation to growth.

1. the fact that aid promotes economic integration, i.e. the elimination of barriers to economic activity, the enlargement of the market and its smooth functioning;

2. the application of the subsidiarity principle, in that aid stimulates more role by private players (business and civil society), devolving responsibility towards the lower level of government, and the transfer of power towards the European level for decisions that are to be taken at that level. Subsidiarity implies "institutional assignment", i.e. taking policy decisions at the level that is appropriate for that decision.

We can now elaborate on these factors, applying them to the wider context.

IV. ECONOMIC INTEGRATION AND SUBSIDIARITY – THE CONDITIONS OF AID EFFECTIVENESS

In this section, we will identify a few conditions where aid could promote growth:

Economic integration

Global economic integration is not a new phenomenon. Over centuries, integration through trade, factor movements, and communication of economically useful knowledge and technology has been on a generally rising trend. Three factors have affected the process of economic integration and are likely to be its driving force in the future. First, improvements in the technology of transportation and communication have reduced the costs of transporting goods, services and factors of production and of communicating economically useful knowledge and technology. Second, individuals and societies have favoured taking advantage of the opportunities provided by declining costs of transportation and communication through increasing economic integration. Third, public policies have significantly influenced the character and pace of economic integration.

Countries need to promote regional economic integration to overcome the constraints of small market size and to reap the full benefits of economic specialization. Since the developing countries tend to export more to distant developed countries than to developing countries, the potential for regional integration among developing countries is tremendous. For example, to promote intraregional trade, countries should continue to reduce tariffs and invest in trade facilitation by simplifying and automating customs procedures, promoting the mutual recognition of norms and standards, and encouraging trade in services. In some cases, regional currency unions can further aid intraregional trade by reducing the cost of exchange rate fluctuations and further deepening economic integration.

A second dimension of economic integration focuses on sharing the high fixed costs of setting up key institutions for development. Universities, research centres, and standards bodies are critical for generating growth, but frequently impossible for small countries to afford. Many small developing countries also require regional institutions to help them overcome the constraints of small markets and population.

Third, the example of the European Union, which speaks with one voice in international negotiations over trade, shows that regional economic cooperation can strengthen the international voice of developing countries. By agreeing on common positions and objectives, small countries can reduce the cost of international negotiations and increase the likelihood of successful outcomes on issues like trade and debt relief.

These priorities require strong institutions to coordinate the alignment of customs procedures, the harmonization of standards, and the development of joint infrastructure. The European Union has been a good example of promoting economic cooperation in Europe.

Foreign aid helps economic integration in at least three ways. First, aid helps to accelerate knowledge sharing among countries. Second, aid helps in allowing poorer countries to participate in setting standards and in convergence of standards. In other words, aid helps to bring a sense of ownership in the developing countries by providing for an inclusive process. Third, aid helps to compensate the losers from economic integration. It helps to soothe the interest groups who resist economic integration the most.

Providing sizeable financial assistance has historically been of considerable importance in helping persuade countries of the benefits of economic integration. Liberalization measures under the regional integration of Europe significantly helped to create a favourable economic environment that contributed to the growth and welfare of the weaker member states. These policies were combined with substantial economic assistance and helped to shape positive popular perception of integration. The post-war Marshall Plan was instigated in large measure to neutralize the forces moving Western Europe permanently away from multilateral trade and to thereby facilitate global economic recovery.

What we need now is to bring these trends together and have a pan-European approach to economic integration. Foreign aid can play an important role in helping this trend to succeed.

Global public goods

Many developing countries need new technologies to address specific needs. There are realistic prospects for developing new vaccines and medicines for malaria, HIV/AIDS, tuberculosis and other killer diseases in poor countries. Improved agricultural varieties and cropping systems can increase the food productivity of rainfed agriculture. Accurate environmental monitoring and forecasting can help focus interventions for the greatest positive impact. Many other examples abound for such public goods that, once developed, could be shared broadly to help all countries.

Peacekeeping is another important public good. The last two decades have seen at least several dozen major armed conflicts in different locations, most of them civil wars. Although the number of conflicts has fallen from its peak in the 1990s, the last few years have seen a major international escalation of the conflict in Afghanistan, Iraq, etc. Meanwhile, longstanding conflicts continue to rage in Colombia, the Democratic Republic of Congo, and Sudan, to name but three. And others are in reconstruction from earlier civil wars, including Bosnia and Herzegovina, Guatemala, and Mozambique. In order to reduce the intensity of conflict as well as maintain the post-conflict stability peacekeeping by an international force is required. The affected countries are in no position to fund these peacekeeping activities. So foreign aid is essential in providing for peacekeeping forces and maintaining stability around the globe.

Likewise, health R&D is limited for diseases affecting the poor, with only 10 per cent of global funding used for research into 90 per cent of the world's health problems. The Commission on Macroeconomic and Health of the World Health Organization recommends that annual funding for R&D on global public goods in health should be increased to $3 billion by 2007 and $4 billion by 2015, compared with roughly $0.3 billion annually today. The situation is similar in other areas of global public goods which are critical to the needs of developing and transition countries.

The relative nature of growth of a country could also be improved through the development of the knowledge economy. International policy dialogue could help global knowledge sharing. This could also be assisted by developing norms and standards for countries in different sectors and then helping to implement them. Implementation of these norms and standards requires capacity development in the developing and transition countries.

Global public goods are often overlooked and underprovided in most developing and transition economies, despite their critical role in promoting development as well as the fact that developed countries stand to benefit directly. Two main reasons can be cited for this. First, the cost of coordination among different countries is extremely high, requiring strong regional institutions that do not exist in most parts of the developing world. Second, the attribution of responsibility is a problem. This relates more to the way donors operate. Bilateral and multilateral agencies tend to allocate funds on the basis of individual country performance and needs. This approach

doesn't work for global public goods since it is extremely difficult to assign the investment benefit to individual countries. As a result, it is often very difficult to obtain loan guarantees for regional projects from individual countries. To overcome similar problems, regional infrastructure projects in the European Union are justified by their benefits to the entire community and financed from the EU's core budget (comparable mechanisms could be established among developing countries).

Link between normative and operational activities

"Normative" work implies standard setting, the formulation of policy, the articulation of what people ought to be doing, their rights and obligations, etc. "Operational" work, on the other hand, implies not only the developmental activities leading to the implementation of actual programmes of technical assistance, but also the execution of policy and the application of standards and guidelines. A successful link between these two types of activity is necessary for development assistance to be effective. The adoption of norms and standards in specific areas or sectors often requires operational activities for the full implementation in practice of the principles they embody. Indeed, technical cooperation is increasingly seen as an essential contribution to the application of standards. At the same time, operational activities contribute to a country's substantive knowledge of issues and can provide essential input to the development of new standards.

Aid for trade

This stands out as a special case of economic integration. In undertaking trade reform and to participate effectively in the global trading system, poorer countries are faced with a gamut of concerns and issues. For some there will be adjustment costs to preference erosion, and others may face a loss in terms of trade (notably for net food importers). Countries where tariff revenues make up a significant proportion of total fiscal resources may well need to undertake tax reform. Another fundamental issue is that many developing countries are ill equipped to take full advantage of new trade opportunities because of significant supply side and human and institutional constraints. Improved market access without the capacity and transportation to sell isn't of much use. Gains from trade liberalization are conditional on an environment that allows the mobility of labour and capital to occur, that facilitates investment in new sectors of activity and also can provide the vulnerable with some assurance that they will be assisted, if necessary.

Seen in this context, supporting trade adjustment and integration requires a shift towards more efficient transfer/assistance mechanisms with support directed at priority areas defined in national development plans and strategies. Allocation of foreign aid to support trade integration can help gradually to eliminate the current system of discriminatory trade preferences.

V. CONCLUSIONS

The current debates on poverty reduction, debt relief and, more broadly, the efficacy of development assistance have shed renewed light on foreign aid. Development assistance is at the heart of a new bipolarism that is evident in both the donor and the recipient countries. On the one hand, there is a growing perception in the recipient countries that the donors are not sharing opportunities and wealth in supporting economic growth and fighting poverty in the developing world. On the other hand, public opinion in the donor countries increasingly considers development assistance as nothing more than a way to sustain undemocratic regimes and support unsustainable economic policies.

Questions have also been raised regarding the magnitude of development assistance. Our initial analysis, however, shows that once we add to the ODA expenditures the recent surge in spending for peacekeeping and humanitarian intervention, the picture of the donor countries' commitments changes significantly.

The question that is, therefore, relevant for the debate on the efficacy of development assistance is not so much an issue of how much, but rather for what. In view of the growing awareness of ODA's inefficiency in achieving intended aims, this paper proposes an alternative approach to development assistance policies – economic integration and subsidiarity provide the conditions necessary for ODA to produce higher rates of economic growth on a sustainable basis. Europe is an excellent case in point, in this context. Europe has in the last decades experienced a number of success stories in moving out of poverty and on to sustainable economic growth. The secret of success has been the push towards economic integration, and the adoption of economic reforms at the local, national, and regional level conducive to economic growth.

The recipient countries of development assistance have much to learn from the European experience. The need for a political thrust, strategic purpose, institutional support and bold reform initiatives to supplement the receipt of development assistance cannot be overemphasized. Efforts to successfully integrate into the global economic system are also a pre-condition for these countries to better enjoy the fruits of foreign economic assistance.

CAN PPPS HELP CLOSE THE INFRASTRUCTURE GAP IN THE TRANSITION ECONOMIES?

Geoffrey Hamilton

INTRODUCTION

Many of the transition economies are currently enjoying a period of strong growth, in some cases fuelled by the high price of natural resources, in most cases by competitively-costed skilled workforce and in all cases by a strong commitment to market-based reform. However, as growth accelerates, it puts pressure on the infrastructure to keep pace.

Infrastructure is also a critical ingredient of a country's competitiveness and productivity. Inadequate infrastructure across a number of sectors inhibits the investment of productive capital and restricts output. As infrastructure services include education and health, the lack of these services can also contribute to high levels of poverty and inequality. Consequently for all these reasons – to sustain economic growth, boost competitiveness and social development – many countries need to make large investments in their infrastructure.

Given the often insufficient resources available from national budgets, Governments are turning to the private sector to meet these challenges. One of the instruments to upgrade existing and build new infrastructure with the help of the private sector is Public-Private Partnerships (PPPs)[5]. In particular, a new interest in PPPs is emerging from countries of Eastern Europe, the Caucasus, and Central Asia.

In this context public perceptions too are changing. A recent survey of Governments, private sector and NGOs and community groups from transition economies expressed optimism that the participation of the private sector in PPPs would improve the delivery of public services[6]. But how realistic is such optimism? Can PPPs really help the transition economies, most of which are low income economies, some very poor and from an investor perspective, suffer from unpredictable and high risks?

I. THE INFRASTRUCTURE DEFICIT AND PPPS

Public infrastructure issues have a daily influence on the lives of citizens in transition and market economies, across continents and cultures, from St. Petersburg, Russian Federation, to St. Petersburg, Florida, and everywhere in between. As can be seen in the figure, serious infrastructure needs are felt in every part of the globe[7]. The numbers shown tell only part of the story, however, because it is difficult to measure the true costs to society and the many unquantifiable externalities that come with the lower productivity, reduction in competitiveness, and increase in the number of accidents that result from the infrastructure deficit. Unlike with many other global problems that have been rightfully brought to the world's attention by both NGOs and Governments, underinvestment in infrastructure may be one of the world's most unnoticed problems.

Closing the infrastructure gap will not happen with ease. According to recent findings from the Organisation for Economic Co-operation and Development (OECD), $71 trillion will be needed to improve even the most basic public infrastructure worldwide.[8] All in all, to meet this need, countries across the world would need to spend 2.5 per cent of annual GDP on telecommunications, road, rail, water, and electricity transmission and distribution up to 2030. On top of this, another one per cent of annual GDP needs to be spent on energy infrastructure; and factoring in other investments not included in these estimates, such as seaports and airports, would push costs even higher. This may be an unnoticed crisis, but it is a serious one as well.

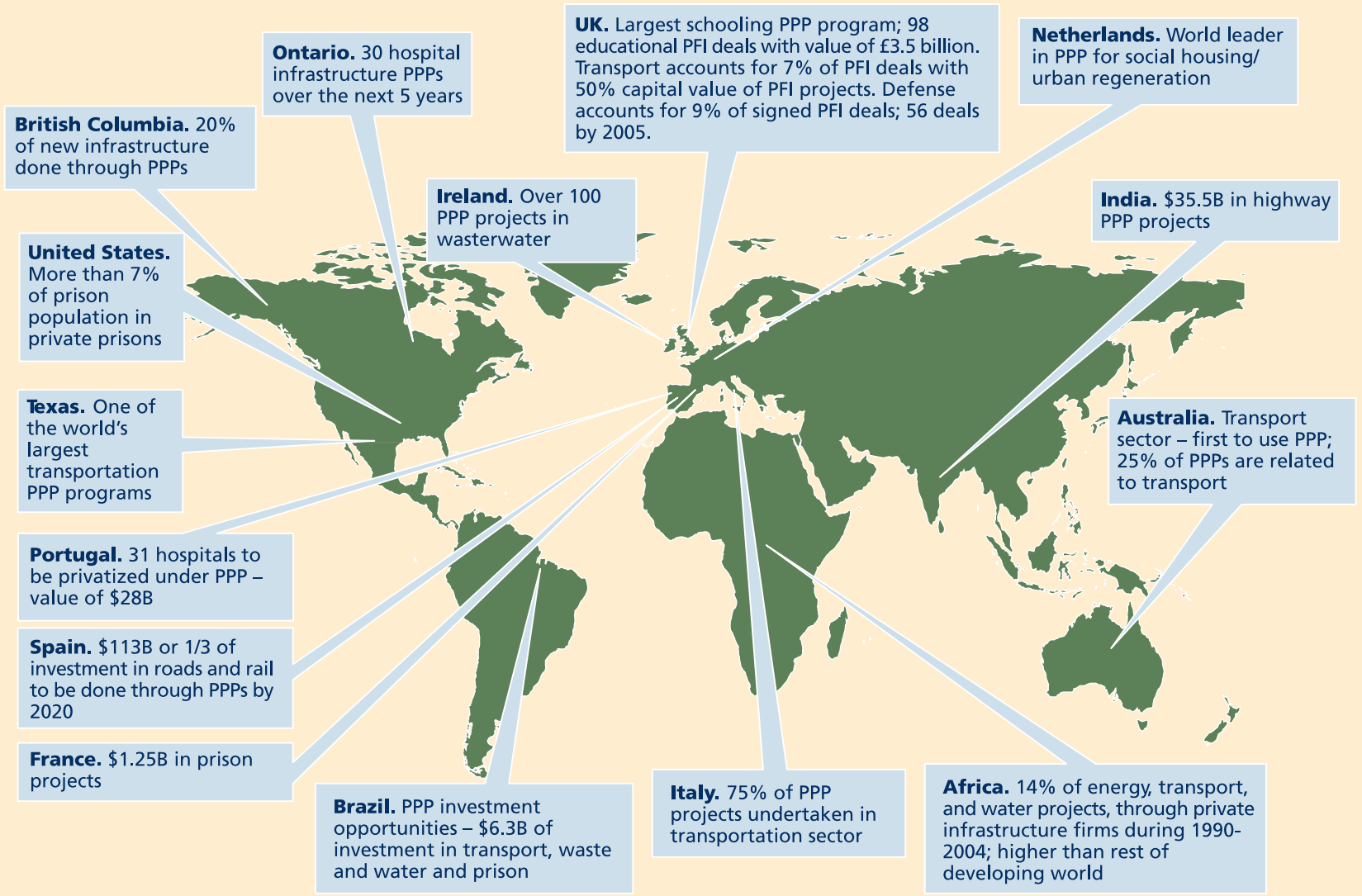
Currently, around 70 per cent of global infrastructure investment comes from the public sector, 22 per cent from the private sector, and 8 per cent from Official Development Assistance. The above-mentioned infrastructure deficit cannot

[5] *One of the problems about writing about PPPs is that many now use PPPs to refer to virtually every type of interaction between the government and the business community. This is confusing. This article thus uses the word PPP to refer to a very clear and focused definition of the term relating to infrastructure.*

[6] *Survey carried out by a project by the Geneva International Academic Network (GIAN), a Swiss foundation that promotes cooperation between Swiss Universities and United Nations agencies.*

[7] *Closing America's Infrastructure Gap: The Role of Public-Private Partnerships, Deloitte Touche, 2006*

[8] *Source: http://www.deloitte.com/dtt/cda/doc/content/us_ps_PPPUS_final(1).pdf, 3*



Sources: Australia National Public Private Partnership Forum, HM Treasury, e-Privatization.com, Projects Today, Public-Private Infrastructure Advisory Facility, EuroMoney, Infrastructure Journal, Deloitte Research.

be addressed through current resources and methods. As a result, government leaders across the world must become more innovative and modernize their methodologies to be better stewards of public money. In all parts of the world, policymakers have sought ways to leverage the private sector's managerial strengths, achieve greater value for money in their investments, and transfer project risk to the private sector. Thus, many have begun to implement contractual agreements between their government agency and the private sector known as public-private partnerships. PPPs in infrastructure – energy, transport, municipal services, telecommunications, social services – can be defined as concessions or other contractual arrangements whereby the private sector operates, builds, manages and delivers a service for the general public typically in return for a payment.

Support from the United Nations

The United Nations views partnerships between government and the business community as a potentially positive mechanism to boost investments in infrastructure and meet the challenges of globalization. Many of the commitments to address the global challenges of poverty and sustainable development have been set out in the Millennium Declaration.[9]

Given the scale of these challenges but the lack of resources of governments, the United Nations has not surprisingly identified the wide range of core business capabilities which the private sector provides, namely their resources and role in developing new technologies, providing essential goods and services and managing large scale operations, as essential for achieving the Millennium Development Goals (MDGs). In some commitments such as in bridging the "digital divide" the Declaration explicitly encourages partnerships with the private sector. Accordingly, the United Nations and its various agencies, such as the United Nations Development Programme (UNDP) and the Department of Economic and Social Affairs (DESA), the Global Compact, and the five United Nations regional economic commissions, take PPPs seriously.

A good illustration of the importance that the United Nations attaches to PPPs was the final declaration of the Johannesburg United Nations World Summit on Sustainable Development in 2002, which made repeated references to PPPs and recommended the promotion of *"Partnerships with the private sector, taking [into] account the interests of and in consultation with all stakeholders, operating in a framework of transparency and accountability, to improve the access of everyone to essential services"*

Different models

In Europe there are various types of PPPs, established for different reasons, across a wide range of market segments, reflecting the different needs of Governments for infrastructure services. Although the types vary, two broad categories of PPPs can be identified: the institutionalized kind that refers to all forms of joint ventures between public and private stakeholders; and contractual PPPs, which have experienced a strong upsurge in recent times and cover a wide range of legal arrangements. PPPs are being used in large national and European infrastructure projects, in local development projects and in the form of the outsourcing of different kinds of public services. One recent notable trend has been the use of PPPs in the delivery of social services such as health projects, education, as well as urban renewal and in new businesses related to the information technologies.

Often the PPP model is confused with privatization. Whereas privatization entails the complete shifting of functions and responsibilities from the public to the private sector, PPPs bring about relationships in which public and private entities meet both common and independent objectives by sharing project goals, pooling resources, and shifting responsibility to the entity that can most effectively bear the burden of risk. As can be seen in the diagram there are in fact a wide range of different PPP financing mechanisms that distribute various levels of risk and reward to either the public or the private sector.

[9] *The Millennium Development goals (MDGs) were derived from the United Nations Millennium Declaration, adopted by 189 nations in 2000. Most of the goals and targets were set to be achieved by the year 2015, based on the global situation during the 1990s.*

Genuine results

What is more, PPPs are not just good theory. Increasingly, from this varied background, there are signs that the value from PPPs, in their ability to draw on the best of both the public sector – its public interest concern, its enforcement and regulatory capacity – and the private sector – its resources, management skills and innovation – for real social gains, is being realized.[10] In all parts of the world, the PPP revolution has created an impressive track record of successful projects across a variety of infrastructure sectors, resulting in brand new and renewed bridges, roads, schools, airports, water systems, housing developments, and hospitals. In particular, the United Kingdom has pioneered this new form of public financing; since the first PPP deal took place in 1987, HM Treasury reports that 590 projects have been signed, totaling £53.4 billion ($108.5 billion at 2.0311 dollars to the pound) and representing between 10 and 15 per cent of all of the country's investment in public infrastructure.

PPP have begun to show real benefits:

- **Better value**: The decision by government to pursue PPP delivery is often based on analysis to determine that the PPP approach will deliver value to the public through one or more of the following:
  - Lower cost
  - Higher levels of service; and
  - Reduced risk

- **Access to capital**: PPPs allow governments to access alternative private sources of capital, allowing important and urgent projects to proceed when otherwise they may not be possible. There is now a far greater availability of financing for PPPs than was the case a decade ago. New infrastructure funds are being established with pension funds a key contributor. What is more these funds are not just investing in mature markets, they are entering emerging markets, which is also developing local capital markets.

- **Certainty of outcomes**: Certainty of outcomes are increased both in terms of "on time" delivery of projects (the private partner is strongly motivated to complete the project as early as possible to control its costs and so that the payment stream can commence) and in terms of "on-budget" delivery of projects (the payment scheduled is fixed before construction commences, protecting the public from exposure to cost overruns).

[10] *The beginnings of PPPs in the 1990s in the then transition economies were not auspicious. Several major projects that started out as PPPs had to be renationalized and many banks lost a lot of money. The size of the risks that the private sector was asked to accept were over ambitious while macroeconomic conditions of high inflation undermined their commercial viability. The result was that governments shied away from the model.*

- **Off balance sheet borrowing**: Debt financing that is not shown on the face of the balance sheet is called "off balance sheet financing". Off balance sheet financing allows a country to borrow without affecting calculations of measures of indebtedness.[11]

- **Innovation**: By combining the unique motivations and skills of both the public and private sectors and through a competitive process for contract award, there is a high potential for innovative approaches to public infrastructure delivery with PPPs.

- **Reinventing government**: Governments are focusing on doing what they do best in infrastructure, as regulator and facilitator rather than the deliverer of services. The reform of government has set the stage to challenge the bulky bureaucratic systems of the past in both transition and market economies with systems that focus on "measurable outputs rather than inauditable inputs".[12]

On the debit side, by enabling projects to proceed with little or even no capital expenditure by the host Government – the capital cost of the project usually not counting against the government's balance sheet or borrowing limits – the Government nevertheless sometimes takes on certain liabilities – e.g. various forms of guarantees – that can leave the Government vulnerable if the project goes wrong. Also, while PPPs offer the possibility of transferring a number of risks to the private sector, for example all types of market risk, the private sector can still succeed in shifting some risks to the government side leaving the latter excessively exposed if the project fails. In addition, in the case of contributing to achieve the MDGs, PPPs also have certain limits. The private sector, for example, invariably is often not motivated to make investments in remote regions where needs for social services are greatest, but where the citizens are poor and have not the purchasing power to offer them satisfactory returns.

However, these caveats notwithstanding, overall this is a new financial tool and the approach – harnessing the respective skills and resources of the Government and the private sector for social gain – constitutes a significant opportunity for the transition economies.

II. THE CHALLENGE

However, while PPPs constitute a new opportunity, this new model is also a considerable and quite complex challenge. As said before PPPs are not privatization and demand a greater input from government than is often anticipated. Indeed, before embarking down the PPP route, transition economies should consider a number of lessons gained so far.

Political leadership

Firstly, we have learned about the importance of political leadership and the need for a clearly defined PPP policy, not only in establishing PPP programmes but also in launching PPP projects. Strong leadership pulls things together and overcomes resistance to create a level playing field for both public and private sectors. For PPP to succeed it needs a champion from the highest political level of government. And PPP projects must be high priority projects in the country's development plan to make the champion credible.

Begin with transparency

Secondly good governance is central, beginning with transparency. Government and the private sector have begun to accept that a transparent competitive bidding process will ensure political sustainability and value for money. Either no competitive tender to select a winning bid or the manipulation of the bidding procedures to benefit favoured bidders undermines the whole PPP rationale: the best project results from an open competition. Indeed, as in the case of the United Kingdom, if there are only a few bidders, Governments advise their agencies not to use a PPP method.

Capacity building

Thirdly, we have learned about the need to build capacity in government for running a PPP programme. This requires building skills within the Governments. Sector ministries and contracting agencies responsible for preparing PPP projects generally have limited capacity to assess commercial issues, allocate risks and manage procurement. To address this constraint, several countries have set up dedicated cross sectoral PPP units at the national level to guide and complement

[11] *As of 11 February 2004, Eurostat defined the treatment of Design, Build, Operate and Finance (DBOF) projects as being eligible for off balance sheet borrowing, which was clarified in the February 2005 report "Standing Committee on the impact of Investment on the GGB".*

[12] Al Gore, *The Gore Report on Reinventing Government, New York: Random House, 1993.*

the efforts of line ministries and local government units. With fifteen years of PPP experience in Europe, research shows that a strong correlation exists between a well-functioning PPP unit and successful PPP implementation, and this has been achieved in both complex and difficult settings.[13]

Capacity building is particularly needed in the preparation of PPP projects that will attract bidders and assure a truly competitive outcome from the bidding process. And a sustained pipeline of bankable projects is needed to keep private investors interested. Inadequate project preparation results in failed bids, sometimes with no bidder and other times with one who eventually hopes to obtain the contract on a negotiated basis.

It is thus necessary to train public servants in PPP models – training in project design, contract writing, monitory and evaluation systems, risk management, and to understand contract vulnerability, dispute resolution, among others. Governments will also wish to consider feasibility studies for PPPs – an essential step to reduce the risk of the project, as well as to understand the project challenges and opportunities – and to develop the market for its PPP programme through PR marketing and dissemination involving chambers of commerce, private sector representations that increase the chances of finding good partners for projects. Officials need to learn also about the industry, because few within the public sector know the business representatives or their objectives. Indeed, there is opposition within the public sector to partnerships with the private sector and such training can overcome resistance.[14] Ultimately, capacity building is needed across the board but it is a long, complex process that requires patience and persistence.

It is to find solutions to this problem that a strategy for PPP capacity building should adopt a combined approach that is building the skills within the Government as mentioned above and at the same time hiring advisors from outside with the necessary PPP experience, preferably early on in the process. No amount of training will assist local government officials in negotiations with large private companies with their large highly qualified teams of legal advisers and global experience.

Focus on maximizing the social impact of PPPs

The fourth lesson learned is that Governments will have to be sensitive to the special needs of the socially and economically disadvantaged. The UNECE region sadly is dominated by a perception that PPPs are exclusively a vehicle for efficiency improvement and value for money. Little attention is given to social objectives, increasing accessibility, poverty alleviation etc. Also, most Governments of countries – low and high income ones alike – see PPPs as a financing tool to move expenditures "off balance sheet". There are a huge number of conferences on PPPs in Europe, but the social side of PPPs is virtually totally ignored. The interesting e-discussions for example, that the UNDP recently led on how pro-poor PPPs can advance the Millennium Development Goals would be difficult for the private sector involved in these events to comprehend.[15]

This is a pity. If PPPs were developed with more attention to social and developmental objectives the popular view of PPPs would improve. Today, the popular perception in western Europe of PPP is broadly negative, seeing PPPs more "private plunder" than public good.[16] Equally importantly, if success is to be achieved with meeting the MDGs, an effort must be made to build bridges with this constituency of large companies where there is massive financial, technological and management potential to help the poor.

In addition, many of the transition economies now considering PPP options have very low per capita incomes, public sectors with limited or no experience of PPPs, and few, if any, public sector financing alternatives. What is more, many inhabitants in these countries endure inadequate housing, poor transportation facilities and roads, and dangerous levels of emissions from industry, including power plants. In such countries it is even more important to think of PPPs not just as "bricks and mortar", but also as impacting on real people, communities and vulnerable groups.[17]

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[13] *Paper submitted by Mme Corinne Namblard, Chairperson of the PPP Alliance to the UNECE Forum on Promoting Good Governance in PPPs', November 2003 UNECE.*

[14] *Standards & Poor's Survey on PPPs 2007.*

[15] *Also one has to admit that countries emerging from centrally planned systems associate the word "pro poor" with a communist connotation, so there is little sympathy unfortunately for promoting PPPs as a means of meeting MDGs.*

[16] *Public service, Private Plunder, 2007.*

[17] *By taking this approach, the prime target in PPPs is fundamentally what local community and the beneficiaries actually want and need rather than lesser financial accounting objectives. It is thus important to consult at the outset all stakeholders, including employees, on the value of projects where the private*

Furthermore, some projects have had a remarkable positive impact on social development. The Pamir Private Power Project (in eastern Tajikistan) for example is designed to contribute to the country's poverty reduction strategy by providing reliable electricity supply to poor isolated habitants of the region to ensure the project is affordable to the population, which is a particular challenge in poor countries. In the case of the Pamir project in Tajikistan, one of the poorest countries in the world, income levels were so low that achieving even a modest return on investment required tariffs that most of the population could not afford. Therefore a social protection clause was placed in the contract and the World Bank with support from the Swiss Government, provided a $10 million subsidy, which supports the project by keeping tariffs within the narrow limit of what people in the region can pay.

Risk sharing

The fifth lesson is that Governments have to play a significant role in PPP facilitation by taking their share of risks and costs. PPPs do not offer free assets, roads, bridges etc. to Governments at no cost: Governments must support projects with certain amounts of funding at the same time ensuring that such subsidies are not over generous so that the private sector still has an incentive to perform well. In some countries Governments are pressed to offer quite considerable financial support at least initially in order to attract the private sector into the emerging PPP market. For example the Governments of both Israel and the Republic of Korea gave a minimum traffic guarantee for toll roads which helped to make their PPP programmes successful.

Proactive public communication and stakeholder consultation

The sixth lesson is the need for proactive communication and stakeholder consultation. Projects easily fail, particularly those that will involve increases in user charges. This was the fate of Europe's first fully private funded motorway between Budapest and Vienna in 1994 which led to the renationalization of the road. Governments need a programme for building consensus among all stakeholders, including civil society, on the benefits of private sector participation in infrastructure, especially in water utilities and toll roads. At a project level private concessionaires need to engage stakeholders through proactive communication. In some cases prices will have to be charged to users and some of the education campaigns will therefore have to persuade drivers, in return for increased safety and security, to pay higher toll charges.

Transparency in domestic financial markets

We have learned too about the important role played by the domestic financial markets in sustaining finance for PPPs. In the 1990s the use of foreign currency denominated debt to finance infrastructure projects was the rule and this exposed projects on local currency revenues to exchange risk. Here long term bond market development and investment guidelines that enable banks, insurance companies, pension funds and other financial institutions to finance infrastructure projects will be key. The banks bring in the pension funds and draw their fees from the management of the funds. In some case the pension funds themselves are setting up their own infrastructure funds to invest directly into infrastructure projects.[18] Already new infrastructure funds are being established in transition economies. As a parallel solution, some countries are setting up funds to mobilize long term funds for channelling to infrastructure projects. The Russian Federation, with its stabilization fund, has done this already.

Legal facilitation

The final lesson we have learned is that the PPP legislation must facilitate projects rather than overregulate them. A number of problems resulted in the early days of PPPs such as the failure to use competitive tenders. These opaque practices created conflicts of interest. The response has been to make PPPs more regulated. But this has gone too far in the other direction. Under new legislation in Poland for example, the local authorities are not able to comply with the new requirements for feasibility studies nor have they the funds to pay for outside consultants, while the stringent rules and high costs associated with competitive tendering make it virtually impossible for domestic small and medium-sized enterprises to compete. Indeed, the President of the European Bank for Research and Development (EBRD) has warned that the PPP process has become too sophisticated, too complex and too expensive.[19] One solution to overcome such an impasse is to simplify the law and remove the over burdensome legal restrictions. While legal regulation is necessary and desirable, it needs to be carefully implemented as the law can make PPPs more complex and less transparent.

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sector plays a significant role. In the above-mentioned schools project, the private contractor in fact asked the children before starting what they wanted, and as a result provided them all with internet addresses.

[18] *Ontario teachers pension fund.*

[19] *Speech M. J. Lemierre, President of EBRD, Conference on Legal Aspects to PPPs, Gide, 2006, Paris.*

III. MEETING THE CHALLENGE: RECENT UNECE ACTIONS IN THE FIELD OF PPPS

Clearly, the whole area of public private partnerships is challenging and complex. In response under the new UNECE Committee on Economic Cooperation and Integration a PPP programme has been established with a specific focus on PPP capacity building for good governance. In addressing this challenge UNECE adopts a step by step approach.

Step 1: Guidelines on Good Governance

In June 2007 at an International UNECE Conference in Israel on "Knowledge sharing and capacity building in promoting successful PPPs", delegates finalized the UNECE Guidelines on Good Governance principles in promoting PPPs. The Guidelines identified seven principles of good governance that addresses the challenges mentioned above. They offer ways in which Government can overcome these challenges and use case studies to illustrate practical solutions. In very concrete terms the Guidelines recommend Government to formulate clear results-oriented PPP policies, to promulgate legal process that are "fewer, simpler and better", to establish procedures for transparent and fair procurement, to create participatory structures to put people first in PPPs, to develop fair risk sharing, and finally to introduce criteria for selecting projects that support sustainable development.

Step 2: Training modules

The second step is to use the Guidelines to elaborate toolkits and more detailed guidance to transition economies. Capacity building for PPPs is not just about giving knowledge. It is primarily building competence within Governments, that is the different types of skills which PPPs require. The toolkit is intended to be as practical and project orientated as possible targeting those who are responsible for delivering real PPP projects. The training modules will be prepared in collaboration with training institutions such as the Russian High School of Economics.

Step 3: Training of public administrations

The third step will be to develop more widespread training especially at regional levels. The first training event is scheduled to be held in Moscow in early summer 2008, to test this toolkit for wider application within the Russian Federation and in other countries in the UNECE region. The aim will be to work with national training institutions on training the trainer programmes. Parallel with this training, UNECE will provide a platform for governments to learn from each other, that is, regular exchanges of experiences between PPP agencies established, for example, in countries like France and Ireland with emerging agencies in Tajikistan and Moldova.

Working with international partners and the private sector

In order to make training more comprehensive it is important that the relevant international agencies work together and pool their resources in this area. Accordingly, UNECE is working closely with EBRD and EU on elaborating joint PPP training programmes. In addition, the UNECE has established a network of experts, including leading representatives from the private sector, to contribute to this programme by providing materials and case studies and to become PPP trainers themselves.

Intended results of this work

Thus UNECE, although not a bank, which provides guarantees or project finance, nevertheless has a number of assets – its neutrality, intergovernmental bodies, its groups of experts, its participation in regional cooperation programmes, and its involvement in global United Nations work – which makes it adept in addressing the lack of public sector capacity and governance in PPPs. The impact of training, it is hoped, will be to improve the capacity of Government to deliver projects. This will mean therefore new schools for communities with high concentrations of socially and economically disadvantaged citizens, the construction of hospitals where services had formerly been non existent, new power plants where supplies had been infrequent and households subject to regular power cuts and new roads that link remote communities and bring commerce and prosperity: real tangible benefits for ordinary people who urgently need an increased supply of high quality basic services.

CONCLUSION

In sum, PPPs are on an upward trend all over the world. There is optimism that PPPs can solve many intractable problems. There is evidence too that this hope is justified as new infrastructure funds are seeking out projects and spreading their interest to transition economies. It will however be critical in this process that Governments find ways to implement the UNECE Guidelines on Good Governance, in particular focusing on transparency in the deal-making process to avoid abuses and developing independent monitoring that ensures that procedures are fair and transparent. If approached in the right ways, PPPs can become the newest development in not only the effort to improve public infrastructure but in the modernization of Governments in the whole of the UNECE region, including the transition economies.

INNOVATION, VENTURE CAPITAL AND GLOBALIZATION: THE ROLE OF PUBLIC POLICIES

José Palacín

INTRODUCTION

Sustained improvements in living standards that can address environmental and security concerns demand new ideas and fresh thinking that lead to valued products and services. Innovation is a risky but potentially highly rewarding business. New companies, which play a critical role in driving innovation, require financing that is adapted to their specific needs. This is unlikely to be provided by conventional financial intermediaries, such as banks. As a result, the development of an active venture capital industry that can provide not only financing but also managerial and technical skills to innovative companies has become an important component of innovation policies. This essay will briefly present the characteristics of the financing offered by these specialized intermediaries, the rationale for public involvement and the different ways in which public actions may influence venture capital financing. Changes in the geography of innovation and the internationalization of economic activities are influencing both the operations of venture capital companies and public policies.

FINANCING INNOVATIVE ENTERPRISES

Small, new companies are critical in driving innovation because existing organizations have difficulties in adapting to changing environments or introducing radical innovations that may negate the value of their existing assets or business models. Industry leaders perform well in sustaining innovation along existing lines but new ideas and disruptive innovations can find a more fertile ground outside the established corporation, where research is more oriented on developing or improving existing lines.

The inability to spot new technologies quickly may not be the determinant factor preventing established companies from adopting them. The reasons for inertia may lie in the lack of attraction of these technological alternatives under existing cost structures and target markets. Some technologies may even perform worse in the short term or cannibalize sales from more lucrative product lines.[20] However, these so-called disruptive technologies may undergo rapid improvements and threaten established technologies. A similar reasoning can be applied to products, process and business models.

A decentralized research structure generates a flow of new ideas and allows spotting and taking advantage of new opportunities quickly. However, the transformation of ideas into commercially successful propositions is a complex process, which requires the contribution of different types of skills, in addition to those that generated the initial idea or invention. Obtaining adequate financing through the various stages of development of a new company is central for successful commercialization.

However, this poses considerable challenges, as the financing of young high-tech companies is a risky business, plagued by uncertainty and information gaps, which render difficult the assessment of the prospects of these firms by potential financial providers. Cash-flows are uncertain and unpredictable. Intangible assets, such as intellectual property, are at the core of early-stage high-tech companies, but these are not easily accepted as collateral. Better and widely acknowledged reporting practices on intellectual assets would facilitate the task of raising finance but progress in this area is yet limited. The ability to pledge collateral determines the amount and type of financing that can be raised.

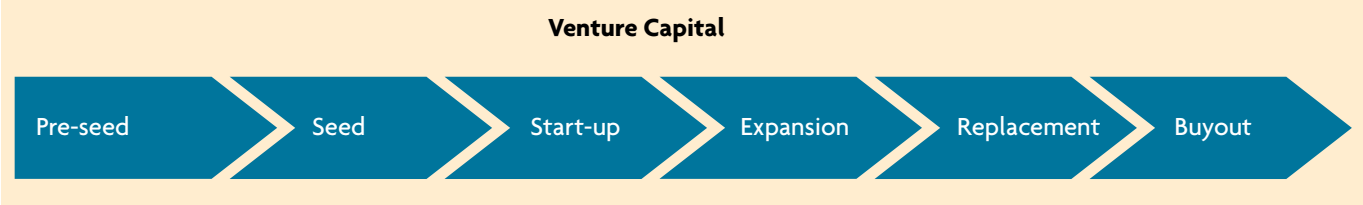
RISK AND REWARD: THE CASE FOR EQUITY FINANCING

Bank lending is ill-suited to the financial needs of high-risk innovative companies with limited collateral. Instead, the most appropriate instrument appears to be equity financing, which is better able to accept the high level of risk and to accommodate the uncertain profile of cashflow generation. Specialized financial intermediaries have emerged that respond to the particular financial needs of innovative enterprises, where investments are characterized by large periods before they yield a profit and poor liquidity. These are generally referred to as venture capitalists or venture capital firms.

[20] Clayton Christensen, *The innovator's dilemma. When new technologies cause great firms to fail,* Harvard Business School Press, Boston, 1997.

Venture capital must be distinguished from the broader concept of private equity. Private equity encompasses the provision of equity capital to companies not publicly traded. Venture capital is a subset of this category, concerning only equity investments supporting the initial launch, early development and expansion of a business. This distinction is very important as the concepts are sometimes used interchangeably despite the fact that they refer to very different types of companies and investments. In addition to formal venture capitalists, which raise money from institutional investors and invest these resources in promising companies, there are business angels, who are private individuals that invest their own money. Business angels, who are also known as informal venture capitalists, can therefore keep all the returns from their investment. They tend to focus on younger companies and make a larger number of smaller investments than their formal counterparts.

Figure 1. Financing through the life of a company



Venture capitalists (both formal and informal) are not entitled to receive a pre-determined rate of return on their investment. As equity investors, they share the risks of failure with the companies in which they invest but also participate in any upside in the value of their investments.

Most of the companies in which venture capitalists invest are based on intangible assets. The success of these innovative companies depends on the ability to exploit and protect these assets, which requires a range of skills, often beyond those present among the initial founders. These specialized financial intermediaries bring to the companies in which they invest not only financial resources but also technical and managerial expertise, including knowledge of the markets and networks of contacts. These are critical aspects to support the growth potential of high-tech firms at the early stages of their development. High-tech companies require a significant degree of trial and error experimentation, which demands long-term investment horizons.

Venture investors seek to limit the risks they incur when backing innovative firms through techniques that are characteristic of this type of financing. High risk is offset by initial careful (but costly) due diligence and robust oversight rights. The importance of a rigorous screening process, supported by a strong system of incentives and information resources, is at the heart of venture capital investing. Staged financing serves as a monitoring tool, since only projects that remain promising through their lifecycle continue to receive funding. In addition, venture capital firms tend to co-invest with others in order to share information and risks.

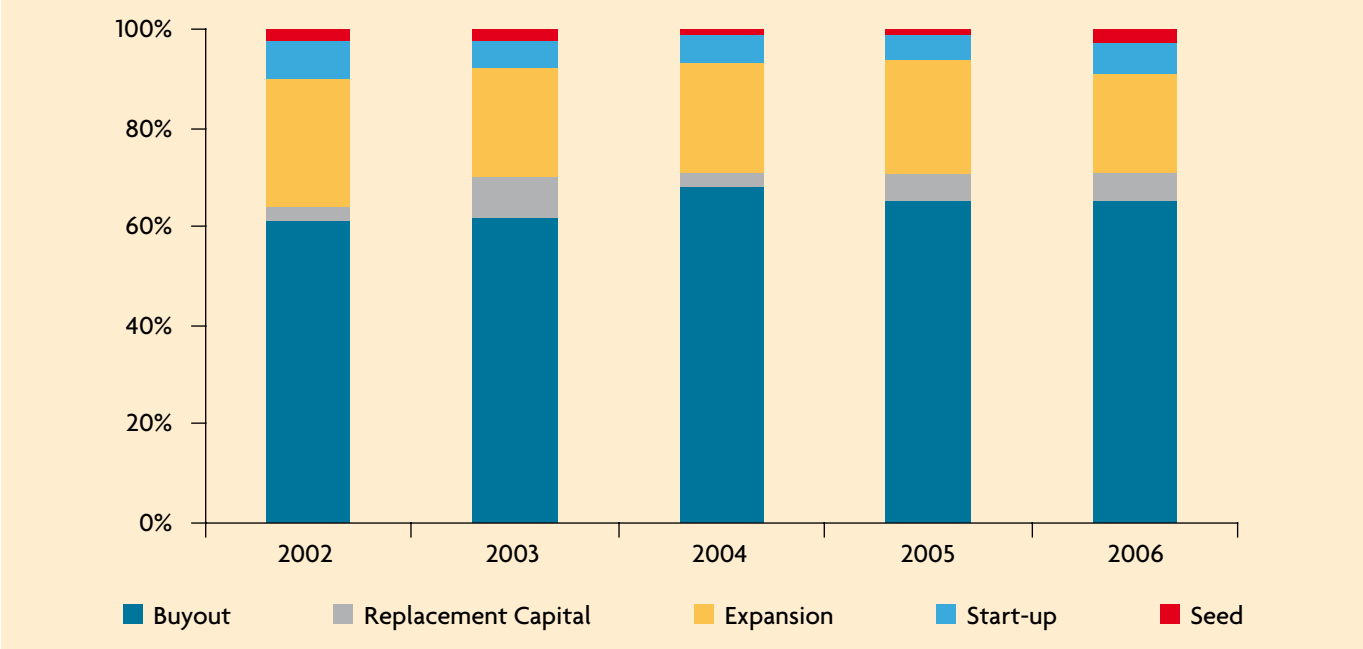
Scale has important implications for the profitability and scope of operations of venture capital firms, as it facilitates industry specialization, makes possible large investments per enterprise and spreads out fixed costs. Large funds can better support the companies in which they invest through their expansion, including necessary internationalization and final sale. In fast moving, high-tech markets with strong competition, commercial opportunity may soon evaporate if ideas are not quickly put into action with appropriate funding.

However, all companies start small, although successful ones may grow very rapidly. The role of informal venture capitalists or business angels has been increasingly recognized as critical to ensure that financing is available through the various stages in the life of a company. The presence of professional venture capital firms in early stage financing (seed and start-up) is limited, as the amount of funds required is too small and returns offered by alternative investment are higher. The annualized net pooled internal rates of return since inception to the end of 2006 computed by the European Private Equity and Venture Capital Association (EVCA) show that early stage funds yielded -0.1 per cent, against 5.5 per cent for all venture capital funds and 14.4 per cent for buyouts. The return for the top quartile early stage funds was 13.1 per cent, suggesting a strong dispersion in performance, consistent with the high levels of risk.

As a result, business angels tend to be the dominant investors in the seed and start-up phases, with the ability to screen many opportunities and invest in many companies that would not attract the attention of formal venture capitalists. The successful development of a company requires that financing be available through the various stages of its life, avoiding any possible bottlenecks. From the point of view of the venture capital industry, suitable opportunities for investment at later stages only appear when a potential supply of companies has been created by early-stage financing.

Chart 1. Private equity, stage distribution

As percentage of total



In addition to venture capital firms and business angels, established companies can also be a source of venture financing for other new firms. Corporate venture capital refers to equity investments by existing non-financial corporations into entrepreneurial ventures. There are many strategic benefits from this type of investment for established companies, including the possibility to study new markets and technologies and learning opportunities, even in the case of failures. Linking with start-ups allows incumbents to gather information about the technologies and business models these new companies are developing. However, academic research shows mixed evidence on its effectiveness, which underlines the difficulties of overcoming organizational inertia in fostering innovation.

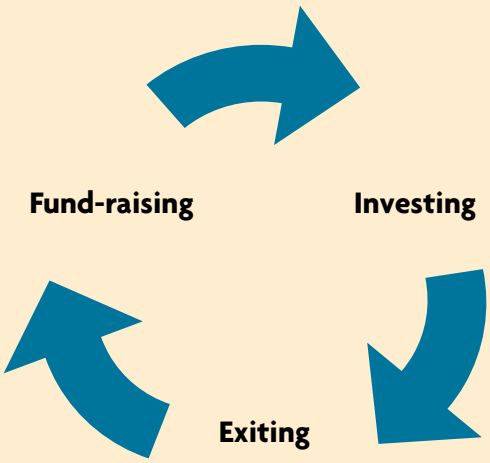
THE VENTURE CAPITAL CYCLE

Venture capital firms raise financing from institutional investors (or use their own money, if they are business angels), invest these resources in promising companies and eventually sell the stakes they held to realize a profit. This basic scheme (from fund-raising to exit) constitutes the so-called venture capital cycle. Venture capital investments are illiquid, long-term assets that are suited for institutional investors such as pension funds. National differences in the development of a funded pension system and the degree of freedom on portfolio allocation are important influences on the ability of venture capital firms to raise financing.

The venture capital industry has a marked cyclical character. Fund-raising and investment commitments cannot react quickly to changes in expected returns. There are also significant information lags: venture capital investments are not valued on a daily basis, as is the case of investments in mutual funds. This makes it difficult to assess the current value of the investment.

As is often the case in investment, ample liquidity can lead to a deterioration of the quality of decisions on the deployment of capital. Too much money is likely to result in increases in the amounts invested upfront, thus weakening mechanisms such as staged financing and syndication that serve to reduce risk.

Figure 2. The venture capital cycle



The collapse of the dot com boom in 2000 provides a recent illustration of the cyclical character of the industry. Fund-raising by venture capital funds reached record levels in the late 1990s. Less competent funds managed to raise money, amid a general decline of standards, leading to poor investment decisions. Too much money chasing too few viable deals resulted in falling returns, over-investment and the eventual collapse of fund-raising. A recovery has taken place in recent years, although amounts remain well below those observed during those frenzied years. The focus of the venture capital industry narrowed during the 1990s, when the emphasis was on IT and life-sciences, but since the end of the Internet bubble, there has been a broadening of investors' interests.

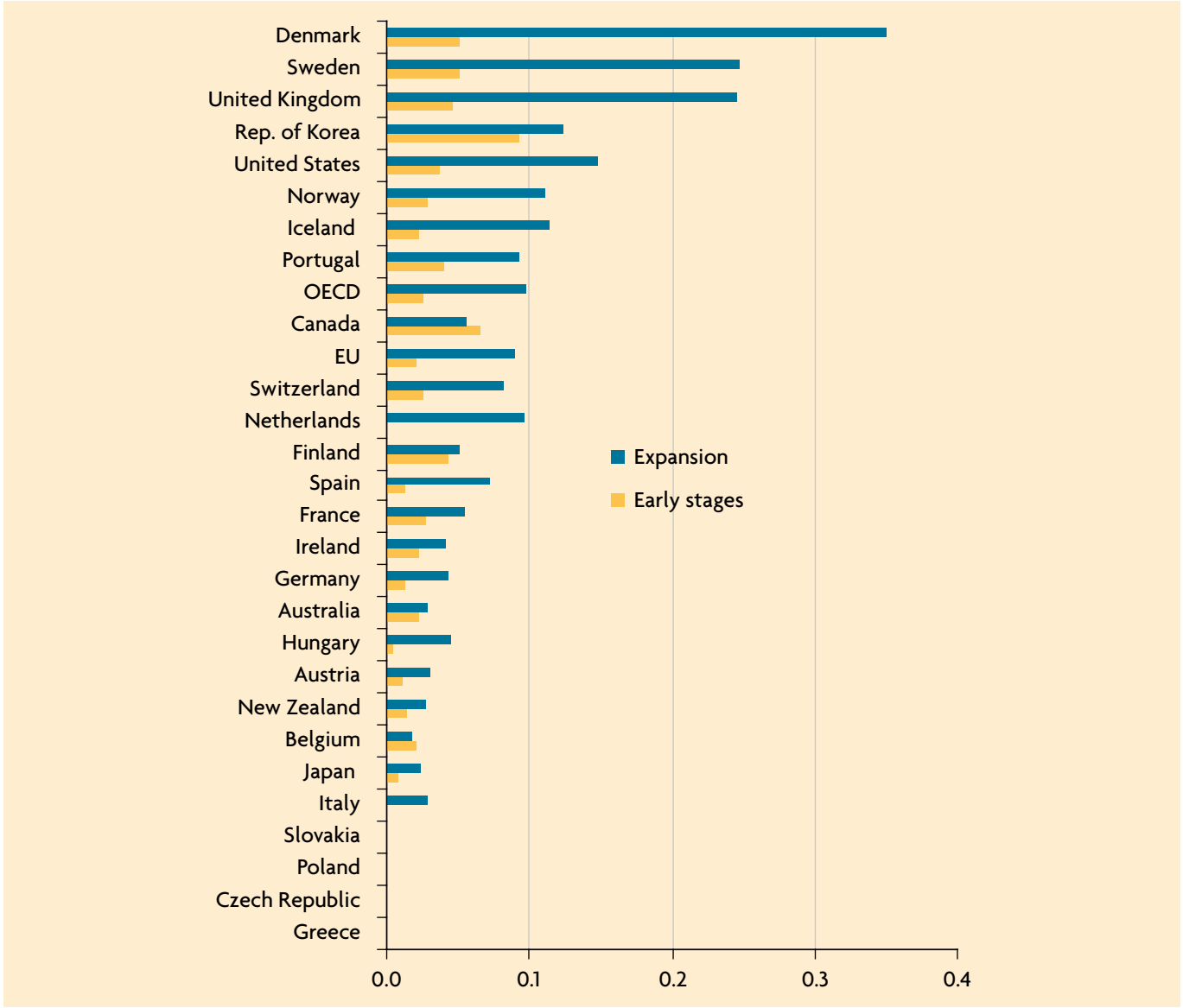
Venture capital firms are not interested in building a long-term portfolio in the firms in which they invest. The main incentive for equity investors in innovative enterprises is to be able to realize a significant capital gain when selling stakes in the company. Clear exit options through well organized public exchanges therefore play an important role in the creation of suitable incentives for venture capital. Trade sales (i.e. to an existing company or another investor) can be an alternative to the availability of exit through organized exchanges. However, they can be less lucrative. In any case, the existence of competing buyers is critical for a successful exit.

VENTURE CAPITAL AND INNOVATION

Technological innovation has been closely linked to venture capital financing. Increasing the availability of private sector innovation financing to enterprises and optimizing the relevant legal/regulatory framework are explicit components of the EU TrendChart Innovation Policy Framework. The EU Innovation Scoreboard, which monitors a number of variables linked to innovation, includes the availability of early-stage venture capital as one of its input-based components. The Science, Technology and Industry Scoreboard of the Organisation for Economic Co-operation and Development also regularly tracks venture capital dynamics as a key source of funding for new-technology firms.

Chart 2. Venture capital investment 2005 or latest available year

As percentage of GDP



Source: OECD Science, Technology and Industry Scoreboard 2007

There are strong cross-country differences in venture capital financing. International comparisons usually only take into account figures related to the activity of formal venture capital firms. Coverage is far from perfect but nevertheless more readily available than that of informal investors. In Europe, there was a large increase in early stage financing (seed and start up) by venture capital firms in 2006, which resulted in reported nominal levels exceeding those observed in the United States (EUR 5.9 billion against EUR 4.1 billion). However, investment by business angels, which focus mostly on early stage financing,

is much larger in the United States than in Europe (around six times more in 2006, according to estimates produced by the US Center for Venture Research and the European Business Angel Network).

Venture capitalists are attracted to technologies with a significant potential for disruptive change that can generate sizeable returns. These are necessary to provide adequate compensation for the significant risk incurred in transforming creative ideas originating in the laboratory or the university into market products. Mature industries are unlikely to provide this sort of opportunity, so the interest of venture capital is on sectors at the forefront of technological change with high innovation rates.

However, innovation is a risky business where spotting future success is a difficult matter. The techniques used by venture capital financing seek to reduce the chance of failure while, at the same time, resulting in a better allocation of the resources used. Venture capital (both formal and informal) is sometimes referred as "smart money", implying that this type of financing brings more than resources to the companies in which these specialized financial intermediaries invest. Intensive screening of potential opportunities and close monitoring of investments are defining features of venture capital financing. This helps to overcome information asymmetries and reduces moral hazard, thus resulting in better investment decisions.

The beneficial effect of venture capital on innovation is confirmed by academic research, mostly based on the rich experience in the United States. Venture capitalists speed up the development of companies in which they invest, as venture capital backed companies tend to be younger when they are able to go public. Research also suggests that these firms tend to be more innovative, as measured by the number of highly quoted patents produced. Reverse causation is an obvious possibility, i.e. innovative companies being more likely to use venture capital as a form of financing could be a more significant influence than the fact that venture capital backed firms are more innovative. However, even controlling for this factor, research continues to suggest that companies with venture capital participation have a disproportionately large influence on innovation.[21]

The impact of venture capital financing on innovation is also affected by the cyclical nature of investing. In periods of exuberance, herding behaviour leads to a decline in the effectiveness of the capital deployed, as discussed above. Investors tend to back similar firms and valuations increase excessively.[22] The policy implication is that the use of public resources should be mindful of these dynamics, aiming to have a countercyclical effect, instead of amplifying volatility by replicating the behaviour of private investors.

GLOBALIZATION AND VENTURE FINANCING

As in other areas of economic activity, the venture capital industry is increasingly influenced by globalization trends. This concerns both the target enterprises and, even, the operations of venture capital firms themselves.

There is a strong link between growth and internationalization. Innovative firms compete in a global marketplace and need to have an international strategy to achieve ambitious expansion targets. This is particularly important for those which are located in countries with small domestic markets. In order to provide effective support to these companies, venture capital firms must facilitate their access to the networks and skills required to enter international markets and provide the capital required to facilitate expansion at such scale.

As venture-backed companies become increasingly global, looking for low cost centres of technology and access to international markets, venture capital firms are forced also to have a global perspective. The industry itself is becoming more competitive and venture funds want to increase their visibility in international markets. Thus, a global venture capital industry, which scouts for investment opportunities worldwide, is emerging. According to Ernst & Young, cross-border venture capital investment accounted for almost 20 per cent of the total in 2005-2006, more than 250 per cent up over the preceding five years.

Emerging markets figure prominently in the strategies of large international investment funds. To some extent, this mirrors the changing geography of innovation, with growing technological expertise in countries such as China and India and the realization that an unexploited potential exists in some of the countries with economies in transition. At the European level, the ongoing efforts to reduce the barriers that prevent cross-border investment and fund-raising are opening new vistas for the development of venture financing.

[21] Samule Kortum and Josh Lerner, "Assessing the contribution of venture capital to innovation", *Rand Journal of Economics, 31, 2000.*

[22] Josh Lerner, "Boom and bust in the venture capital industry and the impact on innovation", *Federal Reserve of Atlanta Economic Review, Fourth Quarter 2002.*

The internationalization of the activity of venture capital firms also poses some challenges. Exit strategies abroad can be more complicated, as domestic exchanges may not offer sufficient liquidity. However, the development of a domestic stock market may not be an essential requirement. Israeli companies have overcome domestic limitations by floating in the US NASDAQ. Moreover, the globalization of capital markets has also provided new exit alternatives, with the United States no longer being the default option for companies that are looking for opportunities beyond their domestic markets.

Although the need to retain a global orientation is quite clear, the local dimension of early-stage financing remains fundamental. Global firms have strived to reconcile the desire to tap into global investment opportunities with the need to continue to provide hands-on assistance to local companies, which requires a local presence. Venture capital firms are using business models such as strategic partnerships with local funds or the use of global brands to encompass different local operators. In this way, local investment opportunities can be recognized while enjoying at the same time access to international networks. This development has been accompanied by a trend towards larger funds that can invest in capital-intensive sectors, all the way to exit. Local smaller funds can collaborate with these larger, more internationally oriented venture capital firms. In the informal segment of venture capital investment (business angels), which has an intrinsic more local orientation, cross-border syndication and networking have also resulted in an increasing interest in foreign investment.

PUBLIC SUPPORT TO VENTURE FINANCING

In view of the generally acknowledged positive impact of venture financing on innovation, public policies around the world have attempted to replicate the success that venture capital has achieved in the United States. The desire to overcome the so called European Paradox – the inability to convert excellence in research into marketable applications – has spurred an interest in identifying and overcoming any obstacles to the successful commercialization of technologies, including financing. Many different initiatives have emerged and, as a result, the overall regulatory and tax environment for venture capital financing has improved in recent years.

Chart 3. Benchmarking environment for private equity/venture capital

Source: EVCA, Note: 1=more favourable, 3=less favourable.

This interest has also emerged in many countries with economies in transition with a significant scientific potential that is not matched by their innovation achievements. In Kazakhstan and the Russian Federation, in particular, large government-backed venture capital programmes have been put in place to ensure that promising innovative technology-based companies have access to adequate funding.

Generally speaking, the development of venture capital markets has generally benefited from direct or indirect public support in most countries. Historical experience shows that public policies have played an important role in nurturing and sometimes kick starting the industry in most countries. In addition to initiatives to improve the framework conditions for financing, specific support programmes have been put in place.[23]

However, there are still large gaps in our knowledge of how policies can positively influence the development of an active venture capital market. To start with, it is unclear that the lack of financing is the determining constraint explaining poor innovation results. The direction of the causality between innovation activity and venture capital is not completely clear. There is a body of research that argues that the existence of opportunities for investment has been the main driver for the ulterior emergence of a venture capital industry. While the evidence may not be conclusive, the dynamic relation between investment opportunities (a sufficiently robust deal flow) and the development of a venture capital industry appears to be validated by historical evidence. Overall innovation policies play an important role in fostering the venture capital industry, as they result in new investment possibilities.

It is therefore accepted that new technologies – the result of innovation policies – create entrepreneurial opportunities that could generate demand for venture capital financing. However, the dynamics of enterprise creation are greatly influenced by the institutional environment. The sensitivity to institutional factors is particularly marked in catching-up economies, with a positive environment facilitating not only the entry of new firms but also the development of start-ups into larger firms.

The conclusion that could be drawn from the existing linkages between factors influencing the demand and the supply of risk capital is that an underdeveloped venture capital industry may not be the key constraint holding back innovation. However, there is a strong rationale for public intervention to foster the development of this form of financing, as a component of overall innovation policies that consider the dynamic interrelation between the various determinants of innovation.

From a general point of view, this rationale can be framed in terms of the traditional market failure argument. R&D spillovers result in investments below social optimum. Positive externalities arise from the inability of innovative companies to capture rents that accrue to competitors introducing imitations or complementary products. These problems are particularly prevalent in early stage companies. There is therefore a public interest in helping these companies to overcome the difficulties that constrain their development, including through better conditions for raising finance.

A developed venture capital industry provides opportunities for access to finance by new innovative enterprises. Increasing returns arguments justify public intervention to support the development of this industry, particularly in countries where it is less mature. Individual investors benefit from the existence of professional services, information networks and general familiarity with the process of venture capital investing. As the industry develops, it becomes easier to operate for further entrants. However, individual investors are unable to exclude others from access to this infrastructure and therefore would under-invest in it.

THE MULTIPLE DIMENSIONS OF PUBLIC INFLUENCE

As discussed in the preceding section, there are general arguments that support public intervention to address the financing problems of innovative enterprises, including through efforts dedicated to the development of a venture capital industry. This encompasses a range of initiatives, which address different bottlenecks on the financing process.

One of the specific issues targeted by policy efforts is the fact that private capital, including venture capital, tends to avoids participation in the very early stages in the development of a company, when risks are higher. The existence of this "equity gap" constrains the development of potentially viable new technology based companies. The problem may be particularly acute in less mature markets, where venture capital firms display a more conservative attitude and are attracted by opportunities elsewhere. According to the statistics compiled by the European Private Equity and Venture Capital Association, seed and

[23] For a comprehensive review of the initiatives undertaken in this area see UNECE, *Financing Innovative Development. A Comparative Review of the Experiences of UNECE Countries in Early-Stage Financing,* Sales No. 08.II.E.2.

start-up investments accounted in 2006 for only 2.8 per cent of total private equity investment in Central and Eastern Europe, against 10.3 per cent for Europe as a whole. Public intervention often seeks to fill this gap through the provision of direct financing or actions that improve the risk-return profile of these investments, so encouraging private participation. The role of business angels has been increasingly recognized as a critical source of early-stage financing. As a consequence, the formation of networks and the development of related information markets has benefited from public support in some countries.

Besides this specific focus on the very early stages of development of a company, most public programmes of support to the venture capital industry are in many cases generally driven by the desire to increase the supply of risk capital. However, it is unclear that more funds can lead to more successful projects. If the number of initiatives with commercial potential is limited, throwing more resources at them could have a detrimental effect, depressing returns and crowding out private investment.

In this regard, a fundamental question is whether public efforts should be devoted to increasing the available supply of capital or the demand for funds. The answer may vary according to national circumstances. However, most research emphasizes the importance of considering demand factors, i.e. those influences that facilitate the commercialization of early-stage technology or create a positive environment for entrepreneurship. These efforts would increase the amount of investable opportunities. Important demand side factors are the entrepreneurial culture of a country, the quality of research institutions or the level of investment in R&D. The coordinated deployment of demand and supply policies can improve the effectiveness of public intervention. In particular, technology commercialization actions should be aligned with venture capital initiatives. In this regard, policy intervention in one area can be seen as creating new opportunities for the programmes being implemented in other areas.[24]

A related issue is whether the primary focus of policy actions should be increasing the availability of funds or supporting better effective returns in the industry. Some research suggests that the influence of expected returns on the development of an early-stage venture capital industry may be more critical than the availability of finance.[25] Those factors include the cost of creating a company and other barriers to entrepreneurship, the taxation regime and the effective possibilities for exit. In particular, the capital taxation regime, as distinct from that of ordinary income, influences both entrepreneurship and venture capital investment.

There is an additional argument that cautions against putting an exclusive emphasis on supply policies, i.e. those considering primarily the availability of finance. In countries where the venture capital industry is less developed, there may be a deficit of the necessary expertise. Additional funds are therefore unlikely to result in the sort of beneficial effects associated with venture capital, if not accompanied by complementary measures to address this skill shortage. Public programmes can provide a training ground for the first generation of venture capitalists.

The principles discussed above can serve to inform the general orientation of policies on the area of financing for innovative enterprises, including the simultaneous consideration of demand and supply aspects. However, at the more specific level of concrete interventions, it is clear that the careful design of any publicly funded support programme for venture capital financing is a key for its success. A critical issue is that the existing systems of incentives ensure that public participation does not distort the ability of venture financing to spot commercial opportunities through careful screening and the reward of success. The fund-of-funds model, where public resources are invested alongside private money, is generally acknowledged as a suitable arrangement. Fund managers take investment decisions and need to raise additional resources.

The rationale and the benefits of public intervention are generally acknowledged. However, there are also potential pitfalls that need to be avoided. Public programmes, in order to show good results, may avoid risk and conservatively back companies that could obtain financing elsewhere. If these programmes converge toward the same type of investments and market segments where private investors operate, there is the danger that this serves to arrest the development of the venture capital industry rather than foster it. On the contrary, public support can serve as an alternative to the herding behaviour of investors, funding technologies that are less popular. This assistance, which may be provided on the basis of broader environmental or economic concerns, may help the evolution of these technologies into more appealing commercial proposals. An important role is to generate variation, even at the cost of failure, to explore areas that could be eventually promising.

[24] Morris Teubal and Terttu Lukkonen, "Venture capital industries and policies : some cross-country comparisons", *The Research Institute of the Finish Economy Discussion Papers,* No. 1006, 2006.

[25] Marco Da Rin, Giovanna Nicodano and Alessandro Sembenelli, "Public policy and the creation of active venture capital markets", *European Central Bank Working Paper Series,* No. 430, January 2005.

Overall, it is important to bear in mind that the development of a venture capital industry is an evolutionary process, involving a certain amount of institutional and policy experimentation. A general conclusion, which is a common thread through this note, is that venture capital policies need to be framed as a part of a general analysis of the national innovation system.

The discussion above has focused on public initiatives that explicitly target the financing problems of innovative enterprises and the development of the venture capital industry. In addition, public actions in other areas can also have a significant indirect impact on venture financing, as public policies also have an important role in defining markets for new products through regulation or procurement. In particular, the size of the market is a main determinant of expected profitability, contributing to reducing the impact of uncertainty in other inputs of financial projections. Besides, the public sector can make significant investments in promising technologies that address concerns such as environmental sustainability or energy security. However, private investors seek the development of products and markets to obtain a profit. In order to attract private financing and marketing expertise to the commercialization of these publicly-backed technologies, the regulatory environment needs to create a stable and conducive system of incentives.

A good example of the impact of public policies on creating new investment opportunities is the so-called "cleantech" (clean technologies) – an area which is increasingly favoured by venture capital investors. This generic name covers a wide range of sectors, including energy, water, pollution and waste and "green" consumer products. As with IT but in different ways, cleantech also promises an increase in efficiency, in this case driven by the desire to enhance environmental sustainability. Environmental concerns have also raised the potential technological content of traditionally low tech sectors, such as the water industry, thus drawing the interest of innovative enterprises and their financial backers.

A final point should be made on the overall background for the design and implementation of public policies to promote venture capital financing. As discussed earlier, globalization (both regarding the activities of innovative companies and the venture capital funds) has important implications for public policy. A national venture capital industry cannot be built without strong global links, which reflect the growing internationalization of venture investment. This underlines the importance of leveraging foreign capital and expertise in the design of public support programmes. Facilitating access of domestic companies to worldwide sources of capital by eliminating barriers to the cross-border operation of venture capital firms appears as an important dimension of public initiatives. This should ensure that financing and expertise is available through the various stages of the life of fast-growing innovative companies.

INNOVATION AS A KEY DRIVER OF COMPETITIVENESS

Rumen Dobrinsky

The important links between innovation and competitiveness have been the subject of an ongoing policy debate that has attracted considerable attention from both policymakers and academics. On the one hand, it is widely accepted that innovation is a key ingredient and driver of competitiveness in the modern economy. On the other hand, there is a considerable overlap between the factors and conditions affecting innovative behaviour and performance and those that determine the firms' ability to compete.[26]

These discussions featured prominently in the recent debates on the UNECE reform, which resulted in the establishment of the subprogramme on Economic Cooperation and Integration. In particular, innovation and competitiveness policies were assigned an important role in the programme of work of the Committee on Economic Cooperation and Integration under the focus area "Creating a supportive environment for innovative development and knowledge-based competitiveness".

This paper seeks to highlight some of the complex links between innovation and competitiveness both at the firm- and at the macro-level, and thereby to contribute to a better understanding and a more informed policymaking process. It reviews some of the important links and the related policy implications, drawing from the extensive literature on these topics as well as from the results of the work undertaken in 2007 within the subprogramme on Economic Cooperation and Integration.[27]

I. THEORY AND EVIDENCE

Innovation and competitiveness of firms

The understanding of innovation as a key driver to competitiveness has its roots in the works of Schumpeter, who described market dynamics as a process of creative destruction. Later he developed further this concept, referring it as a process of "creative accumulation". In this later model, firms have different capacity to accumulate technological capabilities and to generate innovation. The accumulated technological competencies are the key determinants and drivers of firm innovation and competitiveness. The minimum of required technological capabilities is also a barrier to market entry by new firms.

This – already well acknowledged – approach to innovation-based competitiveness emphasizes its characteristic as a dynamic process in contrast to the static understanding of competitiveness based on pricing. It also highlights the fact that innovative firms in fact manage to establish – at least temporarily – a monopolistic position in the market thanks to their innovation-based competitive advantage. The more recent concepts of competitiveness develop further this approach by considering innovative activity as a process in which most innovations are mostly improvements on existing products and processes, based on past experience.

The testing of these, as well as other, theoretical models relating innovation and competitiveness at the firm level requires quantitative measurement of both innovation activity and firm competitiveness. Both notions are rather problematic to measure and despite certain progress, many unresolved issues still remain. The so-called Community Innovation Survey is one of the best known sources of firm-level innovation performance data. This survey is conducted periodically by the statistical offices of EU member states using a uniform methodology. The survey collects data on the innovative characteristics of firms, including measures of innovation-related expenditure, the generation and/or absorption of innovation and factors which have either encouraged or hindered innovation. However, for countries outside the EU such detailed data are not readily available. While widely used as a concept, firm competitiveness is also difficult to measure. Among the most commonly used indicators are firm growth and market share, various productivity measures, and export performance.

While many theories exist, in reality, the links between firms' innovative performance and their competitiveness are extremely complex. Recent research provides evidence for both of the above-mentioned patterns of innovative activities

[26] For further discussion see UNECE, *Competitiveness and Innovation,* Note by the secretariat presented at the first session of the Committee on Economic Cooperation and Integration, Geneva, September 2006 (ECE/CECI/2006/3).

[27] UNECE, *Creating a Conducive Environment for Higher Competitiveness and Effective National Innovation Systems. Lessons learned from the experiences of UNECE countries,* New York and Geneva, 2007 (United Nations Publication, Sales No. 08.II.E.3) and UNECE, 'Synopsis of Good Practices in Facilitating the Generation and Diffusion of Innovation" (ECE/CECI/2007/3).

(the creative destruction model and the creative accumulation model) in different technological classes of firms as well as of different types of relationship.

In general, firms using different technologies, firms belonging to different industries are characterized by different patterns of their innovative activity, moreover when compared across countries. This variety and dissimilarity in firm performance is perhaps the most important feature that characterizes the innovation process at the firm level. For example, it has been shown that in technologically advanced sectors, the threat of new entries to the market spurs innovation, whereas in technologically lagging sectors it discourages innovation. In some industries, market entry by new firms has a positive effect on productivity growth in the industry, while in others entry depresses it. In addition, it has been found that innovative activities tend to be characterized by "persistence", that is, firms with a past record of innovative performance are more likely to continue innovating. There is also evidence that the intensity of innovation performance strongly depends on factors such as involvement in exporting activity, the level of management training and skills, networking by firms, level of research and development (R&D) capability, and firm size in addition to several other factors.

Another important finding is that firm productivity and innovation-related activities are highly intertwined and firm productivity growth is largely dependent on the process of technological change. The productivity effect of a process innovation is as a rule larger than the effect of a product innovation. Firms' R&D spending enhances the firms' capacity to absorb new technologies, both those internally developed as well as those generated outside the firm.

The ability of a firm to export is often considered as one of the major characteristics of the firms' international competitiveness. Research has found that a firm's capacity to innovate fundamentally changes its behaviour and capability to export. In particular, product innovation has been identified as an important determinant of a firm's ability and readiness to export. Moreover, the level and intensity of a firm's export performance are also positively influenced by R&D activity, patenting and successful innovations.

The survival capacity of firms can also be regarded as a characteristic of their competitiveness. In this regard, innovation is also closely associated with the firms' potential to succeed in the market and adapt to changing environments. On the one hand, innovation may boost the firms' competitive position and enhance their potential to survive. On the other hand, being a highly risky endeavour, innovation may also increase the risk of failure and bankruptcy.

Competitive advantage is a specific dimension of competitiveness which is usually associated with the opportunity for a firm to extract economic rents. Most forms of competitive advantage – including innovation-driven ones – are only temporary as the opportunity to extract rents drives competitors to duplicate or imitate the advantage held by the innovating firm. In Michael Porter's classification, there are two main types of competitive advantage: cost advantage (the firm is able to deliver the same benefit at a lower cost) and differentiation advantage (the firm's products deliver benefits that exceed those of the competing firms' products).[28]

Competitive advantage may have different roots and innovation is only one of the possible sources. The relationship between innovation and competitiveness discussed above can exhibit different patterns emerging from two main transmission channels: that of active price competitiveness and that of technological competitiveness. In turn, these channels are rooted in the two models of technological development and the types of innovation: that of creative destruction (largely associated with product innovation) and that of creative accumulation (typically associated with process innovation).

Innovation-driven creative destruction is closely associated with improving price competitiveness of the innovating firm, which can also be achieved through different channels. Thus the introduction of an innovative product can give the firm a temporary monopoly power, which allows for monopolistic pricing and hence higher profits until other firms can imitate the innovation. The benefits of innovation can also be reaped in terms of cost reductions or new markets. The ultimate outcome is that innovation provides a temporary positive boost to the price competitiveness of the innovating firm.

Creative accumulation, which is typically associated with process innovations, increases the firms' productive efficiency. The benefits of this development can be reaped either through cost savings, or through increasing the firms' market share, or both. This approach implies that innovations create an important difference between innovating and non-innovating firms. Hence the two models of innovation-driven competitiveness relate the newly acquired competitive advantage of the innovating firm to its high monopoly profit or to ability to exert higher competitive pressure. From a different angle, the perspective of reaping monopoly profit and acquiring market power are in turn among the main drivers of innovation.

[28] Michael Porter, *Competitive Advantage*, New York: Free Press, 1985.

Overall, economic research identifies various forms of innovation-related competitive advantage at the firm level. The link between innovation and profitability is often related to the above-mentioned persistence in firm innovation, differentiating such firms from the "occasional innovators". Firms that are systematic innovators and earn profits above the average have a high probability of further innovating and maintaining their competitive advantage and hence earning profits above the average. Conversely, firms that are occasional innovators and earn profit below the average have a high probability of remaining in the same situation. However, very few firms are really persistent innovators; this usually happens only after a threshold level in innovative performance is reached.

Innovation and competitiveness at the macro level

While economic theory only relates innovation and competitiveness at the firm level, the existence of such a link at the macro level is taken for granted. However, providing evidence of this link is even trickier, as measuring innovation and competitiveness performance is much more problematic when applied at the macro level. There are no universally accepted measures of national innovation and competitiveness performance. Due to their complex nature, attempts to quantify these notions rely on composite measures derived from a variety of lower level indicators.

The European Innovation Scoreboard (EIS) is one of several widely used composite measures of national innovation performance. The most recent 2006 Scoreboard includes innovation indicators and trend analyses for the 27 EU member states, as well as for Croatia, Iceland, Japan, Norway, Switzerland, Turkey, and the United States. This assessment is based on 25 indicators which are assigned to five dimensions and grouped in two main themes: inputs and outputs.

The EIS innovation inputs include three dimensions:

- Innovation drivers (5 indicators), which measure some key aspects of the innovation potential, in particular, related to education;
- Knowledge creation (4 indicators), which measure public and private R&D expenditures;
- Innovation and entrepreneurship (6 indicators), which measure the innovation-related investments at the firm level.

The EIS innovation outputs include two dimensions:

- Applications (5 indicators), which measure innovation-related economic performance;
- Intellectual property (5 indicators), which measure the achieved results in terms of patents, trademarks and designs.

In addition, the 2006 Scoreboard contains a comparison of innovation performance in the EU member states with that of other major R&D performing countries in the world (the so-called Global Innovation Scoreboard (GIS)). This comparison is based on a more limited set of 12 indicators (rather than the set of 25 indicators of the EIS). The overall global innovation index is scaled between 0.0 and 1.0

National competitiveness generally relates to all those factors that impact on the ability of national businesses to compete in international markets in a way that provides people with the opportunity to improve their quality of life. As to its measuring, a number of indicators have been developed by different institutions.[29] In this paper, reference is made to one of such indices, the World Economic Forum (WEF) Global Competitiveness Index, which defines national competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country and includes a wider range of factors that influence growth. It is based on twelve "pillars", including institutions, infrastructure, macroeconomy, health, education and training, market efficiency, financial markets, technological readiness, market size, business sophistication and innovation. The index also reflects the view that not all factors are equally important for all the countries, given the different stages of economic development: a distinction between phases in the development of national competitiveness is made. The global index is derived by weighting the scores attributed to the twelve "pillars".

One possible way of relating national innovation performance to national competitiveness is by juxtaposing these measures on a scatter diagram, as shown on the chart. In order to present a larger number of countries, national innovation performance on the chart is based on the simplified GIS indicator whereas national competitiveness is based on the WEF Global Competitiveness Index. Based on the data for 47 countries in the world, the scatter diagram clearly shows a strong positive association between national innovation performance and national competitiveness. Of course, such a positive association comes as no surprise since – following the arguments outlined above – innovation is indeed regarded as a key

[29] For a more extended discussion on national innovation and competitiveness indicators see *Competitiveness and Innovation,* Note by the secretariat, op. cit.

ingredient of economic competitiveness. Moreover, composite national competitiveness indices (including the one used to produce this chart) as a rule incorporate indicators reflecting innovation performance.

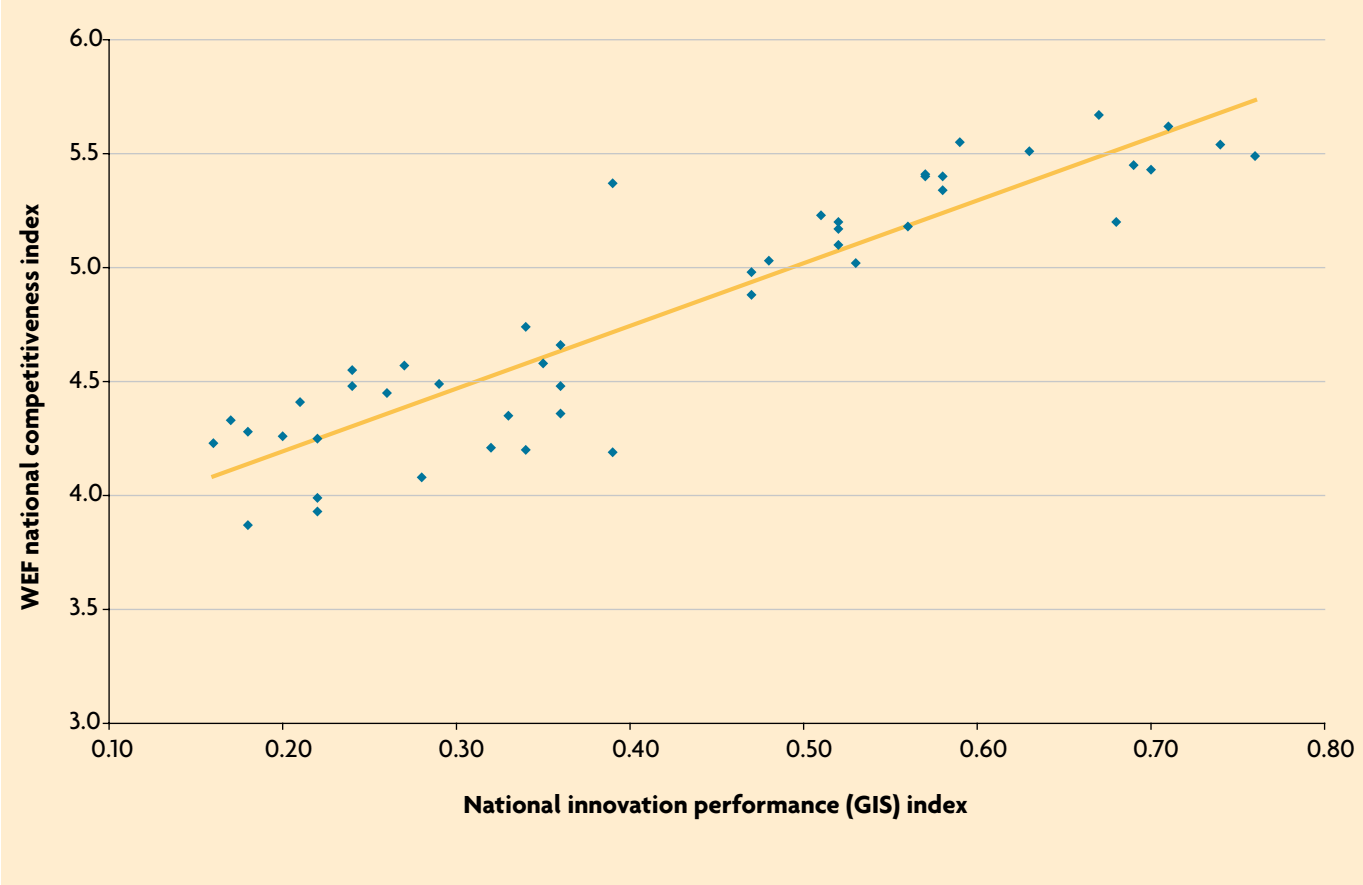
This positive association alone does not imply anything on the direction of causality but the whole discussion above suggests that the main direction of causality is from innovation performance to national competitiveness. By contrast, it can be argued that not all aspects of national competitiveness are necessarily related to innovation performance. Thus, as argued below, framework conditions related to institutions, infrastructure, macroeconomic stability, etc. which are usually incorporated in national competitiveness indexes are necessary but not sufficient conditions for higher innovation performance.

II. POLICY IMPLICATIONS

The strong but complex links between innovation performance and competitiveness have important implications for public policy. Understanding these links is important in designing policies and measures that target the global policy objectives set by the general public. Here attention is drawn to some of these implications, based on the discussion in the previous section.

At the macro level, one could point to one important policy upshot of the close association between national innovation and competitiveness performance, in particular the fact that innovation performance is an important ingredient of national competitiveness. Therefore, policy measures that have a positive effect on innovation performance are likely to improve national competitiveness as well. In consequence, such policy measures, if successful, will de facto enact a mutually reinforcing effect on national economic performance, which will ultimately enhance their welfare effect.

National innovation performance and national competitiveness



Source: Maastricht Economic Research Institute on Innovation and Technology (MERIT) and the Joint Research Centre (Institute for the Protection and Security of the Citizen) of the European Commission, European Innovation Scoreboard 2006 *(http://www.proinno-europe.eu/doc/EIS2006_final.pdf),* Comparative Analysis of Innovation Performance *and World Economic Forum,* The Global Competitiveness Report 2007-2008 *(http://www.gcr.weforum.org/).*

Another important implication is related to the fact that both national innovation performance and national competitiveness depend on a wide array of factors, controlled by various stakeholders, within the public and private sectors, in the business and academic communities, and in civil society. This confluence is both a challenge and opportunity for policymakers. It is a challenge, as multi-stakeholder cooperation is time consuming and can involve lengthy and difficult coordination procedures. At the same time, it opens the opportunity to "hit two birds with one stone", as one and the same set of coordinated policies can address two important policy targets, synergising the efforts involved.

Yet a third important implication is related to the long-term nature of both innovation and competitiveness at the macro level. Related to that, public policies targeting either national innovation performance, or national competitiveness, or both, involve policy measures whose effect stretches well beyond the political cycle. In consequence, the design and implementation of such policy measures requires the establishment of a policy- and decision-making environment, institutions, and mechanisms that take this long-term nature into account and ensure the continuity of policies over the political cycle. In terms of politics, ensuring such continuity implies an ongoing national political dialogue involving the major players from the whole political spectrum, on key national priorities in the areas of innovation and competitiveness policies. The political agreement on such national priorities is a guarantee for the stability in implementing long-term policies.

Civil society including the organized communities of stakeholders also has a key role to play in long-term policymaking. Thus in many countries, there exist national innovation and/or competitiveness constituencies which are largely self-organized communities of stakeholders.[30] The existence of these organized communities also opens windows of opportunity in promoting national long-term strategies and policies and in ensuring continuity in these policies. The opportunity – and challenge – of achieving a multiple policy effect is to mobilize such communities (which often set themselves a rather narrow agenda) into a cooperative effort related to a broader policy agenda targeting national innovation and competitiveness.

Finally, national innovation-based competitiveness is a complex and multidimensional phenomenon. Knowledge generation alone is an important but insufficient condition for innovation based growth. In this regard, the notion of "national innovation capacity" is a useful approach to account for the multifaceted nature of innovation in fully utilizing the potential for enhancing competitiveness and growth at the national level.[31] The underlying idea is that the innovation capacity of an economy depends not only on the supply of R&D and innovation but also on the capability to absorb and diffuse new technology and on the demand for its generation and utilization. From a policy perspective, the innovation capacity also depends on innovation governance, that is, on a set of institutions and rules that affect the innovation process.

At the microeconomic level, the situation is more ambiguous due to the complex links and relationships between firm innovation performance and competitiveness discussed in the previous section. Public policies traditionally support firms' innovation-related activities, the key arguments being those of "market failure" or "public goods". In the globalized modern economy, a firm's innovation activity involves complex links and interactions with other business entities as well as with public institutions, and is dependent on the efficient functioning of these links. This complex environment increases the risk of failures in different parts of the networks. In view of this, the rationale for policy intervention as well as the importance of the different types of policies involved have been changing with the evolution of the innovation processes.

One important aspect that needs to be taken into account is the interrelationship – and possible interference – between policies targeting the firms' innovative performance and competition policy. Competition policy aims at preventing the emergence of business structures possessing excessive market power due to the risk of its abuse as well as other possible market distortions. As argued above, competition itself is a powerful incentive for firms to innovate and acquire innovation-based competitive advantage.

One of the tricky aspects, however, is that innovating firms do target achieving market power on the basis of innovation-based competitive advantage. Indeed, such time-limited competitive advantage, implying temporary monopolistic prices and profit, can be regarded as a fair compensation for the investment and effort in generating the product or/and process innovation, in a similar way as patents protect intellectual property rights holders and provide them with a time-limited opportunity to recover the costs invested in their invention. However, safeguarding and tolerating the monopolistic market power of innovative firms – even for a limited period of time – is in conflict with conventional competition policy. In addition to that, due to the complex nature of modern innovation, it may require extensive coordination and exchange of market information among firms involved in a network or cluster. Traditional anti-trust policy may perceive this coordination process as collusive and anti-competitive behaviour. From this point of view, competition policy itself might need significant fine-tuning in order not to become an obstacle to firms' innovative performance.

[30] See UNECE, *Creating a Conducive Environment for Higher Competitiveness and Effective National Innovation Systems,* op.cit., Box C.2.6.
[31] Slavo Radosevic (2004), "A Two-Tier or Multi-Tier Europe? Assessing the Innovation Capacities of Central and East European Countries in the Enlarged EU", *Journal of Common Market Studies,* Vol. 42, No. 3, pp. 641-666.

On the other hand, the empirical finding concerning the dissimilarity of firms in their innovative performance also has important policy implications. For example, the finding that entry threat in technologically advanced industries stimulates innovative activity whereas in technologically lagging sectors it discourages innovation has direct implications for the policy debate on market (de)regulation, competition policy, and trade liberalization. This finding suggests that competition policies aiming at decreasing or removing entry barriers alone may not be sufficient to foster productivity growth in all industries. This, in turn, may suggest complementary policies to facilitate the reallocation of factors and resources from less to more technologically developed industries that react more positively to entry threat.

In particular, it is important for the antitrust regulation bodies to be able to discriminate among firms enjoying competitive advantage and hence relatively higher profits: between those who exploit a monopoly position based on market power, and those who own capabilities and competencies that make them systematically better than others. It is also important to differentiate policy actions in different technological classes of firms as firms (and classes of firms) differ in their ability and opportunity to innovate as well as in the potential returns to innovation.

More generally, these conclusions would suggest differentiated policy approaches to facilitate innovation performance. For example, they indicate that policy approaches that stimulate innovation activity in countries that are technological leaders would not necessarily perform well in countries that are still catching up in their technological development. On the one hand, catching up countries need to attract foreign direct investment (FDI) into innovative and high-value added activities in order to raise the overall innovative performance of their economies. Secondly, they face the challenge of identifying and stimulating those linkages between FDI and the domestic economy that generate positive spillover effects, thus spurring a "virtuous circle" of asset accumulation and clustering. Thirdly, as argued above, they may need specific policies to stimulate the innovative performance of domestic firms.

In this regard, however, it should be pointed out that instead of the traditional approaches to industrial policy (such as "picking winners", or import substitution policies) which are notorious for their negative side effects such as market distortions, inefficient resource allocation and corruption, more creative and productive policy approaches to enhancing the firms' innovation performance are more associated with the strand of "new industrial policy".[32]

The new industrial policy paradigm suggests institutional arrangements that engage all the relevant stakeholders (both from the public and from the private sector) in the process of policy design and in its implementation, and steer them towards a common goal. Instead of "picking winners" in the sense of traditional industrial policy, this approach involves a more flexible strategic alliance (that can be of a long-term nature) in which the Government and the private sector exchange information and ideas, and coordinate their actions in the development of new activities, products or technologies. Through strategic collaboration between the parties involved, this policy model seeks to identify the causes of possible market, system or network failures that may depress the entrepreneurial activity pursuing innovation. When properly designed and instituted, the rules of interaction, the shared commitments and responsibilities, the transparency in operation and accountability in the use of public funds within such alliances can help minimize the market distortions and corrupt practices that sometimes taint conventional industrial policy.

Apart from these general considerations, the rationale for policy intervention to support innovation in catching up and emerging market economies is to address some structural weaknesses in their national innovation systems (see also the table):

- The intensity of innovation performance (as approximated by the intensity of R&D expenditure) in the emerging market economies is still well behind that in the developed market economies;
- The links between knowledge generation (science) and marketable innovation (industry) are rather weak;
- The national innovation systems are still largely dominated by publicly funded research whereas the business contributes relatively little to national R&D expenditure (see table);
- Generally weak and poorly functioning linkages in the national innovation systems (including the links between large and small firms, and those between domestic and FDI firms), which hinders the diffusion of innovation;
- Generally very low innovation capacity in traditional domestic firms and, especially, in small and medium enterprises;
- Inadequate innovation and managerial skills in the firms;
- Underdeveloped and poorly functioning institutions promoting innovation.

Many catching up economies in the UNECE region have made considerable progress in addressing some of these weaknesses through a range of innovation and competitiveness policy instruments. However, their innovation performance is still relatively weak and further efforts are needed to develop fully-fledged and efficiently functioning national innovation systems.

[32] *See Dani Rodrik, "Industrial Policy for the Twenty-first Century", London: Centre for Economic Policy Research, CEPR Discussion Paper, No. 4767, November 2004. These policy approaches mostly target economic diversification but can be equally be applied to targeting innovation performance at the micro-level.*

Research and development expenditure in selected countries, 2001-2005

	National research and development expenditure (per cent of GDP)			R&D expenditure financed by the business sector (per cent of the total)
	2001	2004	2005	2004
Austria	2.04	2.23	2.36	47.2
Belgium	2.08	1.85	1.82	60.3[a]
Bulgaria	0.47	0.51	0.50	28.2
China	0.95	1.23	1.34	65.7
Croatia	1.11[b]	1.22	..	43.0
Cyprus	0.25	0.37	0.40	18.9
Czech Republic	1.20	1.26	1.42	52.8
Denmark	2.39	2.48	2.44	59.9[a]
Germany	2.46	2.5	2.51	66.8
Greece	0.64	0.61	0.61	28.2[a]
Estonia	0.71	0.88	0.94	36.5
Finland	3.30	3.46	3.48	69.3
France	2.20	2.14	2.13	51.7
Hungary	0.92	0.88	0.94	37.1
Iceland	2.98	2.83	..	43.9[a]
Ireland	1.10	1.21	1.25	57.2
Italy	1.09	1.10	..	..
Japan	3.13	3.18	..	74.8
Latvia	0.41	0.42	0.57	46.3
Lithuania	0.67	0.76	0.76	19.9
Luxembourg	1.65[c]	1.66	1.56	80.4
Malta	..	0.63	0.61	18.6[b]
Netherlands	1.8	1.78	..	51.1[a]
Norway	1.6	1.62	1.51	49.2[a]
Poland	0.62	0.56	0.57	26.9
Portugal	0.8	0.77	0.81	31.7[a]
Romania	0.39	0.39	..	44.0
Slovakia	0.63	0.51	0.51	38.3
Slovenia	1.55	1.45	1.22	58.5
Spain	0.91	1.06	1.12	48.0
Sweden	4.25	..	3.86	65.0[a]
Turkey	0.72	..	..	41.3[b]
United Kingdom	1.83	1.73	..	44.2
United States	2.76	2.68	..	63.7

[a] 2003; [b] 2002; [c] 2000; .. not available.

Source: Eurostat News Release 6/2007, 12 January 2007.

ENVIRONMENTAL POLICY AND INTERNATIONAL COMPETITIVENESS IN A GLOBALIZING WORLD: CHALLENGES FOR LOW-INCOME COUNTRIES IN THE UNECE REGION

Dieter Hesse

Since the inception of environmental policymaking more than three decades ago, competitiveness concerns and associated fears for profits and jobs have regularly been mentioned as a reason for not moving to more stringent policies. It is argued in this context that more stringent policies create additional cost burdens for domestic firms, which put them at a disadvantage compared with major foreign competitors that do not face a similar increase in environmental standards. A related issue is to what extent more stringent environmental standards might create incentives for firms to relocate production activities to countries with lax policies – so-called pollution havens. In this context, it has also been speculated that globalization may lead to regulatory competition between states to attract mobile capital, entailing the risk of a "race to the bottom" in environmental standards.

Although the potential economic costs of environmental policies are often viewed through the lens of international competitiveness, the fundamental issue is one of social choice, that is, the need to address the trade-off between the value of environmental improvements (degradation) and the associated social costs (benefits). It is, in fact, the very purpose of environmental policy measures to promote structural change in the economy by altering consumption and/or production patterns in such a way that environmental pressures are reduced to sustainable levels. A major case in point is the current intensive discussion about policies to address global climate change, which are seen to have differential impacts on the competitiveness of energy-intensive industries across developed and developing countries.

Although the term "competitiveness" is widely used in national and international policy debates, the concept has remained elusive. It is being applied at the level of both firms and countries. At the level of firms, competitiveness is mainly about the ability to generate sufficient profits and raise market shares for products. A firm's competitiveness is, however, determined not only by price but also by non-price factors (such as product quality and consumer preferences for environmental products and production processes). At the national level, competitiveness has been mainly associated with the international trade performance of countries and the ability to achieve sustained economic growth and higher real per capita incomes. This, in turn, requires specific policies and institutional arrangements that promote innovation and productivity growth and enhance firms' ability to adjust to changing economic circumstances.

It has been argued that the concept of competitiveness does not apply at the level of countries, because, unlike firms, countries do not compete with each other, and they do not disappear when they are not successful. But that is not the real issue. If Governments fail to establish a framework conducive to doing business, then this will affect overall economic growth in the medium and longer term and, related to that, the prospects for raising the living standards of the population.

This shows that firm- and national-level competitiveness are interrelated. Many of the factors shaping the competitiveness at the enterprise level are, in fact, determined at the level of the national economy, such as the provision of infrastructure (including environmental infrastructure such as water pipes, wastewater treatment facilities and landfills for waste), human capital formation, research and development (R&D) and innovation policies, and openness to foreign trade and investment.

I. THE CHALLENGE FOR LOW-INCOME COUNTRIES: CATCHING UP WITH MORE ADVANCED ECONOMIES IN A SUSTAINABLE DEVELOPMENT CONTEXT

A key policy objective for the low-income countries of Eastern Europe, Caucasus and Central Asia (EECCA) and South-Eastern Europe (SEE) is to achieve robust growth in output and productivity in order to raise the living standards of the population and catch up with the more advanced economies, that is, to narrow the existing considerable gaps in real incomes. The challenge for policymakers is to reconcile the objective of "going for growth" with the need to ensure sustainable development. In this context, concerns about the adverse impact of more stringent environmental standards on international competitiveness are also looming large. There is therefore always a risk that in the face of competing objectives, environmental problems will not be given the weight they merit.

Following a deep and prolonged economic crisis at the onset of the transition process, the overall economic performance in EECCA and SEE has improved significantly in recent years. Both regions witnessed buoyant economic growth significantly above the average performance of the developed countries and the world economy at large. Real Gross Domestic Product (GDP) in the EECCA region increased at an annual average rate of 7.5 per cent between 2000 and 2006, fuelled by strong global demand for energy products and other raw materials. In SEE, the corresponding average annual growth rate was about 6 per cent, with robust domestic demand and exports as main driving forces. Rapid growth in economic activity has led to significant increases in the average real incomes of the population, though people at the bottom half of the income distribution have benefited less. Although there has been some narrowing of real income gaps with West European and other developed countries, the differences in living standards are still sizeable. High unemployment and widespread poverty remain a major preoccupation of policymakers.

But rapid growth of industrial and agricultural activity as well as increasing urbanization pose environmental challenges related to, for instance, air pollution, wastewater, toxic and hazardous solid waste and biodiversity. Poverty-related pollution (due to the use of fuel wood for heating) remains an important problem. The region is, however, very heterogeneous in terms of country size, levels of real incomes, and degree of industrialization and urbanization. Environmental pollution issues tend to be more important in the countries of the western EECCA region (Belarus, Moldova, Russian Federation and Ukraine) and in large parts of SEE. In the Central Asian countries, where poverty is more widespread, environmental problems are more related to issues of natural resource management.

There has been further progress in structural and institutional reforms in these regions in recent years, but the extent of advances differs across countries. Despite general progress, reforms dealing with the establishment of market-supporting institutions (large-scale privatization, governance and enterprise restructuring, competition policy, financial sector development and infrastructure) are still far from complete.

There has also been uneven progress in the design and implementation of environmental policies, the building of effective environmental protection agencies, and the modernization and extension of the physical infrastructure required to provide adequate environmental services for pollution management. Most of the region's environment ministries have a weak position in government. There is a large gap between the environmental legislation "on the books" and the number of laws and regulations which are effectively enforced. Environmental policies do not rank high in national economic development and poverty reduction strategies. This reflects to some extent the low levels of real incomes and high levels of unemployment, which entail that citizens' preferences for environmental quality are dominated by the need to ensure a stable regular income.

A major challenge in the EECCA region is to reduce the excessive economic dependence on the commodity sector, which requires designing strategies for greater diversification of economic activities and more broadly based participation in the intensified process of global economic integration. In a similar vein, SEE countries need to pursue economic development strategies that promote international competitiveness as a basis for sustained economic growth and catch-up.

What is important in this context is that international competitiveness in the global economy is increasingly based on knowledge and innovation processes. Not only has globalization led to intensified competitive pressures in the more traditional labour-intensive sectors, but also the knowledge intensity of production in the traditional low-tech segments of industry has increased. With rapid diffusion of new technologies that allow increasing fragmentation of production processes across geographical borders, competitive advantages based on labour costs are increasingly vulnerable to the emergence of other locations where these costs are even lower.

This recalls the importance of knowledge-related variables, such as R&D and innovation, in economic catch-up processes. It is well known that, alongside accumulation of physical and human capital, assimilation has been a key driver of economic growth in the economic development of (former) low-income countries. Assimilation refers to the ability to do things differently by learning from the way things have been done for quite some time in the more advanced economies. These learning processes have different dimensions, such as building skills for the adaptation and imitation of global technologies to local needs and acquiring capabilities for the efficient operation of a plant with a given technology.

These learning processes extend to the design and implementation not only of economic but also of environmental policy, including an integrated consideration of economic and environmental issues. This is important because, in general, plans for the adoption of stricter pollution standards will encounter opposition from the business sector in view of the additional cost burdens and related competitiveness concerns.

II. COMPETITIVENESS EFFECTS OF NATIONAL ENVIRONMENTAL POLICY

The move to more stringent environmental policies in a country typically raises concerns about how international competitiveness will be affected if other countries do not adopt similarly strict environmental standards. The larger the number of countries that apply similar measures, the more limited the competitiveness effects. This points to the benefits of international cooperation and coordination in the preparation of new environmental policy measures for pollution-intensive industries. This holds especially for environmental protection issues that are of a transboundary or global nature, where multilateral action is required to avoid free-rider problems and suboptimal investments in pollution control and abatement.

Moving ahead of other countries as regards environmental standards does not, however, necessarily have negative impacts on a firm's performance. The reason is that environmental compliance costs are only one among many potential factors that shape competitiveness. There is a broad consensus, based on a large body of empirical research, that environmental policy is not a primary determinant of overall industrial performance, but rather depends mainly on factors such as labour skills and labour costs, access to infrastructure, the production technology used, and the rate of productivity growth.

Given that the share of pollution abatement and control costs in total production cost is very small for all but the high pollution-intensive activities, it is not surprising that in general they do not significantly affect the overall price competitiveness of the industrial sector.[33] There is therefore also a broad consensus that environmental protection costs are not a primary determinant of job losses that have occurred in industrial sectors around the world. Competitiveness effects also depend on the extent to which higher compliance costs can be passed through to final consumer prices without a loss of market share. This depends also on the extent to which non-price factors (e.g. quality aspects, product differentiation) determine demand for a given product. More stringent environmental protection policies can be an important potential source of competitive advantage given that environmental criteria are playing an increasing role in many purchasing decisions of consumers ("green consumerism"). In a more general way, the increasing preference of consumers for green products also entails that firms can benefit from enhanced competitiveness and a marketing edge by developing products which are more environmentally friendly.

The impact of higher costs imposed by more stringent pollution standards also depends on the specific response of the company. Stricter environmental policies can create incentives for reviewing the various stages of the production process and may lead to the discovery of inefficiencies in the use of material and energy. The related cost savings can then largely offset the higher compliance costs.

More stringent environmental regulations can also stimulate R&D and innovation processes, which lead to the development of clean technologies that are less costly than traditional end-of-pipe solutions and have additional economic benefits because of material and energy cost savings and increased productivity. These potential positive feedback effects from more stringent environmental policy to innovation and firms' competitiveness and related business advantages are also known as the Porter hypothesis.

The potential adverse competitiveness effects of more stringent environmental policy can be mitigated or offset by adequate policy design. Even if environmental standards in certain countries appear similar at first glance, what matters is the "quality" of the regulation, that is, its cost-effectiveness and the flexibility it provides for meeting the more stringent standards. This points to the need for finding a good mix between traditional regulations and economic instruments. It is important to announce changes in environmental policy well in advance so that firms have enough time to prepare for and adapt to the more stringent standards. Also, the gradual phasing in of more stringent policies over a specified longer time period can help to minimize competitiveness effects. Another frequently used mitigation tool is the (partial) recycling of revenues from emission charges to polluting firms.

It should, however, be recalled that the ultimate goal of environmental policy is to influence the process of structural change in the economy so as to reduce pollution-intensive activities. Reduced pollution, in turn, has wider benefits in terms of improved health among the population, with attendant lower health costs and improved worker productivity. Reduced pollution and improved overall environmental quality will also benefit the tourism sector. More stringent environmental policies can, moreover, create new economic opportunities by stimulating the development of clean technologies, which countries can use to develop new export markets (see section III below).

[33] *At the industry level, environmental protection expenditures on average constitute some 0.5 per cent of total costs, but this proportion can be higher (1 per cent and more) in pollution-intensive sectors.*

The impact of environmental policy on foreign direct investment (FDI) by multinational companies (MNCs) and the effects of FDI on the environment have been the subject of considerable controversy. There have been widespread concerns that countries with lax environmental regulations (typically low-income countries) would provide opportunities for pollution-intensive firms to escape more stringent standards in their home countries (typically developed-market economies). The result would be adverse environmental impacts in the low-income countries and possibly also beyond their borders. The existence of differential environmental standards has also often been suspected of triggering a "race to the bottom" in environmental standards, in which developed countries might lower their own environmental policy ambitions in order to prevent the relocation of pollution-intensive activities (and the accompanying jobs) to other countries. These concerns were to some extent fuelled by major environmental disasters (e.g. the 1984 gas leak in a Union Carbide plant in Bhopal, India, and the 1989 Exxon Valdez oil tanker accident in Alaska), which promoted an image of MNCs' environmental performance record as one of neglect and ignorance.

But this contrasts with a more positive assessment of the effects of FDI on environmental performance in recent years. MNCs are now seen rather as having the potential of promoting higher environmental standards in low-income countries by making their subsidiaries apply the environmental standards of the home country. This requires, of course, the transfer of more modern and cleaner technologies and more effective environmental management practices than those being applied by local firms in low-income countries. The main rationale for this behaviour is profit-related, because application of the same technology leads to cost savings due to increases in internal operational efficiency and higher productivity. The use of clean technologies and adherence to strict environmental standards across subsidiaries also bring reputation gains (among consumers) and safeguard against legal liabilities in case of industrial accidents.

It is also noteworthy in this context that MNCs have been increasingly involved in levelling the playing field not only by imposing similar environmental standards on their subsidiaries but also by extending these strict environmental requirements to other local suppliers in low-income countries that want to be part of global production networks. Major driving forces for this have been the growing environmental awareness worldwide (reflected in more stringent environmental standards in major product markets) and increasing consumer preferences for "green products". In general, these environmental requirements aim at phasing out harmful substances or changing processes and production methods. These commercial environmental requirements are de jure voluntary, but are de facto mandatory for a supplier to be integrated in a production-sharing network. They are quite important for the manufacturing of textiles, clothing, leather, and electrical and electronic products[34], areas where low-income countries have strong labour cost advantages.

Compliance with the stringent environmental requirements of global production networks requires adequate local adaptation capacities, which may not always be available, especially for small and medium-sized firms in low-income countries. (The main exceptions are affiliates of MNCs which have automatic access to knowledge and technology transfer.) Technical assistance and capacity-building are important for helping to overcome these problems. To avoid disruptions in supply links and prevent the emergence of environmental requirements as a barrier to trade for low-income countries, importers in industrialized countries appear to have made greater efforts in recent years to more systematically anticipate potential adaptation problems of exporters in low-income countries, but the established channels for facilitating the adaptation process are generally recognized to be perfectible.

Although costly, successful adaptation to more stringent environmental requirements can be a win-win-process for low-income countries to the extent that they provide the opportunity to develop new export markets and involve improved resource efficiency, reduced pollution intensity and improved public health, thereby also contributing to sustainable development. There is evidence that an increasing number of small and medium-sized firms from low-income countries which are integrated into global supply chains have been adopting industrial environmental management and best practice programmes to achieve Environmental Management System certification and ISO 14001 certification.

The empirical evidence on MNCs' environmental behaviour is, however, limited. Evidently not all MNCs are always examples of adequate environmental behaviour in all the countries where their subsidiaries are located. It is also possible that FDI has in some cases indeed been attracted by lax environmental regulation in low-income countries. But it may be surmised that such lax standards mainly attract investors from less advanced countries operating technology that is more pollution-intensive than standard technologies applied in developed countries in the same sectors. Overall, the environmental performance of

[34] MNCs' policies have been reinforced by two recent environmental market requirements for electronics and electrical products imported into the European Union (EU), namely the Directive on Waste Electrical Products and Electronic Equipment, which sets collection, recycling and recovery targets, and the Directive on the Restriction of the Use of Hazardous Substances, which restricts the use of six hazardous materials in the manufacture of various electrical and electronic products.

MNCs (i.e. their subsidiaries) is better than that of local firms in low-income countries. This does, of course, not imply that the environmental performance of MNCs should not be improved further. Home-county governments of MNCs should therefore promote the Guidelines for Multinational Enterprises of the Organisation for Economic Co-operation and Development (OECD) designed to ensure responsible business conduct in many different areas, including environmental protection, in the countries in which the MNCs operate. Observance of these guidelines by MNCs is especially important in a context of weak governance, i.e. when governments in the host countries are unwilling or unable to adopt and implement appropriate policies required to ensure sustainable development.

There is, however, a broad consensus, based on findings from empirical studies, that differential degrees of environmental policy have in general only a marginal effect on firms' foreign investment location decisions. Environmental policy is clearly not a primary determinant of plant foreign location choices; chief determinants are factors such as labour costs, geographical proximity of major markets, and quality of transport and communication infrastructure. In other words, lax regulations are not a prerequisite for attracting high-quality FDI.

It is also not very efficient for Governments to use lax environmental standards to attract international investors. There are better instruments for this, such as tax concessions, government contracts, designated land at symbolic prices and so on. Firms from developed economies may also be attracted to countries with stringent environmental standards to the extent that these are seen as a quality indicator for the overall infrastructure and other services that the local environment provides to the investor.

There is a need for adequate policies to benefit from foreign direct investment. It should be recalled in this context that the expected benefits from FDI for economic development in a country are not at all automatic. Rather, these benefits are contingent on a set of well-crafted domestic policies and institutional arrangements designed to strengthen national innovation systems, improve the absorption or adaptive capabilities of local enterprises and adopt a more strategic approach to FDI in order to strengthen the national development impact.

In a similar vein, as regards environmental performance, low-income countries should not rely only on the voluntary self-regulation of MNCs (i.e. corporate social responsibility), but rather adopt and enforce strict national regulations, which are the major driving force for reducing environmental pressures. Cooperation with other countries at a similar stage of development may be also helpful in this context.

III. TECHNOLOGICAL INNOVATIONS AND ENVIRONMENTAL PERFORMANCE

Technological innovations and the associated rise in productivity are a major driving force for economic development of countries. The diffusion of new technologies, which make workers more productive, is in fact at the heart of economic catch-up processes in low-income countries. But new technology is not only a tool for promoting growth and economic development; it is also a major tool for improving environmental protection. New production processes and products, to the extent that they are more environmentally friendly, help improve the trade-off between economic growth and environmental pressures by lowering the pollution intensity of economic activity.

To the extent that new technologies make it possible to achieve compliance with established environmental standards at significantly lower costs, this may provide scope for Governments to introduce even more stringent regulations and standards, or at least it may make it easier to enforce existing regulations. Compliance costs may also decrease as a result of a significant reduction in import tariffs for the corresponding machinery and equipments, in cases where these are still quite high.

Technological advances are influenced by economic incentives for inventive activities, that is, the potential size of markets. These incentives can also be shaped by economic and environmental policies. More stringent national and international environmental policies in conjunction with increased consumer preferences for "green products" have, in fact, spurred the development of a global market for cleaner technologies and products with reduced environmental impacts.

The development of "environmentally sound technological innovations" in a context of rapidly growing international demand confers both economic and environmental benefits, and is thus a good example of a "win-win" situation. Competitive advantages result mainly from "first mover advantages" in the development of environmental technologies that other countries will eventually also need to adopt. Trade liberalization may be helpful for the diffusion of these technologies,

but the main driving force will be the increasing demand associated with the adoption and enforcement of more stringent national policies. Evidently, this holds mainly for developed countries, where R&D processes are largely aimed at pushing the technological frontier outward.

Low-income countries will in general be mainly engaged in imitating and adapting these new global technologies according to their local economic contexts. The need for further technological upgrading of their productive capital stock, which is an essential condition for improving international competitiveness and strengthening economic development, thus provides important opportunities for EECCA and SEE to combine improvements in productive efficiency with improved environmental performance. These adaptation and imitation processes can, however, also lead to the development of domestic supply capacities that make it possible to export these adapted technologies to other low-income countries.

The pace of technological upgrading is, however, also determined by the overall dynamism of economic growth and (related to that) the growth of domestic investments in more modern and more profitable machinery and equipment. Given their different stages of economic development and varying economic dynamism, not all countries will be able shift to cleaner technologies to the same extent. An adequate mobilization of domestic resources (i.e. higher savings) will play a major role in supporting investment in the renewal and enhancement of productive capacities. This points to the importance of financial sector reform and the development of sound institutions for an efficient provision of financial services.

A major channel for stimulating the development and diffusion of environmental technology is proper design of environmental policy instruments, namely regulations and economic instruments. Another channel is to directly support R&D policies that aim at the development and diffusion of environmentally friendly technologies. The attention that a firm's management pays to the potential benefits of environmental innovations may also be increased by adherence to strict standards for environmental management, such as ISO 14001 or the voluntary EU Environmental Management and Audit Scheme (EMAS).

Low-income countries should be promoting the diffusion of environmentally sound technologies as an integral part of a national competitiveness strategy designed to foster the technological upgrading of productive capacities in the economy. But this will also require developing institutions and policies to promote knowledge accumulation, technological learning and innovation as well as technology transfer in these countries in order to increase their technological absorption capacity (see section IV below).

The challenge of technological upgrading puts a high premium on national investments in the education and training of people to create the necessary capabilities. The level of domestic technological capabilities will, in fact, determine to what extent low-income countries can move directly ("leapfrog") to the cutting-edge cleaner technologies developed in industrialized countries rather than mainly imitating and adapting second-best technologies with a strong emphasis on (more costly) end-of-pipe solutions. To the extent that this is possible, low-income countries could then leverage their labour cost advantages even more in international markets. The Clean Development Mechanism under the Kyoto Protocol provides a channel for combining technological upgrading with reduced emissions of greenhouse gases.

To a large extent, domestic firms in low-income countries will have to rely on direct imports of better-performing machinery and equipment from developed countries. FDI policy linked to strict pollution standards will also help to promote the diffusion of these technologies. Trade liberalization may be helpful for the diffusion of these technologies to the extent that trade barriers are still high. It is noteworthy that under the general heading of "environmental goods and services1 these technologies have been on the trade liberalization agenda of the Doha Round of the World Trade Organization trade negotiations.[35] But overall progress in negotiations has been slow, partly because there is no internationally agreed definition of the term "environmental goods" and the detailed list of products to be covered by this term.

[35] *An informal Working Group formed by OECD and Eurostat in 1998 defined the environmental goods and services industry as consisting of "activities which produce goods and services to measure, prevent, limit or correct environmental damage to water, air and soil, as well as problems related to waste, noise and the ecosystems. This includes cleaner technologies, products and services that reduce environmental risk and minimise pollution and resource use."*

IV. INTEGRATING ENVIRONMENTAL PROTECTION INTO NATIONAL ECONOMIC DEVELOPMENT STRATEGIES

To be successful, economic catch-up efforts of low-income countries require continuous improvement of productivity accompanied by a dynamic process of technological upgrading and structural change. It is now widely agreed, based inter alia on the experiences of the small East Asian newly industrializing economies, that adequately designed proactive industrialization strategies, including strategic integration into the world economy, can play a major role in promoting the development process of a country. This requires, however, a set of coherent policies and effective institutional arrangements that support the process of economic restructuring and technological change in the context of a market-driven economy.

From an environmental policy perspective, it is crucial to ensure that national or industrial development strategies take into account the linkages between economic activity and the environment with the aim of optimizing the inevitable trade-offs from an overall societal point of view. This requires establishing institutional arrangements, which ensure appropriate representation and integration of environmental policy concerns in these development strategies. A related major goal is to integrate the development and diffusion of clean technologies into wider national R&D, innovation and investment promotion policies.

Policies supporting environmental policy integration should aim at promoting the private sector's technological innovations (by means of fiscal incentives, public loans and subsidies) as well as its efforts to adapt imported technologies to local circumstances. There is also a need to support R&D undertaken at public research institutes. Other policy measures include selective liberalization (if not yet done) of imports of specialized environmental goods and services. Policy support should not be open-ended. It should be tied to clear operational and achievable environmental goals, observable criteria for monitoring and specific time horizons.

The specific design of supporting institutional arrangements and industrial and environmental policy measures will, of course, have to take into account the heterogeneity of countries with regard to prevailing economic conditions, environmental pressures and social norms and traditions. But there are some general principles, which underlie more specific types of policies and policy measures for approaching this set of issues.

Institutions are in general understood to be the formal rules (property rights, rule of law, etc.) and informal constraints (beliefs, social norms and traditions) that shape human interactions. A major function of institutions is to reduce uncertainty, thereby increasing the incentives for individuals to engage in complex forms of cooperation. There is, moreover, a need for "enabling institutions" that support the domestic process of investment, technological upgrading and structural change as well as the design and implementation of economic and environmental policies.

A first major challenge in low-income countries is the building of more effective, meritocratic and well-paid public administrations. The design and successful implementation of national industrial and sustainable development strategies requires a strong, capable, pragmatic and goal-oriented civil service that is not unduly involved in day-to-day politics, but rather retains a sufficient degree of freedom for developing strategies for long-term policymaking. There is no "free lunch" here; the construction of such an apparatus requires the investment of considerable resources, both financial and political, and may take quite a long time.

The establishment of effective environmental protection agencies with adequate levels of skilled and well-trained staff is an essential prerequisite for the monitoring and enforcement of emission and ambient environmental standards. Design and enforcement of effective policies are often hindered by corruption, and it is important to ensure that bribery is adequately penalized so that incentives for corruption are weak. (Not only the offering but also the acceptance of bribes should be penalized).

It is important to foster good relations between government agencies in charge of economic development and those in charge of environmental protection. It is essential to build trust and achieve mutual understanding of the overall objectives of promoting economic development and raise levels of real income, and to ensure that this is done in such a way as to minimize adverse environmental impacts.

The determination of economic and environmental policy measures should be based on an intensive dialogue between competent ministries, industry, and research institutions, rather than autonomous decisions of specialized government entities. Governments should contribute to creating a shared vision of a long-term strategy to foster competitiveness and

structural change in a context of sustainable development. They should also be involved in discussing potential economic impacts and related competitiveness issues associated with planned environmental policy measures and possible alternative ways of addressing them.

Although it is important for the civil service to be engaged in regular exchange of views with the business sector concerning the design and implementation of policies, the public administration should maintain a neutral relationship and avoid capture. This somewhat contradictory rapport between the state administration and the private sector (i.e. conducting close consultations but maintaining independence) has been termed "embedded autonomy", and has been successfully built in the small East Asian newly industrializing economies.

Stringent domestic environmental policies have remained key for achieving sustained environmental improvements. But national environmental policies have also to a large extent been supported and driven by international environmental processes as well as multilateral environmental agreements for addressing pollution issues, especially those that are of a transboundary and global nature. In contrast to the EECCA region, countries of the SEE region have, moreover, been benefiting from the EU Stabilization and Association Process, which constitutes a formal anchor for the direction of institutional and legislative reforms.

The main concern should be curbing pollutants that have major adverse effects on the quality of the environment in a medium and longer-term perspective, both nationally and globally. This does not mean ignoring less important pollutants, but rather getting the priorities right. This holds especially in a context of very scarce resources for policy design, implementation, monitoring and enforcement, as is the case in SEE and EECCA.

It is important in the design of environmental policies to set short-, medium- and long-term objectives for anchoring the performance expected from the private sector. Firms want to operate in a stable and predictable regulatory policy framework. This means that unanticipated large policy shifts should be avoided in order to reduce the adjustment costs associated with increased regulatory stringency. This points to the importance of gradual and predictable implementation of policies, and holds also for the removal of environmental harmful subsidies. Firms must be able to realistically achieve fixed pollution targets taking into account the current pollution standards and available technologies. A participatory approach, involving industry, is important for setting realistic targets.

Depending on the overall economic and technological conditions and prevailing competitive pressures, it may not always be adequate to leapfrog to best-practice emission standards in a given sector, but rather to start from a lower level. In this case, private-sector agents should be clearly informed that these standards will be progressively tightened and enforced over a reasonable specified time period. Public disclosure of information on environmental performance should also raise firms' environmental management standards. Strong autonomous technological change may require a corresponding increase in stringency of regulations to prevent them from becoming obsolete.

In situations of widespread poverty, it is important to integrate considerations about income distributional issues (regressive effects and social affordability) into the design of environmental taxes and charges to ensure political acceptance and full implementation of the measures. The main challenge is to preserve abatement incentives and incentives for economical use of resources (energy and water) for the households concerned. Regressive effects may be offset by, for example, recycling revenues from the environmental taxes to lower income groups. Social affordability issues may be best addressed by direct-targeted subsidies.

The major overriding principle is to make sure that individual environmental policies are worth having – that they pass an impact assessment (cost-benefit analysis) concerning their economic, social and environmental consequences. The conduct of such an assessment should involve a balanced participation of all major stakeholders. Policies that are worth having should be cost-effective – they should achieve their objectives at least cost. It is therefore important to give firms sufficient advance notice and adaptation time when planning new policy measures. This often allows them to render the measures, which they initially designed for achieving compliance, more cost-effective.

Improving cost-effectiveness requires understanding the advantages and disadvantages of the range of available environmental policy instruments under given specific circumstances and objectives. In a more general way, the challenge is to find the appropriate mix of tools for environmental policy management. A greater reliance on economic instruments (such as tradable emission permits, emission taxes, deposit-refund schemes) is one way of improving cost-effectiveness. But even in the developed countries, regulations are still the major instrument for controlling emissions or resource extractions. Depending on the circumstances, an economic instrument may be able to fully replace a regulation or fulfil a complementary function

when used in combination with it. It should be noted, however, that some economic instruments such as taxes or charges have built-in rigidity, given the inherent difficulty of changing them, and they also involve administrative costs (as do regulations).

The potential efficiency gains from the use of market-based policy instruments may, moreover, not be easy to reap in a low-income country context, given the institutional demands that environmental pollution management creates with regard to human resource skills in government and business, information on pollution and pollution sources, monitoring capacity and so on.

Regulations should focus on environmental outcomes and not prescribe a particular technology or process. They should be designed to stimulate the development of more environmentally friendly processes and products, but the approach to innovation should be left to companies and not the regulating agency. Government innovation policies should support the development of more performing environmental technologies. But technology policy is a complement to environmental policy, not a substitute for it. Cost-effectiveness requires that regulations be kept as simple as possible to reduce monitoring and reporting costs. It should also be explored to what extent stringency of emission standards (or prescribed best available techniques, if any) can be allowed to deviate from a national standard in case of significant variations in the assimilative capacity of the local and regional environment in a country.

Voluntary agreements between Governments and industry may help promote innovative environmental practices (such as ISO 14001 and EMAS). In the face of increased consumer preference for "green products", moreover, eco-labelling programmes have become an integral part of strategies to promote international competitiveness in countries all over the world. But voluntary agreements are no substitute for stringent environmental policies, though they can play a useful complementary role.

Although the environmental performance of a country reflects to a large extent the specific design of domestic environmental policies and institutions, the latter are also influenced by the need to conform with international environmental agreements adhered to by individual states. International cooperation and coordination of policies will be required on issues related to transboundary or global public goods (such as climate change) in order to avoid free-rider problems and suboptimal investments in environmental protection.

The importance that Governments have attached to addressing a number of serious environmental issues is reflected in various global multilateral environmental agreements (Box 1) which have a direct bearing on product and process standards and international trade flows.

Box 1 Selected global multilateral environmental agreements

(a) Montreal Protocol on Substances That Deplete the Ozone Layer, which stipulates the phasing out of a number of substances held responsible for ozone depletion.

(b) Kyoto Protocol, an agreement made under the United Nations Framework Convention on Climate Change, which commits countries that ratify it to reducing emissions of greenhouse gases or engaging in emissions trading.

(c) Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, designed to reduce the movement of hazardous waste between nations.

(d) Stockholm Convention on Persistent Organic Pollutants, defined as "chemical substances that persist in the environment, bio-accumulate through the food web, and pose a risk of causing adverse effects to human health and the environment".

(e) Convention on Biological Diversity, which aims at the sustainable use of biological resources and through its Cartagena Protocol on Biosafety also covers the field of biotechnology.

(f) Convention on International Trade in Endangered Species of Wild Fauna and Flora, which limits international trade in specimens of wild animals and plants.

Box 2 UNECE Environmental Conventions

(a) Convention on Long-range Transboundary Air Pollution and its eight protocols, which aim at reducing and preventing air pollution, including long-range transboundary air pollution, through the development of policies and strategies and the exchange of information, technologies and techniques.

(b) Convention on the Protection and Use of Transboundary Watercourses and International Lakes, intended to strengthen national measures for the protection and ecologically sound management of transboundary surface waters and groundwaters.

(c) Convention on Environmental Impact Assessment in a Transboundary Context (the Espoo Convention), which lays down the general obligation of states to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across borders.

(d) Convention on the Transboundary Effects of Industrial Accidents, designed to protect human beings and the environment from industrial accidents by preventing these as far as possible, by reducing their frequency and severity, and by mitigating their effects.

(e) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (the Aarhus Convention), which grants the public rights regarding access to information about and public participation in environmental decision-making, and access to justice in environmental matters. The Kiev Protocol on Pollutant Release and Transfer Registers to the Convention aims to enhance access to information through the establishment of nationwide inventories of pollution from industrial and other sources based on reporting by private enterprises.

Among the main international legal instruments are the five environmental conventions negotiated in the framework of the UNECE (Box 2), all of which are in force and have significant impacts on environmental performance. But many EECCA countries still have to ratify these conventions and related protocols to be able to benefit from technical and financial assistance for effective implementation. International environmental processes such as the "Environment for Europe" process and the follow-up to major international conferences (e.g. the Rio Declaration on Environment and Development and the World Summit on Sustainable Development) are also having an impact on the design and implementation of environmental policies. The same holds for the Millennium Development Goals, agreed in 2000 by all United Nations Member States, which include the need to "Ensure environmental sustainability" (goal 7) and define specific targets to be achieved by 2015 or 2020. International pressures for more stringent environmental standards stem also from the integration of environmental performance criteria into lending policies of bilateral donors and international financial institutions.

International organizations (e.g. OECD, UNECE, United Nations Environment Programme) working in the field of environment are mechanisms for promoting the diffusion of environmental policy innovations as well as information on environmentally sound technologies, thereby fostering the convergence of national environmental policies at a more stringent level of standards. Major driving forces for this are international environmental agreements (e.g. conventions and treaties), which aim at reducing pollution burdens and health risks as well as improving environmental management. Key tools include legally binding instruments, recommendations, guidelines and capacity-building activities. Cross-sectoral international cooperation on transport, health and environment, water and health, and education and sustainable development adds a new dimension of integration of environmental concerns into economic and social policies.

Information on the state of the national and international environment is a very important public good. It is essential for the design of effective environmental policies and for raising public awareness about environmental problems. The Environmental Performance Reviews conducted by OECD and UNECE provide not only in-depth knowledge about the environmental situation in a given country as a basis for recommendations for improvements, they also make available information on the diversity of policy instruments used in the various countries and help identify strengths and weaknesses of national environmental policies. They are therefore also a mechanism for illustrating the potential benefits of emulating policies and institutional arrangements that have been successful in other countries.

V. CONCLUSIONS

Dealing with the trade-offs between economic and environmental objectives requires well-designed policies and effective supporting institutional arrangements for an integrated consideration of economic and environmental issues. This should ensure that competitiveness concerns related to environmental policy measures are adequately addressed at an early enough stage. There is a broad consensus, however, that the additional cost burdens associated with more stringent environmental standards do not significantly affect international trade flows or foreign direct investment location decisions. Environmental policy, appropriately designed, is not a major determinant of international competitiveness. This holds also for the pollution-intensive sectors that are most affected by stricter standards. More stringent environmental protection in low-income countries should therefore not be regarded as a luxury, which can be postponed until higher levels of economic activity and real incomes are achieved.

It would be mistaken for a development strategy to accept the sacrifice of environmental quality today in return for achieving higher growth rates of GDP, inter alia, because the cost of reversing the environmental degradation later on are often significantly larger than the costs of avoiding pollution in the first place. It should also be taken into account that there may be irreversible processes associated with environmental degradation beyond a certain threshold. In other words, it is important to compare the costs of implementing an environmental policy with the costs of policy inaction, to avoid that society would risk losing today as well as tomorrow.

There is also little justification for not addressing early on those major sources of pollution that have significant adverse effects on health (e.g. due to insufficient quality of drinking water or air pollution). These are areas where the benefits clearly outweigh the costs even in the poorest countries, and where, moreover, large increases in benefits can be reaped at relatively low cost ("picking the environmental low-hanging fruit"). The increasing awareness of environmental issues on the part of consumers worldwide means, moreover, that high environmental process and product standards have become an important component of international competitiveness. This is also reflected in the increasing attention that multinational corporations pay in improving their internal environmental management practices. There is therefore little to be gained (from a dynamic perspective) for countries that keep environmental standards low to attract FDI.

New technology is a major driver of the economic development process of low-income countries. The process of technological modernization provides at the same time enormous opportunities for improved environmental performance. This points to the benefits of closely integrating environmental policies with national industrial development strategies aiming at technological upgrading and the promotion of innovation and R&D. International organizations and international legal instruments relating to the environment play a major role in promoting the convergence of national environmental policies in order to achieve more stringent standards and adequately protect regional and global public goods. International financial and technical assistance to support the building of domestic institutional and technological capabilities will continue to play an important role in promoting growth and environmental protection in low-income countries, but it can only complement domestic efforts, which need to be underpinned by strong political will.

THE BRIDGES OF BELGRADE

Kaj Bärlund

After the turbulent 1990s, which included the break-up of the former Yugoslavia, armed conflict and NATO bombardments, Serbia has made great efforts to become a full member of the international community. The "Environment for Europe" Ministerial Conference, hosted by Serbia in Belgrade in October 2007 on the theme "Building Bridges to the Future", was the largest high-level international political meeting held in the country for many years. Thus, the Conference constituted a further step in the return of Serbia as a fully-fledged partner in the international arena.

The Belgrade Ministerial Conference was the sixth in the "Environment for Europe" process. The previous one was held in Kiev four years ago. One of the important features in this process is the preparation that starts two years before the Ministerial Conference. This gives time for thorough preparatory work, including the negotiations of a declaration and the preparation of major documents. The Belgrade Ministerial Conference was particularly rich in substance, with contributions from a great number of partners.

The usefulness of a given meeting can be assessed using different indicators. One is participation. The Belgrade Ministerial Conference attracted more than 1,000 official delegates – including 60 ministers, deputy ministers and state secretaries, with 16 coming from the education sector – and around 2,000 observers and other participants. More than 60 side-events were arranged by different stakeholders during the two-and-a-half days of the Conference. A workshop on the Conference themes was attended by more than 100 journalists, mainly from the countries of Eastern Europe, Caucasus and Central Asia. In many sessions, the list of speakers exceeded the time available. One cannot help but conclude that this broad and active participation is a strong indication that the Conference was seen as important and meaningful by Governments and other partners.

WHAT DID MINISTERS DISCUSS IN BELGRADE?

State of the environment and monitoring and assessment

Delegations taking part in the discussion on this subject welcomed the Pan-European assessment report on the state of the environment ("Belgrade Assessment") prepared by the European Environment Agency (EEA) in cooperation with UNECE and other partners. They highlighted specific findings of the report, especially those on climate change, biodiversity, water supply and sanitation, marine environment, renewable energy, and sustainable consumption and production patterns. The delegations stressed the need to focus future actions under the "Environment for Europe" process on improving monitoring so as to produce environmental data in an integrated manner, on building countries' capacities in environmental observation, and on applying an ecosystems approach in environmental assessments. They further stressed the need to produce the next assessment report for the 2011 "Environment for Europe" Conference.

The link was emphasized between the "Belgrade Assessment" report and other reports presented to the Conference, including the report on UNECE Environmental Performance Reviews (EPRs) and one on environmental policies in Eastern Europe, Caucasus and Central Asia. It was stressed that there was a need in the future to use in assessment reports data produced by governmental institutions rather than data from informal sources.

Speakers praised the *First assessment of transboundary rivers, lakes and groundwaters* in the UNECE region, and called for the next assessment to be delivered at the next "Environment for Europe" Conference.

Implementation of multilateral environmental agreements and findings of UNECE Environmental Performance Reviews

Speakers stressed that the five UNECE environmental conventions and the UNECE EPR Programme contributed significantly to improving environmental policy in the region by addressing environmental disparities in the countries of South-Eastern Europe (SEE) and Eastern Europe, Caucasus and Central Asia. They served as a basis for many national actions aimed at better environmental management, integration of environmental policies into other sectors, and promotion of sustainable development. It was also noted that the UNECE conventions and EPR Programme contributed to environmental security in the region.

Participants acknowledged that significant efforts and progress had been made by the countries reviewed since the first round of EPRs, in particular on convergence of environmental policies; on strategies and legislation; on increased involvement in international environmental cooperation; and on improved public participation. Tailor-made EPR recommendations provided an impetus for improving institutional frameworks and management, for making national environmental policies more effective, and for strengthening international cooperation. It was noted that national reports showed improved implementation of the environmental conventions by an increasing number of countries. The majority of parties had introduced the adequate legislative frameworks necessary for fulfilling their obligations and had engaged in bilateral and multilateral cooperation.

Nevertheless, the implementation of multilateral environmental agreements (MEAs) across the region was not consistent and there was a need for further action. Countries underlined the importance of speeding up the ratification of the UNECE conventions and their protocols. Major bottlenecks in the countries of Eastern Europe, Caucasus and Central Asia and in SEE countries, highlighted in the most recent EPRs and reflected in the document "Critical issues in the implementation of environmental policies", also hampered the efficient implementation of MEAs. Speakers welcomed the specific recommendations to countries for overcoming the bottlenecks examined in the document.

The "Guidelines for strengthening compliance with and implementation of multilateral environmental agreements in the UNECE region" ("Kiev Guidelines") endorsed at the Kiev Ministerial Conference continue to be a useful tool for addressing difficulties in implementing and complying with MEAs, according to a number of speakers. Specific national implementation plans should be developed to ensure a strategic approach for compliance with MEAs as well as for setting priorities for the implementation of the EPR recommendations. As the implementation of many MEAs involved more than one competent authority, it is essential to establish good cooperation and coordination between national authorities and other stakeholders.

It was stressed that there was a need to develop the existing capacity-building activities under the conventions into consolidated programmes with well-defined priorities and actions, to help the countries of Eastern Europe, Caucasus and Central Asia and SEE countries address the difficulties of fully implementing the basic requirements of MEAs. On the other hand, speakers noted that new European Union (EU) member states should continue to share their experience and good practice from the transition period with countries of Eastern Europe, Caucasus and Central Asia and SEE countries, so as to bring those countries closer to internationally recognized environmental standards.

Joint session on Education for Sustainable Development

Education and Environment Ministers of the UNECE region met for the first time in the history of the "Environment for Europe" process and, in a joint statement, reaffirmed their commitment to the implementation of education for sustainable development (ESD) in the region. They considered achievements, lessons learned and challenges identified in the implementation of the UNECE Strategy for ESD since the Kiev Conference, and agreed on the way ahead. They were satisfied that the commitments made in Kiev and Vilnius had been fulfilled. They reconfirmed that ESD empowered people to make

informed choices in favour of sustainable development and could thereby play an important role in overcoming social, economic and environmental challenges. They also stressed that climate change was the issue that tests the solidarity around the globe through our attitudes in daily life.

The UNECE Strategy for ESD remained a unique example of the regional implementation of ESD among the different initiatives developed in the framework of the United Nations Decade of Education for Sustainable Development, and hence served as an example for other regions.

The speakers highly appreciated the close and effective collaboration between UNECE and the United Nations Educational, Scientific and Cultural Organization (UNESCO), especially in monitoring progress. Another key achievement was the joint UNECE-UNESCO collection of good practices in ESD.

Roundtable on Biodiversity

Participants gave recognition to the achievements of Governments, non-governmental organizations (NGOs) and other partners since 2003 in the implementation of the Kiev Resolution on Biodiversity, but also stressed that the EEA report stated that the 2010 target would be difficult to achieve without increased efforts. Participants further stressed the need for a pan-European instrument to push this process forward, expressing their appreciation for the Pan-European Biological and Landscape Diversity Strategy and its work.

A reference was made to the multifunctionality of forest ecosystems, as well as to the link between the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity, as both were important tools for addressing the effects of climate change on biodiversity. Another challenge related to climate change was that at the same time the region was seeking economic and social development and the achievement of the Millennium Development Goals.

Investment in biodiversity conservation, it was noted, was also required to maintain the valuable services it provides to the economy. Participants said that it was necessary to find new and creative ways to protect biodiversity, such as incentives, new forms of financing and payments for ecosystem services. Cooperation at the pan-European level to develop these instruments should be promoted.

Progress and perspectives in implementation of the Environment Strategy for countries of Eastern Europe, Caucasus and Central Asia

Delegates welcomed the report, "Policies for a better environment: progress in Eastern Europe, Caucasus and Central Asia", as well as the other reports prepared for the session.

The report documented more than 200 positive actions that the countries of Eastern Europe, Caucasus and Central Asia had taken since the 2003 Kiev Ministerial Conference. A number of speakers gave examples of actions they had taken. The main legal and policy frameworks for effective environmental protection had been put in place by many countries of Eastern Europe, Caucasus and Central Asia. Noticeable progress had been achieved in several areas: enforcement and compliance, water supply and sanitation, water resources management, and agriculture. This was not to say that the situation in these areas is now satisfactory; rather that some progress had been made in some countries of Eastern Europe, Caucasus and Central Asia.

Many speakers emphasized the implementation gap that exists in most countries of Eastern Europe, Caucasus and Central Asia: the actions taken to date had generally not been sufficient to achieve the objectives that had been set. This had been related to insufficient means – finance, human and institutional capacity. However, it was also linked to insufficient incentives: pricing of water, energy and other resources was still very low; enforcement of appropriate standards was not changing the behaviour of enterprises; and public demand was not generating sufficient political pressure. There was no equivalent to EU accession as a driver of environmental improvement in countries of Eastern Europe, Caucasus and Central Asia. Convergence with the environmental performance in Western Europe therefore would have to be driven more by internal forces.

Delegates recognized the important role that donor support provided. In absolute terms, donor support was not large, and had been declining, but it played an important catalytic role. Several donors described their activities in countries of Eastern Europe, Caucasus and Central Asia and pledged their willingness to continue this support. However, donor programmes were changing, including that of the European Commission, which was now the largest in the Eastern Europe, Caucasus and Central Asia. These changes underlined the importance for the countries of Eastern Europe, Caucasus and Central Asia of including the environment in national economic strategies, poverty reduction strategies, and donor cooperation programmes.

Implementation of the Central Asian Initiative on Sustainable Development

Ministers and heads of delegation from the Central Asian countries presented progress made in implementation and prospects for the Central Asian Initiative for Sustainable Development.

Participants considered it appropriate that the future "Environment for Europe" process have a subregional focus to reflect changing realities, priorities and development trends, both in Central Asia and globally. The Central Asian countries stated that, despite their not being included within the EU enlargement and neighbourhood policies, the region played an important part in environmental sustainability both at the continental level within Eurasia, and globally. Participants noted the role of Central Asia as a bridge between Europe and dynamically developing China and India, which embraced almost half the world's population. At the same time, Central Asia was for Europe an important supplier of energy and potentially a large market.

South-East European perspectives

Ministers and heads of delegation taking part in the discussion welcomed the Belgrade initiative on enhancing subregional South-East European cooperation in the field of climate change. The countries welcomed the establishment of the climate change centre in Belgrade aimed at implementing a capacity-building action plan for South-Eastern Europe, and some of them stressed that they would explore opportunities to support such activities. They emphasized the need for improved cooperation within the region and for fostering international partnerships to raise the capacity of the countries to cope with emerging issues related to adaptation to and mitigation of climate change.

Meeting the challenges of EU membership requirements would demand an overall strengthening of environmental management systems as well as the strengthening of capacity-building at all levels of administration. Assistance would be needed for further harmonization of legislation and for its implementation as well as for the acceptance and implementation of regional and global environmental agreements.

Environmental policy and international competitiveness: can we afford a better environment?

There was general agreement that improving environmental performance and strengthening international competitiveness were not per se conflicting policy objectives. There was as such no trade-off between economic growth and environmental protection. Rather, a clean environment could provide the economic edge in the future.

More stringent environmental policy should not be regarded as a luxury which could be postponed until higher levels of economic prosperity had been achieved. Given the close linkages between the economy and the environment, it was important to ensure an effective integration of environmental protection with sectoral and national economic development strategies. Governments needed to build a capable and sufficiently strong civil service for the planning and implementation of effective environmental policies. Countries should establish institutional arrangements for a continuous dialogue among all stakeholders, including the public, with the aim of a balanced and integrated consideration of economic, social and environmental issues.

There was a broad agreement that clean and environmentally friendly technologies, in combination with more stringent environmental standards, played a key role for increasing efficiency of resource use and reducing the pollution intensity of economic activity, including agriculture and forestry. The need for technological upgrading of the productive capital stock provided countries, notably low-income countries but also developed countries, with considerable opportunities for improved environmental performance.

Many speakers noted that more stringent environmental standards worldwide had in fact spurred the development of a rapidly growing market for environmentally sound technologies. The production of these clean technologies had become an important source of competitive advantage, as reflected in strong growth of profits and employment in this sector.

Environmental finance

Speakers in the environmental finance discussion outlined the wide diversity of environmental financing instruments and the need for innovation in environmental financing. In this regard, they stressed the importance of financing for research and development and the need to optimize conditions for private sector involvement. A speaker provided a number of examples of initiatives designed to create incentives for utilities, businesses and investors to provide capital and technology for environmental infrastructure. The importance of public sector involvement, effective regulation, and thorough impact assessment in investments in environmental infrastructure was also emphasized.

Partnerships to support the implementation of environmental policies and programmes

Speakers that participated in the discussion referred to numerous partnership initiatives launched in the UNECE region since the Johannesburg summit on sustainable development.

The role of the environmental dimension of security was emphasized. Interrelationships between climate change and increasing floods and fluctuations in the level of the Caspian Sea, causing economic losses and leading to social tension in the subregions concerned, were mentioned. Other examples included transboundary water pollution and degradation of biodiversity threatening security at the national and local levels. The Environment and Security Initiative was supported as it helped to ease tensions between the UNECE countries concerned with regard to specific transboundary watercourses.

The importance of partnerships to promote sustainable consumption and production (SCP) patterns was emphasized. Examples of national initiatives to promote SCP were presented together with bilateral and multilateral projects. The need to develop regional programmes on SCP was stressed by some speakers. Explicit reference was made to company initiatives on clean cars and less sulphur content in fuels, eco-driving, eco-schools, clean production and green procurement. Several countries stressed the importance of the Clean Fuels and Vehicles Partnership, the results achieved and existing challenges.

Private sector speakers voiced their readiness to contribute to resolving environmental problems should public authorities establish clear rules for private sector involvement.

WHAT WAS NEW?

Although this assessment is of course somewhat subjective, I have ventured to pick out four items that I think constitute particular highlights of the Belgrade Ministerial Conference.

(a) Much emphasis was given to better implementation of commitments. Reference to major implementation gaps was made in all assessment reports: the one by EEA, the UNECE reports on the EPR Programme and the UNECE legal instruments on the environment, and the Organisation for Economic Co-operation and Development report on the Environment Strategy for countries of Eastern Europe, Caucasus and Central Asia. Ministers clearly wanted more concrete impact on the ground in countries. One embarrassment referred to was the fact that not one of the three legal instruments adopted in Kiev four years ago has entered into force.

(b) The important role of the environmental administrations in designing good policy and ensuring implementation was underlined in Belgrade more strongly than before. In particular, in many countries in transition the environmental administrations have been weakened rather than strengthened since Kiev. Without sufficiently strong professional administration on environment, there is not much hope for better implementation. As economic development recently has been quite favourable in most of these countries, economic problems are not an acceptable pretext for keeping the environmental administrations feeble.

(c) The UNECE Strategy for Education for Sustainable Development was adopted in Vilnius in 2005 following negotiations between environment and education ministries based on a decision in Kiev. This broad Strategy is now in its first phase of implementation. The session in Belgrade indicated an almost overwhelming interest among the participating partners for furthering the Strategy in practice. This bodes well for future work, which anyway will be challenging.

(d) Also, the session on economic competitiveness and environmental policy opened new paths. The environmental community has not been visible in the debate that has often included rough simplifications with regard to assumed conflicts between a competitive economy and progressive environmental policies. Based on a ground-breaking document prepared by the UNECE secretariat, ministers could now conclude that no country in the region is too poor for a sensible environmental policy. On the contrary, environmental improvements can and should be part of a dynamic economic policy which favours implementation of new technologies. Hopefully, this debate can continue in suitable forums after the Conference.

AND WHAT NOW?

There will be a next "Environment for Europe" Ministerial Conference, as ministers accepted the invitation of the Government of Kazakhstan to host the meeting in Astana in 2011. The preparations will be serviced by the UNECE secretariat.

But participants also wanted to reform the process. Possible amendments to the process had been extensively discussed before Kiev and were again during the preparations for Belgrade. Countries could not, however, agree on more than cosmetic changes and general expressions of new priorities.

For the present, ministers decided that the impact, priorities and costs of the process should be reviewed. The importance of using partnerships more effectively in support of implementation and promoting wider involvement of the private sector were also mentioned.

The partnership concept was introduced in the preparations of the 2002 Johannesburg World Summit on Sustainable Development. Since then, it has developed into a virtual buzzword for a great variety of cooperative arrangements. The real impact of the different partnerships has, however, been difficult to establish. Some partnerships have been successful and others less so. Reform of the "Environment for Europe" process might try and establish a framework for assessing and improving the effectiveness of partnerships, so that strengths and weaknesses could be better identified.

The role of the private sector, business and industry has been a mainstay in the preparations for the conferences. In Sofia in 1995, business was quite closely involved. In Aarhus in 1998, there was disappointment concerning the role of business. The European Commission took the lead in trying to have a more active contribution from business for Kiev. However, despite an active attempt by the Commission, the results were meagre. Much more was not achieved in this regard in Belgrade.

Preparations for the reform of the "Environment for Europe" process will commence soon as a first outline for the reform is discussed by the Bureau of the Committee on Environmental Policy in late January 2008. The full Committee will voice its opinion at its meeting in April 2008. Thereafter, a period of broad consultations with stakeholders will begin. The final proposals for reform from the Committee are expected by the end of 2008. In Belgrade, the opinion was expressed that the environment ministers should keep a firm grip on the reform process, and accordingly, a special session on ministerial level of the Committee should be convened to approve the draft reform. The final stamp of approval would be put in place by the UNECE Commission at its session in spring 2009. Soon thereafter, the preparations for the Astana Ministerial Conference would start.

ENERGY SECURITY RISKS AND RISK MITIGATION: AN OVERVIEW

George Kowalski and Sead Vilogorac

INTRODUCTION

The issue of energy security has been in the forefront of the preoccupation of UNECE member States at least since early 2000. Over the last six years various factors have heightened concerns and added to anxieties regarding energy availability and security of energy supplies including: rapid economic growth; increasing dependence on external energy supplies; Middle East political tensions; sabotage and terrorist attacks; the 2003 electric power blackouts in North America and Europe; the interruption of natural gas and oil supplies in early 2006 and 2007 respectively in Europe; the forced re-negotiation of oil revenue sharing arrangements between Governments and the private sector in some oil producing countries; and conflicts in a number of crude oil and natural gas producing regions.

Despite the growing public concern and efforts by countries to develop a common understanding of energy security risks and risk mitigation strategies, there continues to be wide differences among UNECE member States on key aspects of energy security, including their causes and appropriate policy responses. The inability of countries to forge a common approach on energy security is due to the significant divergence in the energy mix, industry structure, and availability of domestic energy resources, particularly of crude oil and natural gas, among countries; differences in access to alternative energy imports, geopolitical influence and energy policy orientations; and the differences in capacity, disposition and willingness of countries to deal with international issues on a bilateral and multilateral basis.

DEFINING SECURITY OF ENERGY SUPPLY

Although energy security is currently one of the most debated issues in the UNECE region, a generally accepted definition is still lacking. Therefore, the term "energy security" or "security of energy supplies" is used in various contexts, for different purposes, often having very dissimilar meanings. While energy security is not easy to define because it is a multifaceted concept, there are four dimensions of particular relevance: (a) physical disruption of supplies resulting from infrastructure breakdown, natural disasters, social unrest, political action or acts of terrorism; (b) long-term physical availability of energy supplies to meet growing demand in the future; (c) deleterious effects on economic activity and peoples due to energy shortages, widely fluctuating prices or price shocks; and (d) collateral damage from acts of terrorism resulting in human casualties, serious health consequences or extensive property damage. All four dimensions are relevant in the current environment.

Taking into consideration these four dimensions, energy security could be defined as "the availability of usable energy supplies, at the point of final consumption, at economic price levels and in sufficient quantities and timeliness so that, given due regard to encouraging energy efficiency, the economic and social development of a country is not materially constrained". Clearly, this is but one of a number of possible definitions that could be put forward, however it does have the merit of capturing the multidimensional nature of energy security.

Due to the complexity of the issue and its multidimensional nature, this note focuses primarily on one element of energy security, that is, the long-term physical availability of energy supply to meet the growing future demand for energy. The dimensions examined in this note include the future availability of energy resources, the reliability of energy supplies, the deliverability through infrastructure development and the affordability of energy by consumers. The other dimensions of energy security are not examined here. For example, the macroeconomic consequences of energy disruptions or price shocks, the vulnerability of energy infrastructure to terrorism and so on are not discussed.

THE ROLE OF MARKETS

It is commonly accepted that economic efficiency is best promoted through decentralized and liberalized energy markets, with freely determined market prices. Over the last ten to fifteen years, technological, institutional and societal changes have tended to favour the implementation of measures to open up and liberalize energy markets. However, there continues to be a wide diversity of views among countries on the role of free markets and market forces in promoting societal objectives, such as energy security.

Due to geopolitical, economic and historic considerations, the belief in free markets and the power of free markets to deliver on social objectives is strongest in North America. The view in Western and Central Europe is more varied. Some countries have a predilection or predisposition to market solutions while others favour a more cautious approach with strong government oversight and intervention whenever needed. For example, despite the efforts and the vigorous measures taken by the European Commission to open up and liberalize electricity and natural gas markets in the European Union (EU) region, a number of EU Governments continue to be attached to their national state enterprises, to favour national champions and to closely oversee the functioning of energy markets.

The belief or commitment to free markets is much less pronounced in countries of Eastern Europe and Central Asia for a variety of reasons, though here again there is no unique view. For example, the free interplay of market forces in the Russian Federation is somewhat constrained by government measures favouring the creation of large state owned or controlled enterprises in the oil and gas sector, state control of oil and gas pipeline facilities, particularly export pipelines, and the imposition of limits on the foreign ownership/control of energy assets while, at the same time, accepting some private-sector ownership of energy assets. Kazakhstan, on the other hand, has been more open to the development of energy resources by the private sector. Nonetheless, it is probably fair to conclude that the commitment to free markets in energy is less pronounced in Eastern Europe and Central Asia than in Western Europe and North America.

Consequently, national aspirations and the diversity of views on the role of the market and of government, including the different market practices and institutional arrangements in countries, complicate discussion of and agreement on collective efforts to improve energy security. In addition, the private sector, while recognizing the role of government in establishing investment conditions that are fair and conducive to facilitating inward investment flows, is on the whole much less predisposed to direct intervention in energy markets.

Large oil and natural gas companies, private as well as state-owned, have had a significant influence and played a major role in the development of the world's hydrocarbon industry in the past. However, there are now concerns that in a period of heightened instability and with the rapid growth in energy demand in developing countries, the private sector as well as state companies may not be able, by themselves, to ensure sufficient energy supplies to meet the growing demand for energy in the future and to prevent disproportional energy price increases that could send shock waves through national economies. The sharp increases in crude oil, natural gas and electricity prices worldwide since 2002 are seen as a sign or motivator for more government involvement and intervention in energy markets to ensure access to and the development and deliverability of energy resources, notably hydrocarbons, at economic price levels.

However, not everyone shares this opinion. There are those that believe that the massive investment of about US$ 20 trillion in energy infrastructure worldwide that will be required over the next three decades, according to the International Energy Agency, can only be raised through the efficient and unhindered functioning of markets. This is predicated on the view that the current growing energy security concerns are at least partially the consequences of long-standing market inefficiencies, the lack of suitable, transparent and favourable investment frameworks and excessive state intervention in many energy producing and transit countries.

However, irrespective of one's views on the role of the market and of government, it would seem that a strengthened dialogue on energy security, its principles and policy alternatives, among countries within the UNECE region would be worthwhile. Many UNECE countries are alarmed by the expected increase in their crude oil and natural gas import dependency.

While this increasing and high dependency itself does not necessarily reflect a deterioration in energy security, importing countries nonetheless are uncomfortable with the thought of being reliant on a few suppliers for their energy needs. This is particularly the case for hydrocarbons where the major suppliers are the Russian Federation, the Organization of the Petroleum Exporting Countries (OPEC) and countries from the Caspian Sea region and Africa. Despite the relatively good historical reliability of crude oil and natural gas deliveries from those regions, the lack of substantial domestic crude oil and natural gas reserves, intensified competition with emerging economies, such as China and India, and persistent high energy prices, have created an uneasy feeling about energy security in many UNECE countries.

This greater sense of energy security vulnerability is leading countries to search for ways and means to enhance their security of energy supplies. On the other hand, producing countries, such as the Russian Federation, Norway, the Caspian Sea producers and others are seeking greater security of demand. Developers are called upon to make large upfront capital commitments in the hope that demand and prices remain reasonable over the life span of projects that are usually in the order of 30 to 40 years. This mutuality of interests suggest that a regional dialogue or compact among UNECE countries on the subject could be meaningful and could lead to policy measures that would benefit both consuming and producing countries.

HYDROCARBON RESOURCES

The re-emergence of concern over high oil and natural gas prices and apprehension over security of oil and natural gas supplies has rekindled the fear that the world could soon run out of natural resources, notably hydrocarbons (oil and natural gas). Once again, stark warnings, similar to those heard in the 1970s, can be heard about the sharp draw down of conventional hydrocarbon resources.

Within the current range of energy prices and with the present technology, it is estimated that conventional reserves of crude oil and natural gas are expected to be capable of meeting cumulative world demand for the next forty or more years. The current worldwide reserve to production ratios of 40 to 70 for crude oil and 70 to 100 for natural gas provide a comforting picture in that respect. In addition, there are large non-conventional hydrocarbon resources that could be developed, if necessary, to meet growing demand, notably for oil. Hence, resource depletion per se is not of major concern at this time. However, what is of vital concern is whether the existing and potential new reserves will be financed and developed in an efficient and timely manner. This is the unanswered question that currently hangs over oil and natural gas markets, adding to uncertainty, risks and anxieties.

While global fossil fuel reserves, including those of hydrocarbons, are sufficient to meet energy demand growth for many decades to come, their unequal geographic distribution and high concentration in several vulnerable and unstable regions of the world is generating concern about whether those hydrocarbons will be accessible, developed and delivered when needed. By 2030, the Middle East is expected to supply around 40 per cent of all the oil consumed in the world, compared to about 30 per cent now. OPEC is likely to supply about 50 per cent by 2030, which is close to the 54 per cent share it supplied in 1973 during the first oil crises, as compared to the today's 40 per cent share. Moreover, approximately two-thirds of the world's established reserves of crude oil are in the Middle East. While gas reserves are not as highly concentrated geographically as oil reserves, nonetheless two countries, the Russian Federation and the Islamic Republic of Iran, have about 40 per cent of the world's reserves.

In addition, with the high geographic concentration of hydrocarbon reserves, direct access by large international oil and gas companies to those reserves and to hydrocarbon resources is increasingly being restricted. Currently, more than 75 per cent of the world's hydrocarbon reserves lie outside their reach. And therefore, lacking investment opportunities in upstream projects, more and more of those companies are redirecting their considerable earnings away from exploration and upstream development to repurchasing their own shares and/or increasing dividends to shareholders.

According to the International Energy Agency, about US$ 8 trillion of investment will be needed globally over the next three decades to maintain and expand energy supply systems in the oil and natural gas sectors and, most notably, in upstream oil and gas projects. The problem though is that most of the remaining undeveloped hydrocarbon reserves and resources are concentrated in developing countries. Many of these countries are not private sector investment friendly and, moreover, as mentioned earlier are in economically vulnerable and unstable regions of the world.

In sum, it can be concluded that hydrocarbon reserves and resources are sufficient to meet the growing demand for energy over the foreseeable future. Likewise, financing is available. However, the environment for developing these reserves is not sufficiently investment friendly at the current time. Ensuring the security of hydrocarbon supplies will require access to and development of these reserves; availability, access to and reliability of transportation infrastructure; appropriate legal, regulatory, fiscal and policy frameworks conducive to investment; technology transfer to enhance the efficiency and recovery of energy resources; and acceptable methods of addressing environmental issues. For this to happen, UNECE countries, both individually and collectively, will need to engage hydrocarbon producing countries to tackle domestic problems and remove existing barriers to investment while, at the same time, taking active measures to mitigate against the potential risks of inadequate future hydrocarbon supplies.

While long discussed and feared, the pressure exerted on world energy markets and particularly on the hydrocarbon markets by the fast-growing emerging economies, such as China, India and Brazil, has now materialized. Over the last three to four decades, hydrocarbon market disturbances have tended to originate on the supply side, but this time demand pressures have also contributed to the current disturbances and the tight market conditions. Furthermore, the increased demand for crude oil and natural gas by emerging economies has intensified the direct competition with UNECE countries for securing energy supplies with obvious consequences for prices.

The challenge to meet the expected increased demand for crude oil and natural gas by new emerging economies is indeed daunting. For example, while today the United States of America consumes about 21 million barrels per day (b/d) of crude oil, China on the other hand consumes only between seven and eight million b/d. However, Chinese demand is expected to exceed 15 million b/d by 2015. This additional amount of crude oil is higher than the total current annual production of Saudi Arabia or the combined annual output of the United States of America and Canada. And this is only the increased demand by China. There are many more emerging economies that will need additional supplies of hydrocarbons.

Notwithstanding this, the emergence of new promising markets is good news for hydrocarbon producers and exporters that are likely to benefit from this increased demand. Among the UNECE countries, it is the Russian Federation, Kazakhstan, Azerbaijan and Turkmenistan, which are adjacent or nearby to the growing markets of Asia, that are likely to be the chief direct beneficiaries of this development. However, since the market for oil is global in nature and increasingly so for natural gas, other UNECE energy exporters, such as Norway, the Netherlands and Canada, are also likely to benefit from the increased demand of the emerging economies.

The importance of pipelines, ships and the liquefied natural gas (LNG) supply chain in delivering oil and natural gas to markets in an efficient and timely fashion cannot be underestimated in an ever more competitive world economy and society which demands high flexibility at reasonable cost. Moving hydrocarbons in a timely fashion and processing them to market specifications will continue to be a major challenge both for private and state-owned enterprises and for policymakers. The current technological progress and cost reductions being achieved in the LNG supply chain will increasingly contribute to the globalization of the natural gas market as well as enhancing gas deliveries to, and energy security for, both Western Europe and the United States of America.

CRUDE OIL PRICES

Broadly speaking, crude oil prices are a function of supply-demand fundamentals, available surplus or spare oil production capacity, and geopolitical and energy security risks. The rapid growth in oil demand in recent years, particularly in Asia but also elsewhere, has meant that the growth in demand has outstripped additions to global oil production capacity. Today, demand and supply are very finely balanced. The slower expansion in production capacity in comparison to the growth in oil demand has also meant that spare production capacity has been greatly reduced. In the past, Saudi Arabia maintained significant spare oil production capacity that could be brought on stream quickly, if needed, to moderate price increases. This is not the case any more, or at least not for the time being, because Saudi Arabian spare oil production capacity is also quite constrained.

With supply and demand finely balanced and no real appreciable spare oil production capacity available, geopolitical and energy security risks have taken on added significance. Crude oil prices are constantly reacting to negative political events and energy security developments. It is estimated that 20 to 30 per cent of the price of crude oil, when prices were about US$ 70 per barrel in 2006, was attributable to geopolitical and security concerns. That translates to about US$ 15-20 per barrel. However, even if the premium due to geopolitical and security concerns was stripped out, the crude oil price would still have been above US$ 50 per barrel – this is a reflection of tight global supply and demand conditions.

It would seem that the underlying long-run energy fundamentals that prevailed in the 1970s and early 1980s have reappeared or were never really transformed. Needless to say, energy markets today are different from those that existed in the 1970s, but there are many unrelenting trends that are of concern.

COAL, NUCLEAR AND RENEWABLE ENERGY

The renewed preoccupation with energy security is refocusing the debate on the future role of coal, nuclear power and renewable energy in meeting the energy needs of UNECE countries. These energy sources are perceived to be more secure than for oil and natural gas.

Indeed, these are very interesting times for coal. Not long ago coal was viewed as having little or no future. The situation has changed dramatically in just a few years. Energy demand is increasing at a rapid rate, especially in developing countries. With high natural gas prices and supplies of coal plentiful in many countries, coal is re-emerging as a reliable and cost-effective option. Coal has the advantage that world coal reserves are large; sources of supplies are diversified; ample supplies are available from politically stable regions; world infrastructure is well developed; new supplies can be easily brought on stream; and coal can be stored.

However, coal faces many challenges, not the least of which is its environmental footprint throughout the supply chain. The greening of the coal-energy chain is vital. Existing, commercially viable clean coal technologies offer opportunities to mitigate the environmental impact of coal use at all stages of the coal cycle. Moreover, emerging new technologies (carbon capture and storage, gasification and liquefaction) could offer the potential of using coal for power generation with low or no emissions in the future and, in the longer-term, ultimately for transport. But, while the expected progress in clean coal technologies will certainly increase coal's environmental appeal, it will add both to capital and operating costs.

Since 1973, nuclear power has significantly contributed to meeting rising electricity demand in the UNECE region. However, since the early 1980s, far fewer orders for nuclear power plants have been placed, stemming in part from public concern and political debate on the possibility and consequences of accidents, on the lack of adequate methods for disposal of nuclear wastes, and over the costs of nuclear power plants themselves, including their decommissioning costs.

There are signs of a revival of interest in nuclear power, as evidenced by the decision of Finland to move forward with the construction of a new nuclear power reactor, the decision of the United Kingdom to potentially resume the construction of new nuclear power plants, the continuing work on the completion of nuclear facilities in Eastern Europe (Romania, the Russian Federation and Ukraine), the rise in the resale value of existing nuclear power plants in the United States of America and ongoing work on the construction of about 27 reactors worldwide, mainly in developing countries but also in Japan. On the other hand, it should be noted that some UNECE countries, such as Sweden and Germany, continue to opt against the construction of new nuclear power plants and for the phase out of current plants.

While the revival signs are there, the future prospects for nuclear power are still uncertain. Concerns about nuclear safety and the disposal of nuclear waste continue to plague the industry. But perhaps as important are financial and economic considerations. The high upfront capital costs required and the uncertainties about the potential future liabilities associated with the nuclear fuel cycle continue to act as a major hindrance to nuclear energy investments.

Renewable sources of energy are perceived to be the most environmentally benign sources of energy and are seen as the way forward for solving many energy-related health and environmental problems. Indeed, government programmes and targets for renewables continue to be very ambitious; new initiatives, both at the regional and national levels, are being launched; direct and indirect support is being provided; and the means for financing projects are multiplying. In particular, wind and solar technologies are being rapidly developed and the installed capacity is expanding quickly.

There is no doubt that renewables will increase their market share of total energy consumption over the coming years, but they are not likely to displace, in a significant way, the use of fossil fuels over the foreseeable future. This is because of their much higher supply costs and their requirements for vast tracts of land and water surfaces. For example, between 1990 and 2004, the contribution of renewables in meeting the total primary energy requirements of EU countries rose from 4.5 per cent to 6.5 per cent, from 12.0 per cent to 14.5 per cent for electricity generation, including hydro, and from 0.8 per cent to 5.0 per cent for electricity generation, excluding hydro. The corresponding numbers for North America are from 6.5 per cent to 5.9 per cent for total primary energy, 18.6 per cent to 15.3 per cent for electricity generation, including hydro, and from 3.0 per cent to 2.4 per cent for electricity generation, excluding hydro.

Thus, despite their rapid development and commercialization, the contribution of renewables in meeting the growing energy demand of the UNECE region has not appreciably risen over time and is unlikely to do so for the foreseeable future. Even the potential of hydroelectric power to contribute to increasing electricity demand is limited. The region as a whole is characterized by a state of maturing (or limits) when it comes to the development of hydroelectric power. Suitable sites are increasingly difficult to locate for hydrological reasons, competition with alternative land and water uses, and public resistance to the impact of hydro schemes on the natural environment. The Russian Federation still possesses substantial untapped resources, but these are in Eastern Siberia and are unlikely to be developed very quickly because of their remoteness and low population density. Likewise, there is still considerable potential in a number of countries in Central Asia, but their development is hampered by the same constraints as those that apply to the development of oil and gas projects.

Currently, natural gas is the fuel of choice for power generation for cost and environmental reasons. But large-scale combined lignite mining and power generating facilities remain cost competitive. The same is true for conventional coal-fired power plants where low-priced coal is readily available. However, these facilities contribute to much higher levels of environmental pollution. On the other hand, nuclear and renewables, except in special circumstances, tend to be higher cost options for power generation.

The wider the variety and types of energy sources used to generate electricity, the greater the security of electricity supplies. Over-reliance on one type or form of energy, particularly imported energy, can increase a country's vulnerability to unforeseen mishaps. A well-balanced fuel mix for generating power is the safest way for countries to ensure energy peace of mind. The choice of fuel mix for future power plant capacity can have a long-lasting and profound impact on energy import dependency, and thus on energy security considerations. Over the longer-term, nuclear power and renewable energy remain potential alternatives for electricity generation. While nuclear power may not necessarily be a desirable option for each and every country, removal of that option for all countries, as a group, would remove an important element of flexibility and diversity in energy supply and, thereby, undermine energy security for all countries.

TECHNOLOGY AND INVESTMENT

It is difficult to predict whether there will be a significant technological breakthrough related to traditional and renewable energies in the near term. There are many barriers to energy innovation at each stage from the laboratory, through demonstration and early deployment, to widespread dissemination. However, considerable efforts are currently being expended and funds deployed by governments and the private sector to promote the development and commercialization of more advanced coal combustion and nuclear technologies, renewable energy technologies, transportation bio fuels, hybrid systems, hydrogen-based processes and carbon capture and storage technologies, that are more environmentally and publicly acceptable than many of the technologies and processes currently in use. The more new technologies are developed and commercialized, the greater will be the range of energy options available to individual consumers and countries, and the healthier will be the situation with respect to energy security.

Very large energy investments will be needed all along the energy supply chain if the expected energy demand in the UNECE and other regions of the world is to be met. Given the long lead times, the long-term nature and international character of the world energy sector particularly for hydrocarbons, as well as the relatively unstable political and economic situation in a number of hydrocarbon producing and transit countries, it is important that this investment challenge be addressed sooner rather than later.

Energy production, transport and distribution infrastructure, including pipelines, electricity grid systems, LNG terminals and ships as well as refineries, are very costly, with long payback periods, requiring huge investments. The total capital costs of Europe's first export facility for the liquefaction and shipment of natural gas, currently under construction by Statoil at Hammerfest in the Norwegian Arctic Region, is estimated at about US$ 8 billion, including the costs of the offshore natural gas production facilities. The world's first large-scale coal-fired power plant (450 megawatts (MW)) with integrated coal gasification and carbon dioxide (CO_2) capture and storage, currently under consideration by the RWE Group in Germany, is expected to cost in the order of one billion euros. To be profitable, such investments with high upfront capital costs will require relatively robust international energy prices in the future.

CONCLUSIONS

Global energy security risks have increased sharply because of steeply rising oil import demand in developed and more importantly developing countries; the narrowing margin between oil supply and demand which has driven up prices; the volatility of oil prices arising from international tensions, terrorism and the potential for supply disruptions; the concentration of known hydrocarbon reserves and resources in a limited number of the world's subregions; the restricted access to oil and gas companies for developing hydrocarbon reserves in some countries; the rising cost of developing incremental sources of energy supplies; the lengthening supply routes; and the lack of adequate investment along the energy supply chain, including the electricity sector.

Governments in producing and consuming countries can mitigate these risks by promoting investment in the energy sector through the provision of the legal frameworks, regulatory environments, tax incentives together with fair and transparent processes to foster the public-private partnerships needed to promote and protect investments in existing and new oil and natural gas supplies; by removing barriers to trade and investment for both private sector and public energy companies; by encouraging the mutual self-interest of energy producers and consumers to secure long-term and committed demand for hydrocarbons; and by seeking the convergence of norms, standards and practices as well as new forms of cooperation to facilitate the financing of resource developments.

Additionally, government measures are needed to promote energy security that complement, flank and facilitate the functioning of markets. Energy security risks and rising import dependence can be mitigated by a range of additional policy options aimed at furthering the diversification and flexibility of energy systems, including multiple supply routes; increasing indigenous (domestic) energy supplies; improving energy conservation and efficiency; expanding the fuel mix available to consumers; diversifying energy sources of supply; building-up and maintaining strategic and commercial stocks where warranted; encouraging research and development in greening the fossil fuel energy supply chain; developing and commercializing new and renewable sources of energy; improving the protection and safety of energy infrastructure against possible acts of terrorism; and strengthening international cooperation.

The strengthening of policy measures and the mitigation of energy security risks would benefit to a significant degree from a strengthened and more coordinated multilateral producer-consumer dialogue between governments, industry, the financial community and relevant international organizations on the following issues: (a) data and information sharing and increased transparency, (b) infrastructure investment and financing, (c) legal, regulatory and policy framework, (d) harmonization of standards and practices, (e) research, development and deployment of new technologies, and (f) investment/transit safeguards and burden sharing.

There is already considerable work underway in many of the areas identified above, not only at the UNECE but also in other international organizations, such as the International Energy Agency, the International Energy Forum, the Energy Charter and the Organization of the Petroleum Exporting Countries. Nonetheless, these ongoing activities could benefit from stronger multilateral cooperation and political endorsement.

Many of the elements of the UNECE programme of work in energy are of direct or indirect relevance to the issues raised above. In addition, the UNECE Committee on Energy and some of its subsidiary bodies have directly addressed energy security issues periodically over many years. The Committee continues to be well placed for a pan-UNECE dialogue on energy security issues and related aspects, including the relationship between financial markets and energy security.

INITIAL STOCKTAKING OF TRANSPORT CHALLENGES IN THE EARLY TWENTY-FIRST CENTURY

Eva Molnar

INTRODUCTION

Humans' natural desire for greater mobility ever since descending from the trees has been a driving force for change. Improvements in transport and communication efficiency have triggered globalization. The steamship shortened economic distances between continents; railways, and later road development, provided access to and from remote areas within the heart of continents; and new telecommunication technologies have made information transfer fast and reliable.

Today, globalization is taking a course of its own, creating a new paradigm for transport where global mega-trends both enlarge and at the same time limit its growth potentials. On the following pages I will discuss the impact on transport of such mega-trends: globalization and global supply chain management; trade liberalization – facilitation – security; technical and technological changes and sector convergence; the changing role and scope of the public sector; and growing responsibility for sustainable development.

I believe, however, that over and above these mega-trends, two main themes characterized the world in the twentieth century, and two other main themes will shape the global political and economic stage of the twenty-first century. In my view, these themes are also the underpinning changes influencing the future of transport. So what were they in the last century? In the political field, I suggest democratization as the over-arching theme. Torn by two world wars, democratization has led to landmark changes in international cooperation, i.e. through the founding of the United Nations and its organizations, the Bretton Woods institutions and of several other intergovernmental bodies to support or even watch out for peace and development. The de-colonization process and the collapse of communism are the other historical achievements that fundamentally altered the relationship among countries.

In the economic field, massive economic and trade liberalization could be named as the flagship achievement. Although both the political democratization and economic liberalization processes still have a long way to go, the emphasis in the twenty-first century will increasingly be on security and facilitation. In addition to the challenges for political security to safeguard the achievements of political democratization at large, we can see that energy security, water security, transit security and even perhaps oxygen security are becoming priorities on the political agenda. On the other hand, trade facilitation and the facilitating role of Governments and international organizations are the fundamental issues in international cooperation. I will attempt to elaborate on the impact of these overarching themes on transportation, under the specific mega-trends. I will also briefly outline the impact of some mega-trends in the transport sector of UNECE countries.

I. GLOBALIZATION AND GLOBAL SUPPLY CHAIN MANAGEMENT

Over the past decades mobility has both increased and changed tremendously. The world population grew by 2.5 times between 1950 and 2005, and it is expected to further increase up to 9 billion by 2050. More than half of the world's population lives in cities. In the Russian Federation this figure is over 70 per cent. In the same period, world gross domestic product (GDP) has become eight times bigger. GDP per capita growth, however, has been relatively modest. It is only three times more now than it was fifty years ago. On the other hand, international trade has been booming. It is more than 20 times bigger today than it was in the 1950s. Moreover, trade has been growing faster than world output ever since the 1980s. Global balances have started to be changed both in terms of population and economic growth (in the mid 1970s China had 882 million inhabitants and an output of $740 million, by 2050 it is estimated that it will have 1418 million inhabitants and an output of $44.5 billion. Similarly in the 1970s, the United States and Western Europe together had 570 million inhabitants and $7.6 billion, by 2050 811 million inhabitants and $54 billion output). All these global developments have had an impact on people's and cargo's mobility, and ultimately on the demand for transportation services. The obvious changes can be seen in longer trips, in the fast expansion of newer modes of transport, i.e. of road and air transport, and in the unprecedented increase in individual traffic (four times more cars exist today than in the 1960s).

The indirect impacts on transport are transferred through the global policy responses to the recognition that growth in population, world output and trade is also a source of growing trade imbalances, a growing gap between haves and have nots, and eventually a growing concern for world stability. I choose four areas of policy response that have an important impact on transport policies of the future: the agreement on the Millennium Development Goals, the adoption of the "trade for aid" approach, the political call for more efficacy in aid delivery and finally, the need for growing partnerships among donors, as well as between donors and clients. Transport issues to be addressed in these new strategies include new ways for investment planning, as well as increased attention to social issues in the transport policies.

Globalization of manufacturing processes has led to more cross-border trade and consequently to more transport. It has also brought productivity increase into focus. Growing traffic volumes offer economies of scope and lead to less expensive transport services. The challenge to improve efficiency has led to more reliable services, larger vehicles and higher speeds. The fast proliferation of container use, both in maritime and land transport, alters the need for terminal facilities and calls for new types of investments. In response to constantly changing demands by manufacturers, transport services have become more sophisticated with just in time delivery, constant tracking of cargo, etc. The nature of transport services is undergoing a major change and focus is shifted from mere delivery to broader logistics services such as distribution, packaging and even management functions. Supply chains become longer, and the length and intensity of transport increase with it. Change in the very nature of competition among manufacturers lays a heavier burden on logistics and transport service providers to improve their efficiency. Competition is shifting from company level to supply chain level, where none of the participants are allowed to be weaker and bring down the rest of the chain. Global Supply Chain Management is thus a crucial way to improve the manufacturers' competitiveness. This questions the traditional structure of transport markets. The relocation of manufacturing plants to transition economies shifts the centre of production and eventually of the world economy to Asia. Consequently, trade flows between Europe and Asia, as well as between North America and Asia, have been increasing rapidly and the direction of the load is changing too.

The industry's response to competition challenges has also led to a number of new phenomena, for example the emergence and growth of multisectoral service providers. A natural synergy would for example be between railways and telecommunications. The widespread use of information technologies has given birth to global logistics service providers that offer a wide range of services, from delivery to warehousing, to the management of inventory, and in some cases production or even client relations. In fact the more complex logistics services assume networks of companies which all strive after efficiencies. The logistics service providers play a central role in the interactions within these networks. When a transportation solution is selected, how it will fit into the larger business network also needs to be considered.

As national Governments are committed to economic growth and, within that, to fostering national competitiveness, and in high income countries to facilitating knowledge based economies, their overall policy response lies in creating enabling business environments.

Another change intrinsic to globalization is the increasing number of multinational companies. As a result of the liberalization of both the right of establishment and of cross-border transport services, the growth of multinational enterprises can be seen in transport, and particularly in logistics management. They are definitely in need of global norms and standards on the one hand, and they may create their own business environment beyond and above national boundaries on the other.

Policy responses: Trade and transport facilitation needs to be addressed from the global competitors' perspective; interconnectivity is ensured as an a priori condition both in terms of hard infrastructure and related service provision. In this context there is a growing need for better transcontinental links. There is also a growing need for global rules for transport services contracts and the related liability regimes, globally applicable consumer protection, and competition rules to be enforced even beyond the national framework.

II. TRADE LIBERALIZATION – FACILITATION – SECURITY

From liberalization to facilitation

In the twentieth century we witnessed massive liberalization of trade in goods. Since the post-Uruguay Round, customs tariffs in the major developed markets (United States, Canada, European Union, and Japan) have reached the level of about 3.7 per cent. At the same time, the average cost of transport can be twice or even three times higher than customs tariffs. High logistics costs are however a concern for both developed and developing countries. If they are too high they can challenge the

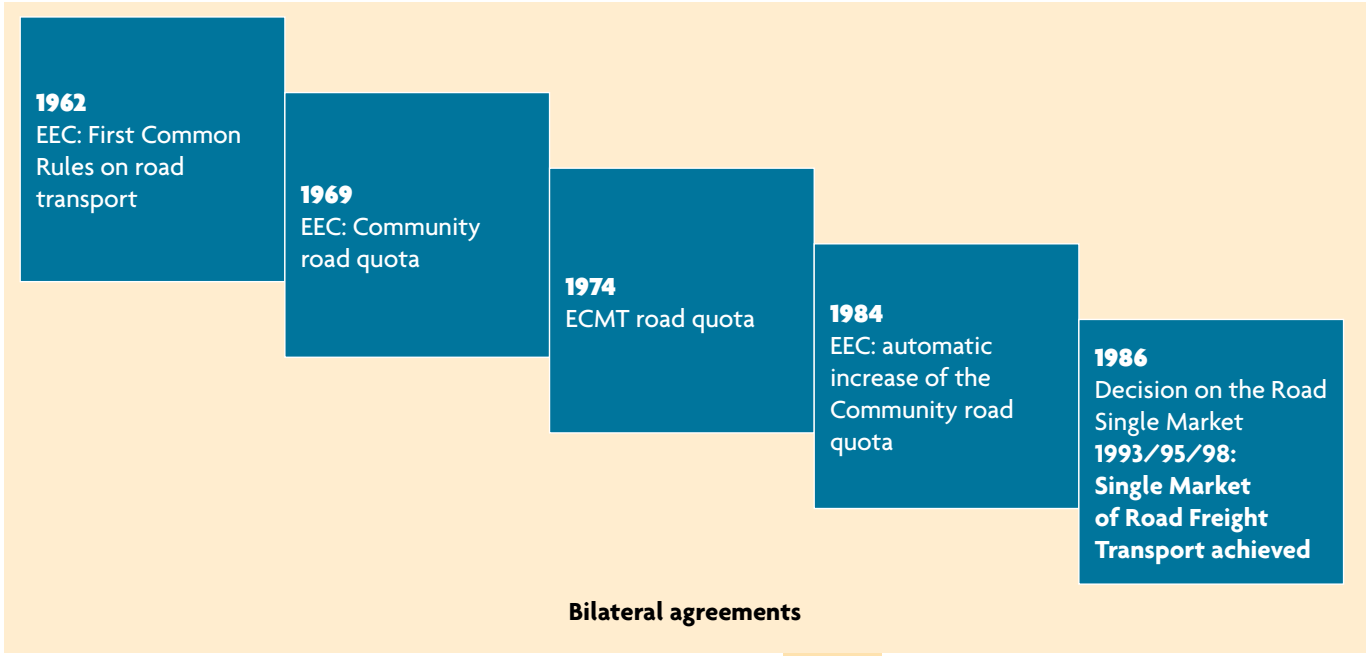
competitiveness of the countries in relation to those with whom they are trading the most. While Finland is rated one of the most competitive countries in the world, the Finnish National Logistics Survey calls for actions to lower the logistics costs that are estimated to be 17 per cent of GDP. Logistics costs are even higher in countries that are landlocked and have bottlenecks both in their infrastructure network and in their institutions. This highlights logistics costs as a matter of concern for all, though their magnitude and the nature of cost drivers are rather different. The differences are mostly rooted in the level of development. Similarly, if we look at the main barriers to international trade and transport, we see that delays due to traffic congestions and to the recent introduction of enhanced security checks are the main concerns for most of the EU countries and for North America. The lack of adequate infrastructure, unfinished reforms and incomplete transitions to market economy conditions could be identified as the main barriers to international trade and transport in the new EU member states and several other East and South-East European countries. As we move further east, costs and barriers seem to be multiplied as, in addition to the problems with general international trade conditions (lack of physical infrastructure, obsolete institutions still bearing the legacy of past eras), informal arrangements and rent-seeking activities further burden businesses and slow down the countries' development.

From a global perspective, the direct and indirect transaction costs (customs, banking, insurance, transport, etc.) have been estimated by the United Nations Conference on Trade and Development (UNCTAD) to be as high as 10 per cent of the total value of world trade (US$ 400 billion). Thus, border crossing inefficiencies can be very costly indeed.

Liberalization of international transport services is moving at a slower pace than other infrastructure service sectors. Bilateral intergovernmental agreements, together with their quota systems on market access and regionally negotiated market openings, continue to be the main feature both in land transport and in aviation. I believe the liberalization trend is going to continue even if there are attempts to slow it down or to tie it to conditions. Progressive liberalization of road freight transport in Europe for example has had distinctive stages, as can be seen in Figure 1.

The *policy response* lies in creating an enabling business environment, including the availability of high quality infrastructure, facilitation of e-commerce and making progress with standardization. There are numerous attempts to assess the national logistics competitiveness of countries. Some of the most recent assessments have been undertaken in Canada, Ireland, Finland and Germany. The assessment models are different however, and it is hard to make a true comparison of national logistics performances due to the lack of a common methodology. This issue was first addressed by the European Conference of Ministers of Transport (ECMT). Later, the World Bank launched a logistics performance index that is based on the views of shippers and freight forwarders. What is still missing is a commonly agreed methodology that goes beyond perceptions and subjective assessments.

Figure 1. Changes of the Rules on Market Access in European road freight transport: bilateral and plurilateral frameworks



The globally longer supply chains are interpreted in Europe in shorter order cycles; smaller, more frequent, more reliable deliveries; more varied delivery patterns related to product shelf life, product customization, production/retailing strategy, and the reliability of short-term forecasting; closer relationships with fewer suppliers; greater use of information technologies (IT); outsourcing of logistics to third party logistics managers; and more use of recycling, which has resulted in additional back-haul cargoes. We need to remember that while integration and convergence is underway within the EU, fragmentation remains an issue. In the larger Europe, i.e. in the UNECE region there were 34 member countries at the end of the 1980s, and now there are 56. This has increased the length of borders and led to a greater number of trade obstacles. The "Iron Curtain" was not immediately dismantled with the political changes from command to market economies and from totalitarian to democratic systems. From the point of view of traders and transport operators it was replaced by a "Paper Curtain". Since the early 1990s a lot of improvements have taken place, but trade and transport facilitation remains a key challenge in many countries in the region. Europe is not at all homogenous – we can see a growing gap outside the EU-27 – the continent includes both middle income and low income countries. Seventeen are recipients of official development assistance (ODA), out of which seven belong to the LICUS Group[36] (CIS 7) and three are resource rich (mainly oil rich) countries. Challenges for transport and national transport policy responses should therefore be very different too.

Central Europe is emerging Europe. It opened up for political democracy and market economy at the turn of the 1990s and has benefited from increasing international economic integration ever since. This opening up also resulted in immense structural changes to the economy, an unprecedented foreign direct investment (FDI) boom and in a transformation of the "club", i.e. a stepping out of the Comecon regional cooperation with its headquarters in Moscow and joining the EU, the European regional integration with its headquarters in Brussels. This political change has been underpinned by the shift of international trade flows from East to West. European Community and European Free Trade Association countries' share in the total trade of Bulgaria, Czechoslovakia (later the Czech Republic and Slovakia), Hungary, Poland and Romania increased from 27 per cent in 1970 to over 50 per cent in 1990. Ever since, this shift has been continuously strengthened. All these changes have fundamental impacts on freight logistics, passenger transport and relevant government policies.

The economic geography has also undergone major changes in the past decades. On the one hand, the break-up of the USSR and the Federal Republic of Yugoslavia, the consequent territorial disputes, hostilities and even war have undermined the development of trade-conducive borders. On the other hand, globalization, the enlargement of the EU and the strengthening of North American Free Trade Agreement cooperation have all boosted trade among countries within the respective trade blocks. Within the enlarged EU the completion of the single market (also in transport) and the abolishment of internal borders have benefited the mobility of people and cargo.

Trade and Transport Facilitation assumes the holistic approach, encompassing transport, communications, customs and other border agencies, as well as interagency and cross-country cooperation. Since it calls for change management in the role of the public sector, continuous training is required on all levels. Finally, experience in South-East Europe has shown that reforms can be sustainable if they are the result of the agreement of all stakeholders and if the private sector, shippers, freight forwarders and transport operators are recognized as partners (see Figure 2).

[36] *LICUS is a World Bank classification for "Low-Income Countries under Stress": Fragile states characterized by a debilitating combination of weak governance, policies and institutions, indicated by ranking among the lowest on the Country Policies and Institutional Performance Assessment. This involves around 30 countries.*

Figure 2. A holistic definition of trade and transport facilitation

Facilitation vs. Security

Since 9/11 security has been given a new meaning. Consequently, major infrastructure facilities are vulnerable and they need increased protection. It also means that passengers in any modes of transport are vulnerable to terrorist attacks. Tragic cases in London, Madrid, Moscow and many other places have shown the capability of a small number of individuals to kill and cause large-scale destruction. Transport systems are used as a means or as a target. Besides vehicle theft and subsequent use as car-bombs,; theft of dangerous substances during transport could cause significant human and financial tolls. From the perspective of cross-border trade and transport, illegal border crossing of persons and goods is the security challenge that is often raised as the obstacle to facilitating trade and transport. Finally the recent study by ECMT and the International Road Transport Union on attacks on truck drivers draws attention to the ever increasing need to improve security in the whole transportation system.

Policy responses have been fast in air and maritime transport. In the field of customs several programmes have been initiated to find the right balance between security and facilitation measures. Examples of such initiative are the EU's Authorized Economic Operator, the Customs-Trade Partnership Against Terrorism in the United States. There are numerous national responses both on policy and institutional levels. International organizations have put security on their agenda and there is a growing number of internationally agreed programmes and solutions. There are also new requirements where the stocktaking is still going on. I would, however, like to mention two new requirements, or opportunities, to follow up on: (1) factoring in the specific needs of security in transport infrastructure planning and investments – e.g. through safe and closed parking areas to be designed along the main international corridors, and (2) using the customs transit guarantee schemes to also support enhanced security. We need to be aware, however, that enhanced security can be costly indeed. It will therefore be important to find the right balance between facilitation and security and to treat the two goals as complementary rather than competing alternatives.

III. TECHNICAL AND TECHNOLOGICAL CHANGES AND SECTOR CONVERGENCE

Recent technological and technical innovations make it possible to monitor the actual use of transport infrastructure and services, and eventually to charge for their use. Modern accounting methods on the one hand, and the possible application of ICT in transport on the other, help convert this sector from being a public good to becoming a service provider where the use of infrastructure and services (at least in most areas) can be measured. The technological changes open up new avenues for transport pricing, which will challenge traditional transport policy options. While not exactly similar, it is broadly comparable to telecommunications, where the technological revolution altered the economies of scale and thus made deregulation possible. In a telegraphic style we could safely state that the introduction of e-trade and e-docs have a facilitating impact on transport services. The fast proliferation of information and communication technologies (ICT) can revolutionize the management of transport companies. At the same time it can open up for new types of services, and eventually, for a sector that is able to tailor its supply to the customers' needs. The application of ITC is not a privilege for the developed countries only. Different solutions can make transport more efficient, safer and environmentally friendly.

Thanks to technological innovations today's vehicles are greener, i.e. much less polluting, than fifteen years ago. Road freight transport in the UNECE countries has practically replaced its heavy goods vehicle fleet since the early 1990s. Interestingly, Central and East European countries have gone through this fleet modernization at a faster speed than their Western counterparts. This is mainly thanks to the ecological conditions ECMT has introduced in allocating the multi-country road permits.

New materials are being used in infrastructure and vehicle construction in order to improve safety, but also to be more cost effective.

In addition to the increasing intersectoral dependence, one of the key challenges will be compatibility and interoperability. With the fast proliferation of new technologies, it is important to avoid the mistake of nineteenth century railways, i.e. interoperability needs to be solved way before it becomes a problem.

As a result of liberalization and privatization market forces in transport are taking their own course. New constellations in bundling sectors and services are emerging. In public passenger transport multimodal concessions could be issued and acquired. Instead of separate rail and bus operators, there can be one company whose task is to provide service, regardless of modal distribution. Transport policy considerations could of course also dictate the formation of modal split in this case. The ways and means of how it is achieved is however fundamentally different from what authorities are used to. Interface managers are likely to be called in either in a pre-determined way or by default of the markets. The convergence within the transport sector and among the different infrastructure services are likely to happen in the longer run. Their implications for transport policymakers are still to be reviewed.

IV. CHANGING ROLE AND SCOPE OF THE PUBLIC SECTOR

Changing role of Governments

New decision-making procedures are evolving, where national governments delegate some of their power of authority to international bodies when they participate in regional integrations and to sub-national levels as a consequence of the decentralization process.

Since the early 1990s the number of regional trade agreements has grown significantly. Over 300 such agreements have been reported to the World Trade Organization and more than half of them are in force. Most of these agreements are free trade agreements or go beyond that, with the political decision to create a common market or closer political and economic integration. The trend for regionalism is both global and typical of the UNECE countries. The world's most developed regional integration, the European Union, has a distinctive impact on transport policy formation not only on its territory but, through the process of legal harmonization, also beyond the EU. New, regional cooperation initiatives have been launched in South-East Europe, Central Asia, the Black Sea region, etc. They address transport infrastructure and trade and transport facilitation issues with varying intensity. What they have in common is that they all foster regional cooperation and have transport as one of the main sectors of their attention. The traditional structure of bilateral, plurilateral and multilateral frameworks for market access and technical regulations in transport is likely to be rearranged.

In the case of local transport management, regional or county authorities as well as city authorities have started taking over some of the central Governments' functions. As a result of transport reforms and particularly the unbundling of large, state owned enterprises, like railways, the nationally organized bus operators etc., major institutional changes are taking place and independent regulators being established. Governments see themselves less and less as the managers of transport service provision and more and more as facilitators and law enforcers, responsible for public goods in the areas of safety, environmental protection or security. All these changes indicate that Governments are starting to assume their new roles.

Due to the different levels and speed of international integration, of decentralization within the countries and of the development of national transport systems, there is a range of institutions with potentially overlapping responsibilities for transport.

Decreasing public funds

The liberalization of international trade, accompanied by a decreasing level of customs tariffs is likely to result in a smaller amount of customs revenue, as trade growth is not likely to off-set this phenomenon. In this respect there are two impacts on policy decisions affecting transport: (1) the overall decline of available public funds that can be used for the development of transport, and (2) the growing reluctance to accept the dual function of fuel revenues, i.e. that of being a road price and being part of the general taxation.

As a result, transport funding is expected to change in a revolutionary way, as the reliance on public expenditure transfers is likely to decrease and the contribution from the users and beneficiaries increases. Policy responses to this include: wide application of users pay principle, a growing number of public private partnerships (PPPs), growing resistance to give up current road revenues and commercialize this sub-sector through road funds, more stringent rules for Public Service Obligation arrangements, and transport reforms designed to address fiscal constraints.

Budget constraints are even more acute in the transition economies. As the political changes started in Eastern Europe, Governments suddenly found themselves stripped of the already meagre budget revenues that their socialist predecessors could draw on. In the early nineties economic decline was more severe throughout the Central and East European region than the Great Depression was in 1929-33 in the United States. By 1998, recovery from the transition recession was achieved only by the Central European, some South-Eastern European and the Baltic States, while in 2000, the GDP of CIS countries was still around 60 per cent of its 1990 level. As a result, maintenance of transport infrastructure and equipment is massively and chronically under-funded in many East European countries. Investment needs in these countries are huge and of a different nature than those in West European countries. These fiscal constraints in Central and Eastern Europe will likely have the following transport policy impacts, some of which we can already see happening:

- In the relationship between financing pillars of transport infrastructure, the traditional public expenditure pillar and the users pay pillar may remain relatively weak. Governments may want to bridge the gaps through public borrowing and by relying on private funding and PPPs. The experience of the past fifteen years, however, has shown that feasible investments are relatively easy to promote if they are part of mid-term investment planning, while bad projects will not become feasible even if external funding is brought in.

- The conversion of old style subsidies to passenger transport service providers is going to be replaced by Public Service Obligation contracts in many countries. However, the lack of ability to finance the widespread services could lead to new types of market distortions. In the railways sector, for example, practically all Central European countries have set prohibitively high access charges for the use of rail infrastructure by rail cargo companies, creating in this way the mechanism for a hidden quasi subsidization from cargo to passenger operations.

Empowered customers

As liberalization is making progress, customer protection is also gaining space in the transport sector. Customers are becoming more empowered within the national boundaries, as well as in international travel and transport. Globally, civil aviation stands out as one of the fast responding transport modes to passenger rights. In Europe the driving force behind these changes is obviously the European Union. In addition to compensation schemes in passenger transport, we need to be aware that deregulation, de-monopolization and in many countries de-nationalization of the transport sector has led to a new relationship between shippers and transport operators. With regard to international transport, there are well developed international agreements providing for liability and contractual relationships in all traditional modes of transport. What is still missing is the rule for intermodal transport. Without attempting to be complete, it is worth taking note of the developments

in representing the interests of individual road users. As road tolls are often charged in a monopolistic way, it is good to know that there are ways to challenge them. See for example the court ruling about the rate of tolls on M1 in Hungary, that has been initiated by the national motor club.

Stronger interest groups to shape future transport policies

The changing role of trade unions also merits our attention. The unbundling of traditional state monopolies has also led to a changing role of trade unions. A positive example of cooperation between rail trade unions and railway management has happened in Poland, where the staff reduction programme intended to improve the efficiency of the PKP was designed so that a jointly agreed financial and social package supported those who left the railways.

Political democratization has led to the growth of new interest groups, NGOs and "watch-dogs" which will hopefully also help improve governance.

V. GROWING RESPONSIBILITY FOR SUSTAINABLE DEVELOPMENT

Environmental awareness: Transport is without doubt one of the sectors responsible for global and local pollution. Global warming has become high on the political agenda. The share of transport in CO_2 emissions from fuel combustion is 24 per cent (data from the International Energy Agency). Within this, road transport is the main contributor. At the same time aviation has a growing share; air passenger transport is estimated to double and air freight traffic is expected to triple in the next 20 years. Congestion in cities causes both environmental and economic concerns. Among the *policy responses* we can see; demand for fuel efficiency, that includes tax incentives, vehicle efficiency, eco-driving as well as eco-logistics, e.g. through route-planning; new fuels (biofuels, hydrogen fuel cells...); and interventions for modal split improvement, e.g. road pricing, congestion pricing, new types of subsidies to public transport to change the ratio between road and other land transport modes, between individual and public transport. A new policy initiative is the starting of emission trading in aviation. New transport infrastructure can be disturbing to the ecosystem. Thus, an increasing number of Governments have introduced the requirement for environmental impact assessments and for mitigating measures before an investment project can be implemented. The international financial institutions have made efforts to harmonize their different methodologies for impact assessments.

To minimize the negative impact of transport on the environment, Governments sometimes tend to draw on measures that may be relatively simple and easy to execute, i.e. instead of reducing emission rates per vehicle kilometre, they attempt to reduce traffic itself as the target, particularly the traffic by foreign vehicles. It therefore poses a threat when a new wave of trade protectionism in international transport is taking place in the name of environmental protection.

Safety awareness: Since the first motor vehicle was put into circulation around 30 million lives have been lost in accidents. Every year 1.2 million people are killed on the roads and 50 million more are injured. The annual number of road injuries exceeds the number of people who become HIV positive. Today, the road traffic safety challenge is the world's ninth biggest cause of death and disability. By 2020 it is estimated that it will be the third main cause (estimates of the World Health Organization (WHO)) if new and improved interventions fail to materialize. The most affected age group is those below 40 years of age. According to WHO's Youth and Road Safety: "Road traffic injuries are the leading cause of death globally among 15-19 year olds, while for those in the 10-14-years and 20-24-years age brackets they are the second leading cause of death". The social and economic costs are huge. Globally, the direct economic costs are estimated to be around US$ 518 billion per year. For low income countries it is considered to be around US$ 65 billion, i.e. the economic losses due to traffic accidents outweigh the amount these countries receive annually in official development assistance. Despite the large social and economic costs, there has been a relatively small amount of investment in road safety research and development.

Interventions so far have failed to match the severity of these problems. The growing awareness of safety issues and the possibly increasing political commitment to take actions can draw on internationally proven best practices, policy, institutional and investment solutions. The three dimensional approach, i.e. to address safety challenges with regard to road infrastructure, vehicles and the human facet, has been successfully pursued in well targeted safety programmes in many countries.

The Central and East European countries are considered particularly vulnerable to the explosive motorization that has taken place since the political and economic changes of the late 1980s. According to an EU study, the likelihood of becoming a casualty is very high: every third driver is likely to become involved in an accident at least once in his/her lifetime, and pedestrians in the new EU member states are twice as vulnerable as those in other EU countries (40 per cent of all fatalities are pedestrians). In addition to the magnitude of global similarities in traffic safety challenges, transition economies in the

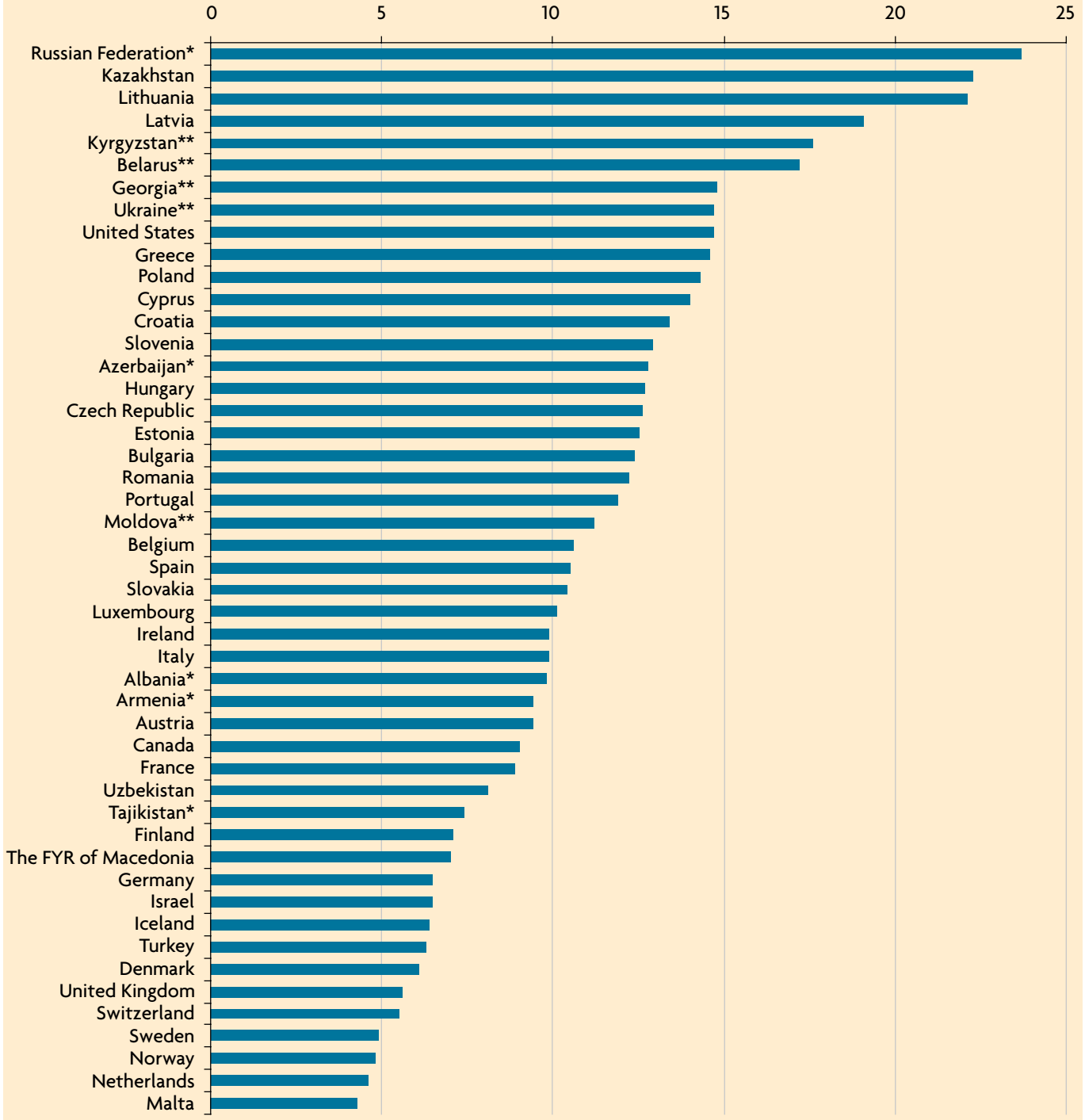
UNECE region seem to have an additional layer of specific problems that need to be recognized and addressed in order to achieve sustainable results. These are: the emergence of post-communist new bourgeois, pervasive corruption, poverty in shocking enormity and forms, and incomplete reforms. The otherwise blissful development of the entrepreneur sector has also produced a class of "newly rich", whose personal experience often justifies that the route to financial success is not exclusively through legal means, and to whom the risk of being caught and punished may not appear high. They create a culture of non-obeying of the rules, e.g. speed limits or drinking and driving. In order to abolish corruption of traffic police in the streets, both political courage, well-designed governance programmes and overall institutional reforms have to be in place. East European countries have been receiving massive external support to reform their economies and their social fabric. Support to overhaul the traffic police, however, is as a rule not on the agenda of development agencies. Thus Governments are left to rely on their internal resources to make progress in this field. Economic decline, budget constraints, collapse and in most East European cities the de-facto reorganization of public passenger transport have been the typical feature of the past fifteen years. In some cases, the privatization solutions for urban public transport have led to a laissez faire laissez passer mood, where private bus operators do not have to meet safety requirements. Re-introduction of rules in order to improve safety, as well as service quality, is still a task to be fulfilled by local governments. Inadequate road quality is another major concern. According to a World Bank survey, in Bosnia and Herzegovina, for instance, 87 per cent of roads are considered dangerous, and people in the street think that poorly maintained roads and vehicles are the main causes of accidents. In the UNECE region fast motorization in many countries has led to the fast deterioration of traffic safety. The difference between the countries is huge and the gap is going to be bigger, unless consistent measures are taken to curb this trend. See Figure 3 on road fatalities.

Policy response: Better statistics, international benchmarking and time-series are needed to demonstrate the linkage between transport safety and its socio-economic impacts.

CONCLUSIONS

Transport is both a driving force for globalization and an integral part of it. Thus global trends do affect the transport systems of all countries no matter where they are. Some of the policy responses could therefore be global and part of international cooperation: for example measuring logistics competitiveness in a globally unified way, trade and transport facilitation measures, norms and standards, etc. Some of the issues can best be handled at regional levels: for instance the improved inter-connectivity between countries and regions, as well as between continents. Lastly, some of the global challenges can best be treated at a national level, however even in this case international cooperation could be helpful to broker best practices and develop common approaches, for example in road safety.

Figure 3a. Fatalities per 100,000 inhabitants, 2005

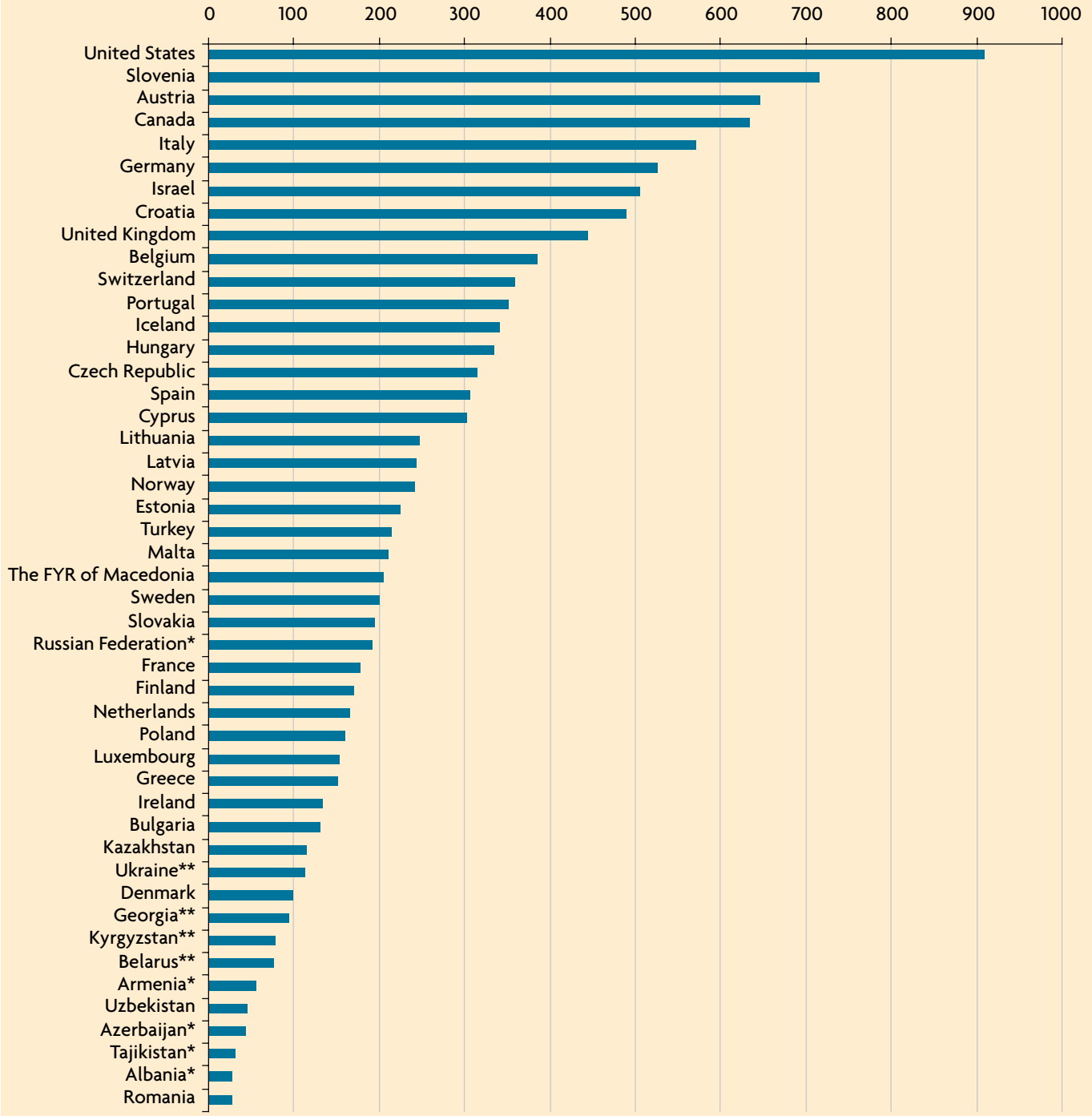


Source: UNECE Database, Community database on Accidents on the Roads in Europe (CARE) and National Statistics

* Estimations

** Values of 2004

Figure 3b. Injured per 100,000 inhabitants, 2005



Source: UNECE Database, CARE and National Statistics

* Estimations

** Values of 2004

THE STATUS OF THE MILLENNIUM DEVELOPMENT GOALS IN THE UNECE REGION

Patrice Robineau

DIVERSITY WITHIN THE UNECE REGION

Covering the whole European continent, North America, and Central Asia, the UNECE region is characterized by a tremendous diversity in its levels of economic development. Most countries of North America and Western Europe belong to the group of high-income countries, with levels of GDP per capita well above $20,000[37]. A number of other European countries, including many of those who joined the EU after 2004, have an intermediate level of GDP per capita, usually between 10,000 and 20,000. Finally, the countries of Eastern Europe, Caucasus and Central Asia (EECCA) and South Eastern Europe (SEE) have reached a lower level of economic development and their GDP per capita are below $10,000.

Overall, the GDP per capita of the EECCA and SEE region is very close to the corresponding average of Latin American countries, with a few countries in Central Asia and Eastern Europe showing very low levels of available income. Countries such as Tajikistan and Uzbekistan have a GDP per capita well below $2,000 and Moldova is slightly above $2,000; many African economies rank higher in terms of income: for example Morocco and Egypt are well above $4,000, Cameroon and Ghana are above $2,000 and Rwanda is at the same level as Tajikistan (about $1,200).

This situation is reflected in the degree of achievement of the Millennium Development Goals (MDGs) within the UNECE region: while the MDG targets have largely been reached in the countries of North America, Western and Central Europe, a significant number of them are still a challenge for most of the EECCA/SEE countries. Overall, following the collapse of central planning and dissolution of the USSR and Yugoslavia, these countries recorded a decade long transitional recession which can be seen from the fall in GDP by: 20 per cent in central Europe; 30 per cent in South-East Europe; and 50 per cent in much of the former Soviet Union. In addition to the fall in income, much of the institutional structure supporting social services fell apart as well, resulting in rising unemployment, poverty, and inequality.

[37] *GDP per capita refers to 2005 and is expressed in US Dollars, at prices and PPPs of 2000*

POVERTY REDUCTION (MDG 1)

According to recent data, the EECCA/SEE countries have overall recovered from this economic recession thanks to sustained economic growth between 2000 and 2005. This growth was largely due to a favourable global environment, including low interest rates and high commodity prices and to a much lesser degree to institutional reforms and modernizing the economy to compete on global markets. However, the pace of economic growth was very diverse and, in terms of GDP per capita, it varied between 80 per cent increase in Armenia and Azerbaijan to less than 10 per cent in The former Yugoslav Republic of Macedonia.

This economic performance has substantially reduced the level of poverty (MDG 1), however in an uneven manner. Spectacular economic growth has not always gone in parallel with falling poverty levels. This clearly shows that economic growth, while often being an important requirement, should be accompanied by specific policies designed to improve living conditions of the entire population; more generally, pro-poor policies are needed to combat poverty.

In the resource rich countries, the benefits of growth resulting from commodity exports have not trickled down to the poorest population, this being due in particular to a lack of investment in new job generating activities and an insufficient redistribution of the surplus through income transfers or targeted social programmes. For the low income countries, the significantly lower growth rate has not been mitigated so far by an official development assistance (ODA) level commensurate with the financing needs of these countries for a substantial poverty reduction. Another major reason for the persistence of poverty is the employment situation: with a very few exceptions such as Armenia, Moldova and Ukraine, the activity rate between 2000 and 2005 in EECCA countries has stagnated, and even declined in some cases. Overall, it stayed within the range of 45 to 55 per cent, except for the Russian Federation where it is stable at 66 per cent.

Regional and ethnic dimensions of poverty

The need for specific measures to improve the living conditions of some disadvantaged groups within the population is also highlighted by the territorial and ethnic dimensions of poverty. The pace of economic and social development can be very different within countries and it may happen that some regions lag behind. For example, even in a country like Kazakhstan, which has experienced impressive economic growth since 2000, some important regional differences remain. Thus, the proportion of the population living under the national poverty line varies between less than 3 per cent (Almaty, Astana) to more than 25 per cent in some regions of the west and the south. Different reasons explain the high incidence of poverty in these regions: if long-standing problems of the agriculture sector, deteriorated by environmental disasters (Aral Sea desiccation) and emigration of young labour force, can explain the poverty incidence in Kyzylorda oblast, other causes are behind the high poverty levels in the Atyrau oblast, where workers of the oil and gas sectors enjoy very high wages but the access of the local population to such jobs is clearly difficult.

Other examples, such as the case of the Roma population in Eastern and South-Eastern Europe, show that specific population groups can remain excluded from economic and social development if not accompanied by specific inclusion measures. For example, in the years around 2000, in Serbia, Romania and Albania the percentage of the population living on under $2 per day was between 20 and 40 per cent among Roma communities, while the same indicator was below 5 per cent for the rest of the population, according to data of the United Nations Development Programme.

In summary, while a trend towards poverty reduction can be observed in the EECCA/SEE countries, there is still a large proportion of the population in a situation of relative poverty, with part of it still living in absolute poverty (under 2$ a day). Such a situation affects, in particular, rural areas, the unemployed and unskilled labour, ethnic minorities, retired and elderly persons, single parent households and persons with health problems.

GENDER DIMENSION (MDG 3)

Much progress is still needed to achieve full equality in the opportunities for men and women. Growth has not diminished inequalities in economic opportunities among men and women. In EECCA and SEE, the recent return to high levels of women's participation in the labour market usually reflects their flexibility in accepting low paid jobs. So women's jobs are increasingly concentrated at the lower-end of the labour market and this is combined with a moderate share of women in managerial and decision-making positions despite high levels of women's education. Such "mismatch" is clearly a loss in terms of efficient use of resources. This form of segregation in the labour market could be illustrated by a persistent wage gap where women earn on average

much less than men, the most disadvantaged female workers being those living in the Russian Federation, Kazakhstan, Armenia and Georgia, where the wage difference between male and female employees has floated around 40 per cent over the last years. Moreover, data from recent years show that even in periods of economic growth the pay gap has not fallen, with the exception of a few countries such as Armenia and Ukraine.

Lower wages combined with cuts and a deterioration of public services, including in child care (kindergartens) and a move towards market based pension system, has made women more prone to poverty. The feminization of poverty is especially seen among young women (including single mothers), those living in large families and older women. This pattern is typical for EECCA and SEE but also in other UNECE member countries as it is rooted in a male bread-winner bias in labour market institutions and welfare provisions, which leave unaccounted women's unpaid work.

Women face also important obstacles in getting positions in public decision-making bodies: the share of women in national parliaments is still marginal and only three countries of EECCA and SEE show a percentage higher than 20 per cent: Moldova (22 per cent), The former Yugoslav Republic of Macedonia (28 per cent) and Belarus (29 per cent), while in eight countries the same share remains well below 10 per cent. The picture is even worse when considering the composition by sex of national governments: the share of women among ministers is in fact below 10 per cent in 13 countries of the region.

CHILD MORTALITY (MDG 4)

If the general trend of child mortality is positive and many countries of the region show a declining pattern, international estimates of child mortality suggest that, for a number of countries, the pace of decrease is not fast enough to achieve the MDG target by 2015 (i.e. reducing child mortality by two-thirds). In particular, in the countries of Central Asia and Azerbaijan the child mortality is estimated to be between 60 and 100 deaths per 1,000 live births: this means that, depending on the country, 6 to 10 children out of 100 do not achieve 5 years of age. From a policy perspective there's a need to maintain or even increase the focus of health expenditure on primary health care and structures.

HIV AIDS AND TUBERCULOSIS (MDG 6)

According to recently released estimates by UNAIDS, the number of people living with HIV in EECCA is about 1.6 million[38], compared to 630,000 in 2001. The Russian Federation and Ukraine are two countries highly affected by HIV and they accounted for almost 90 per cent of newly reported HIV diagnoses in 2006. Drug injecting remains the most frequent mode of transmission, but it appears that the percentage of HIV transmission due to unprotected sexual intercourse is growing and in some countries there is evidence that HIV prevalence among female sex workers is increasing. Countries in the region are putting in place systems to monitor the spread of the epidemics and, in some cases, the increasing number of newly reported HIV cases can also be seen as a progressive improvement of the sentinel system. However, it appears that the epidemic is not yet under full control: for example, the Russian Federation had promising results between 2001 and 2003 (with a decline of new HIV reported cases from 87,000 to 34,000) but recent data have shown an upward trend over the last years (39,000 reported cases in 2006).

Another health problem affecting both EECCA and SSE countries is represented by the re-emergence of tuberculosis. This disease had long been considered as being under control in all of these countries; however, the situation deteriorated in the second half of the 1990s and, despite measures put in place to control tuberculosis, recent data show that it is spreading and is far from being stopped. Incidence rates of tuberculosis (number of new cases per 10,000 population, per year) are particularly high in Central Asia, where they are usually between 120 and 140, but in Tajikistan almost 200 new cases per 10,000 were recorded in 2005. Moreover, tuberculosis still affects countries such as the Russian Federation (119), Romania (134) and Moldova (138). The spreading of this disease in such countries can be better appreciated when considering that its incidence rate in countries of the EU25 is around 20.

[38] *According to UNAIDS, the estimate is included in the interval between 1.2 and 2.1 million.*

PIPED WATER (MDG 7)

Access to safe water (MDG 7) remains a problem in a number of EECCA/SEE countries. The most recent data on the percentage of households reached by piped water show that good infrastructures exist in urban areas (usually more than 80 per cent of urban dwellings have piped water), while the percentage of dwellings connected to water pipes is still very low in rural areas (in ten countries of the region less than 30 per cent of rural dwellings have piped water). The need to invest substantially in primary infrastructures is therefore essential for the provision of water for domestic use in rural areas, which is a critical factor to preserve public health and carefully manage natural resources.

NET OFFICIAL AID (MDG 8)

A critical factor to support countries in their efforts to achieve the MDGs is financial aid from developed countries. In the UNECE region, 17 countries have received sustained financial assistance over the last decade, especially from member states of the Organisation for Economic Cooperation and Development: all EECCA countries, except the Russian Federation, and all non-EU SEE countries, except Turkey. They received $5.7 billion in 2005 or 5.4 per cent of worldwide ODA (3.4 per cent to SEE, 2.0 per cent to CIS). Serbia and Montenegro received the largest amount in the SEE region ($1.1 billion), and Ukraine in the EECCA region ($410 million).

An important portion of such aid has been channelled to countries of South East Europe: Bosnia and Herzegovina, Serbia, The former Yugoslav Republic of Macedonia and Albania have often received more than $100 per capita over the last decade. In the most recent years, Armenia and Georgia have also been supported significantly (between $60 and $80 per capita), while the three poorest countries of the region (Tajikistan, Kyrgyzstan and Moldova) usually received less than $40 per capita, even if data for 2005 show an encouraging increase especially for Kyrgyzstan and Moldova (respectively $52 and $40 per capita). Some re-thinking of the distribution of international aid among EECCA and SEE countries is probably necessary, even if international support always needs to be directly correlated to countries' capacities to absorb it. For example, the high ratio of net official aid to GDP in countries like Tajikistan and Kyrgyzstan (about 11 per cent) should also be taken into account in future allocations of financial assistance.

This brief review of trends suggests the following conclusions:

- Achievement of the MDGs is still problematic in Central Asia, the Caucasus, and to a lesser degree in South-East Europe. The most challenging ones relate to poverty, gender equality, child mortality, HIV/AIDs, tuberculosis, and access to water.

- These challenges for the achievement of the MDGs are particularly acute in rural areas, for women as well as for some ethnic minorities.

- The MDGs are a global partnership; the advanced economies need to do more in terms of ODA and other forms of cooperation and support.

The United Nations plays a crucial role in sensitising Governments, other international organizations, civil society and the private sector on the MDGs, mobilizing them for joining efforts in reaching these goals by the set deadline of 2015, and closely measuring and monitoring progress in this perspective. But the role of the United Nations does not stop there. It also analyses the ways and means to overcome obstacles and accelerate progress by bringing forward suggestions for action in policy terms. The major challenge, therefore, is to consider the set of policy options which can best accelerate progress toward achieving the MDGs in the region.

A crucial issue in this respect is the countries' overall approach to economic and social policies. While growth is a key factor for poverty eradication, it is unlikely to prove sufficient for attaining a number of the targets. This is especially true of those goals that relate to non-income aspects of poverty, e.g. regional, ethnic and gender disparities, and weaknesses in the education and health systems. In other words, economic growth should be sustained while taking a pro-poor path, and should be accompanied by specific policies for improving the living conditions of the entire population.

Central to this objective of making the growth process more inclusive is the need to direct more investment into activities that have a more direct impact on the lives of the poor while also providing increased growth prospects. The conventional approach of promoting macro-economic stabilization polices, as a basis for sustained growth, combined with specific measures targeted to the poorest segment of the population, may need to be refined towards a more holistic approach. This includes not only revisiting macroeconomic policies but engaging in structural policies which would aim at maximizing job creation and put more emphasis on investment in human capital in such areas as improved primary education and basic health care.

Along this line, an important issue at stake is the use of the growth dividend. In some of the EECCA and SEE the current growth dividend and the resources being made available by high commodity prices are not being directed sufficiently towards human capital investment. Access to quality education and health services is now increasingly determined by income levels due to government cuts in public spending and the privatization of many of these services. In addition, even access to public (free of charge) health services often requires direct payments ("bribes") to medical personnel. If not countered, this deterioration in the access to and quality of health and education services may not only reduce longer-term growth but may further increase inequalities and de facto discrimination, thus making achievement of the MDGs for the poorest part of the population even more unlikely.

The low income countries of the UNECE region are confronted with an additional challenge as they have not benefited from a substantial growth dividend because they lack commodities to export. They subsequently rely on significant resource transfers in the form of ODA. Not only is there a need for these aid levels to be increased but they need to be better targeted to humanitarian objectives and investments in human capital.

In summary, an inclusive development process in the region requires a policy mix which combines macroeconomic policies enabling a sustained growth process; structural policies to maximize job creation through geographical and sectoral diversification of activities; and social policies geared towards combating gender and ethnic discrimination and ensuring universal access to education and health. In other words, not only do more resources need to be targeted to the specific MDG goals but the overall development strategy needs to be holistic by giving equal emphasis to:

1. Social Policies

- Non-income aspects of poverty in EECCA and SEE need more attention to prevent the erosion of their main asset in a global economy – that being their high quality human resources both of men and women.
- Access to education and health resources needs to improve. In this respect, a key policy issue is how to redefine the responsibilities of the state, private sector and individuals for the delivery of universal social services in the context of a market economy.
- Ethnic and gender discrimination need to be addressed through legal and economic means. Discrimination creates not only inequality but economic inefficiency. There is a need for inclusion measures. This "mismatch" is clearly a loss in terms of the efficient use of resources.

2. Structural Policies

- A number of legal and economic policies can be implemented to further encourage the creation of small and medium-sized enterprises and self-employment; extra resources should be provided for geographical areas with the highest levels of poverty; more investment is needed in labour intensive activities and funding for active labour market policies; the large informal sector with no social benefits needs to be reduced.
- The access to finance for the poor needs to be improved by developing the banking and financial systems. Policies or extra resources may need to be devoted to improving credit access for female entrepreneurs.
- Environmental policies need to ensure that the population has access to safe drinking water, proper sanitation, and healthy working conditions.

3. Macroeconomic Policies

- Given that the poor are particularly negatively impacted by economic downturns, fiscal policy needs to be more counter-cyclical so that cyclical fluctuations can be reduced.
- Social safety nets need to be effectively designed so that they provide needed assistance while also promoting a flexible and efficient economy.
- The resource-rich economies need to diversify out of resource-intensive sectors in order to stimulate employment and long-run productivity growth.
- The region's economies are small and can greatly benefit from increased trade and migration; thus borders need to be kept open.
- The reform process of converting from planned to market economies needs to be intensified instead of reversed.

4. Political Policies

- The unresolved political conflicts in some parts of the UNECE region need to be addressed as the lack of stability is a major factor limiting investment and growth.
- The political process needs to be made more inclusive so that the disenfranchised have a voice; increased political influence for the poor can be important in ensuring that government policies and resources address their needs. Civil society has played a key role in a number of countries in this regard and their involvement needs to be encouraged.

The external environment should not be omitted in such policymaking. In this respect, fostering subregional and regional economic integration is a key – although often underestimated or even sometimes forgotten – aspect of an holistic and pro-MDGs development approach because opening borders and facilitating trade are powerful factors for growth and poverty reduction. The UNECE contributes to this objective of economic cooperation and integration, in particular through its activities in the areas of trade facilitation, border crossing, and pan-European and Euro-Asian transport links. In addition, its activities in the fields of the environment, forestry and sustainable energy contribute to the goal of achieving environmental sustainability (MDG 7) while its activities for empowering women in the economic life serve the goal of promoting gender equality (MDG 3).

Furthermore, like the other regional commissions and as stated in its 2005 reform, the UNECE ensures the regional monitoring of MDG trends through statistical information and offers a platform for all stakeholders to share their views and experience in the implementation of the goals which are still a challenge for a significant number of its member States.

PART II
UNECE WORKING FOR RESULTS IN ...

ENVIRONMENT

Building on progress already achieved, the Committee on Environmental Policy is expected to play a key role safeguarding the environment in response to new policy challenges. It will tailor activities to support less well-off countries to ensure that disparities in environmental performance between subregions decrease in the future. This year the Committee has collaborated with partner organizations in the Environment for Europe (EfE) process to contribute, through preparation of a series of documents, to the EfE Ministerial Conference held in Belgrade in October 2007. The Committee, together with the governing bodies of the UNECE Environmental Conventions, represents a unique consensus-based policy forum for discussing environmental issues and bringing forward regional priorities.

In the course of its work this year, the Committee adopted the second Environment Performance Review (EPR) reports and recommendations of Montenegro and of Serbia and assessed progress made in the environmental situation and management in these countries since the first review. In line with the decisions taken at the fifth EfE Ministerial Conference, the reviews focused on implementation, financing of environment protection, as well as integration of environmental concerns into economic sectors and promotion of sustainable development. The reviews were launched by the respective Ministries of the two countries to a wide range of stakeholders.

At its fourteenth session, scheduled for April 2008, the Committee will discuss the reform of the EfE process as requested by Ministers at their conference in Belgrade. The main aim of such reform is to ensure that the process remains relevant and valuable and to strengthen its effectiveness. To assist the Committee, a workplan will be prepared for its discussions and decisions. The Committee will also discuss and decide on ways it could reinforce its own activities following the decisions taken at Belgrade.

For the future, the second round of EPRs will continue with advice and support of the Expert Group on Environmental Performance. The next countries under review will be Kazakhstan and Kyrgyzstan and their reviews will be finalized for adoption by the Committee at its sessions in 2008. The Committee will need to decide how to carry out peer reviews in the future using the review results already available.

The **pan-European Programme on Transport, Health and Environment ("THE PEP")** Steering Committee discussed the organization of the third High-level Meeting to be held in 2008 and the implementation of the activities in its work programme. The latter involved the organization of workshops and production of guidance on institutional mechanisms for policy integration, assessment of health and environment impacts of transport, promotion of safe cycling and walking as well as dissemination of information on relevant international and national activities via THE PEP Clearing House. In 2008, the Steering Committee will focus on the preparations for the High-level Meeting giving special attention to drafting a declaration for adoption.

The Sixth Ministerial Conference "Environment for Europe", Belgrade, 10-12 October 2007 was a major political event bringing together all important environmental players of the UNECE region. For a more detailed review of its outcomes see the essay on "The Bridges of Belgrade".

The Conference attracted more than 1,000 official delegates – including 60 ministers, deputy ministers and state secretaries, with 16 coming from the education sector – and around 2,000 observers and other participants. More than

60 side-events were arranged by different stakeholders during the two-and-a-half days of the Conference. Whereas previous conferences often served as a driving force and a political forum for the development and adoption of regional multilateral environmental agreements, the focus at this Conference had shifted to the implementation of existing commitments.

Reference to major implementation gaps was made in all assessment reports submitted to the Conference and it was clear that Ministers wanted more concrete impact on the ground in countries. The important role of the environmental administrations in designing good policy and ensuring implementation was underlined in Belgrade more strongly than ever before. Ministers held policy discussions and agreed on recommendations on a wide range of issues, including, inter alia, education for sustainable development, biodiversity, environmental policy and international competitiveness, sustainable production and consumption patterns, energy efficiency and the role of partnerships. At the same time, the Conference considered the future institutional set-up and priorities and decided to launch a reform of the "Environment for Europe" process.

Preparations for the reform will start following discussions by the Bureau of Committee in January 2008. The Committee will voice its opinion at its meeting in April 2008 and a period of broad consultations with stakeholders will begin. Final proposals for reform are expected by the end of 2008 to be submitted for approval by the Commission at its sixty-third session in spring 2009. Preparations for the next Ministerial Conference, to be held in Kazakhstan in 2011, would start soon after.

Education for Sustainable Development. The UNECE Strategy for Education for Sustainable Development (ESD) is now at the end of its first phase of implementation. At the Belgrade Conference, for the first time in the history of the EfE process, ministers of education and of the environment came together for a joint decision, an important signal to other sectors for cooperation to make sustainable development a reality. Ministers considered achievements, lessons learned and challenges since 2003 and agreed on the way ahead by adopting a Joint Statement expressing commitment to implement the Strategy further and by extending the mandate of the Steering Committee up to 2015. In addition, in 2007, there were major achievements in evaluating progress in the implementation of the Strategy through a reporting mechanism and a set of indicators which resulted in feedback from 36 national implementation reports. Overall, most countries are demonstrating commitment to establishing the necessary policies and institutional structures to implement the Strategy. The close and effective joint work between UNECE and UNESCO, especially in monitoring progress, was highly appreciated by member States. Furthermore, a collection of good practices in ESD in the UNECE region, a joint UNECE and UNESCO endeavour, resulted in the first publication of a wide range of good practices to promote ESD in formal, non-formal and informal education. In 2008 the Steering Committee will consider and adopt the workplan for implementation of the second phase of the Strategy (2008-2010). Work will focus on furthering implementation through needs-driven activities with particular emphasis on developing competencies in ESD in the education sector.

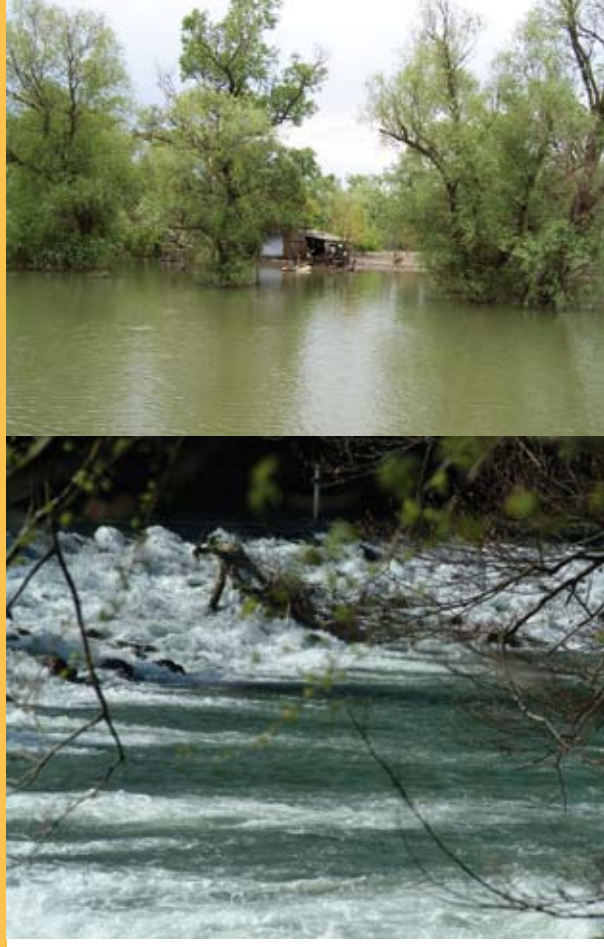
Environmental Monitoring. The Ministers at their Conference in Belgrade endorsed the recommendations on environmental indicators and indicator-based assessments, and the guidelines on enterprise monitoring for EECCA countries prepared by the Committee's Working Group on Environmental Monitoring and Assessment. The United Nations has published the guidelines on environmental indicators and indicators-based assessment reports and the guidelines on strengthening environmental monitoring and reporting by enterprises. The Belgrade Ministerial Conference also welcomed the fourth assessment report on the state of the environment ("Belgrade Assessment") prepared by the European Environment Agency with the support of the Working Group. The Working Group, at its session in 2007, discussed lessons learned from the preparation of the Belgrade Assessment and the further needs to improve monitoring and assessment at the country level. Guidance on reforming

air-quality monitoring networks was provided to EECCA countries. In 2008, the Committee is expected to revise the mandate for the Working Group in the light of decisions taken at the Belgrade Conference. The Working Group will need to prepare its workplan for the period up to the next Ministerial Conference in 2011.

The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) received a submission in January 2007 to its Implementation Committee from the Government of Romania concerning Ukraine's compliance with its obligations under the Convention. This related to the Bystroe Canal Project and the opinion of the Inquiry Commission on the environmental impact of the project. The Commission had concluded that the Bystroe Canal Project would lead to significant transboundary impacts and thus trigger the application of the Convention. The Implementation Committee is in the process of preparing draft findings and conclusions for adoption at the fourth Meeting of the Parties which will be held in May 2008 in Bucharest. The Meeting will adopt decisions to further implement the Convention and representatives from South-East European (SEE) countries are expected to adopt and sign a multilateral agreement for the further implementation of the Convention. At the EfE Conference Ministers noted with interest a proposal by Armenia, Belarus and Moldova for an Initiative on Strategic Environmental Assessment (SEA) which will provide the framework for further activities related to the SEA Protocol, which is expected to enter into force by the end of 2008.

The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) has continued its focus on strengthening implementation. A number of regional and subregional events were organized with partner institutions aimed at supporting implementation by building-capacity. These included a seminar on access to justice for high-level representatives of the judiciary from EECCA countries, two workshops on electronic information tools aimed at supporting the establishment of national nodes of the Aarhus Clearinghouse for Environmental Democracy, and a workshop on public participation in strategic decision-making, organized in consultation with and with the participation of experts from the Espoo Convention and its Protocol on SEA. A workshop on involving the public in international forums was also held, providing a platform for dialogue between stakeholders from various international forums on issues such as transparency, accountability and NGO participation. The third session of the Meeting of the Parties to the Convention will take place in June 2008 in Riga. Each Party is required to prepare, in consultation with its public, a national report on the measures it has taken to implement the Convention. The set of reports is expected to provide a comprehensive overview of the main obstacles to implementation and where efforts should be directed to ensure that the rights that the Convention seeks to guarantee are realized in practice. As the Riga meeting will mark the tenth anniversary of the adoption of the Convention, it will provide an opportunity not only to reflect on the achievements of the first decade but also to look ahead to the challenges of the next. For this, the Meeting of the Parties is expected to adopt a long-term strategic plan which will provide the framework for future activities.

The Convention on Long-range Transboundary Air Pollution has focused on the review and possible revision of its three most recent protocols. The Protocol on Heavy Metals was reviewed in 2006 and plans are being developed for further measures to cut emissions. The



Protocol on Persistent Organic Pollutants was reviewed in 2005 and options for amending the Protocol are prepared. These include updating annexes to include additional substances proposed by Parties and a possible new way of adopting amendments based on an "opt-out" procedure. The 1999 Gothenburg Protocol, the subject of intense review for the past two years by most of the Convention's bodies, was formally reviewed by the Convention's Executive Body in December. It will be a major challenge now to move from the general proposals for protocol revisions to specific action on amendments or new protocols. The year also saw the publication of the Convention's 2006 review of strategies and policies by Parties to abate air pollution, and a report on hemispheric transport of air pollution. The Executive Body agreed a new EECCA Action Plan and made further plans for capacity-building in EECCA and SEE countries. Links with other regions were strengthened through Convention participation in a Global Atmospheric Pollution Forum that involves air pollution agreements and networks from Asia, Africa and South America.

Implementing the Convention and its protocols across EECCA and SEE countries will remain a major challenge in 2008. Capacity-building to meet the Action Plan, and consideration of attainable targets for new or revised protocols are both important. A further challenge will be to realize expectations for outreach activities to share information and experience with non-UNECE regions.

The Convention of the Protection and Use of Transboundary Watercourses and International Lakes published its first ever in-depth assessment of transboundary rivers, lakes and groundwaters in the UNECE region in time for the EfE Conference. "Our waters: joining hands across borders - first assessment of transboundary rivers, lakes and groundwaters", covers all major surface water bodies in the European and Asian parts of the UNECE region and transboundary aquifers located in South-Eastern Europe, the Caucasus and Central Asia. It is the product of more than three years of concerted efforts of UNECE governments, international organizations and national agencies, and involved more than 150 experts. It highlights the achievements of over 10 years' work under the Water Convention to prevent, control and reduce transboundary impact. The assessment serves as a point of reference and also underlines the challenges for implementing further measures to counteract existing pressures and improve the ecological and chemical status of transboundary waters. In Central Asia, water quality is an important aspect of integrated water resources management that has not been addressed at national or regional levels. Most water resources in the region are transboundary and there is an urgent need to improve regional cooperation and national policies to improve water quality. This is to be done through a United Nations Development Account project on water quality aspect of integrated water resources management in the region, which will start in 2008. The Convention's National Policy Dialogue on integrated water resources management is part of the Convention's workplan for 2007-2009 and also the main operational instrument of the EU Water Initiative in the EECCA region. Through a grant agreement between the European Commission and UNECE, National Policy Dialogues will be carried out in 2008 in Armenia, Moldova, Ukraine and Kyrgyzstan. These will provide policy packages such as governmental or ministerial regulations and orders, recommendations and good practice documents and analysis of institutional/management structures and reform needs. The first Meeting of the Parties to the **Protocol on Water and Health** was held in January 2007 with more than 140 participants from the pan-European region and Africa. Parties reaffirmed their commitment to increase intersectoral partnership and coordination between environment and health policies and recognized that this would bring many social, economic and environmental benefits. They also agreed on a mechanism to promote the coordination of international aid in the field of the Protocol, assistance in project formulation for capacity-building, and work to develop surveillance, early warning and response systems to outbreaks of water-related diseases and setting of targets and target dates in the area of water supply and sanitation, water management and health protection.

The Convention on Transboundary Effects of Industrial Accidents has concentrated on the first needs-driven assistance activities focused on strengthening the implementation of the Convention in EECCA and SEE countries. It organized two capacity-building activities in 2007, one to initiate further strengthening of the legal and institutional frameworks for the implementation of the Convention, the other a workshop to strengthen safety at hazardous activities. In parallel, fact-finding missions reviewed the Convention's implementation and identified needs for assistance to four EECCA and SEE countries, and an awareness-raising mission was organized to support implementing basic Convention tasks. A process was started to develop safety guidelines and good practice for tailing dams; a steering group drew up a draft document and organized a workshop for discussing good practice for safety of tailing dams. The steering group will finalize the guidelines in 2008. The work of the Convention in 2008 will continue to focus on the needs-driven assistance activities for EECCA and SEE countries. In addition, a web-based application will enable notification within the UNECE Industrial Accidents Notification System; training on its use will be organized in the first half of the year. The fifth meeting of the Conference of the Parties will be held in the last quarter of 2008.

TRANSPORT

In 2007, UNECE worked relentlessly to continue to develop a pan-European regulatory framework for inland transport, including road, rail, water and intermodal transport. This effort mainly focused on negotiation and management of international agreements, conventions, norms and standards. These negotiated legal instruments provide a foundation upon which UNECE constituents can build up coherent, efficient and safe transport systems. In addition to facilitating closer integration, the UNECE work contributed to the construction of safer and less polluting vehicles, more effective traffic rules as well as simplified border crossing procedures.

In 2007, the number of countries that became Parties to the UNECE international transport agreements and conventions increased by 23, of which nine were non-UNECE member countries. This is partly due to promotion undertaken in 2007 when more than 50 advisory missions and capacity building activities were carried out with hundreds of experts from the public and private sectors attending.

Major achievements in 2007

In the area of **road transport**, UNECE continued to develop its legal instruments to facilitate international transport. Of particular significance is the AETR Agreement which is being revised to correspond to the EU provisions related to driving and rest periods. A CMR Convention Protocol was also developed to introduce the possibility of using electronic consignment notes.

In the area of **road safety** new recommendations were adopted in 2007 dealing with speed, use of mobile phones while driving, safety of children, contents of the first-aid kit required in vehicles, safety of two-wheelers and methods of influencing behaviour on the road. Consolidated versions of the Vienna Conventions on Road Traffic and on Road Signs and Signals (and the related European Agreements) were issued. In 2007, the UNECE also published a report about "Statistics of Road Traffic Accidents".

The Transport Division took an active part organizing the **First United Nations Global Road Safety Week** in cooperation with the World Health Organization and the other United Nations regional commissions. The World Youth Assembly and the Second Global Stakeholders Forum were held in April in the Palais des Nations, Geneva.

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AETR	European Agreement concerning the Work of Crews of Vehicles Engaged in International Road Transport
AGC	European Agreement on Main International Railway Lines
AGN	European Agreement on Main Inland Waterways of International Importance
ATP	Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for Such Carriage
CMR	Convention on the Contract for the International Carriage of Goods by Road
ECMT	European Conference of Ministers of Transport
GIS	Geographic information system
RID	European Agreement Concerning the International Carriage of Dangerous Goods by Rail
TEM	Trans-European Motorway
TER	Trans-European Railway
TIR Convention	The Customs Convention on the International Transport of Goods under Cover of TIR Carnets
UNECA	United Nations Economic Commission for Africa
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCWA	United Nations Economic and Social Commission for Western Asia

With respect to **dangerous goods**, the fifteenth revised edition of the "Recommendations on the Transport of Dangerous Goods, Model Regulations", Amendment 2 to the fourth revised edition of the "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria" and the second revised edition of the "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)" were consolidated and published in all official United Nations languages. Amendments were adopted regulating the transport of dangerous goods by road (ADR), rail (RID) and inland waterways (ADN). A Roundtable to discuss "the effectiveness of UNECE legal instruments, increased safety and facilitation of international transport" was organized on the occasion of the fiftieth anniversary of the ADR. For transport of perishables, amendments to the ATP Agreement were also adopted.

In 2007, **the World Forum for Harmonization of Vehicle Regulations** continued to update the existing regulations and adopted new ones to improve the safety of vehicles and their environmental performance. The European Union increased the use of regulations adopted by the World Forum raising their total number to 108. The European Commission continued to follow the recommendations of the report of a Competitive Automotive Regulatory System for the 21st century (CARS 21) for the replacement of 37 directives concerning vehicle construction by reference to UNECE regulations. In 2007, a Fuel Quality Round Table recommended the establishment of a study group to consider the possibility of developing fuel quality standards to further improve the environmental performance.

In the field of **border crossing facilitation**, work continued on the computerization of the TIR Convention ("eTIR system"), which aims at providing a Customs-to-Customs information exchange system as well as a system for the management of financial guarantee data. In 2007, the Working Party on Customs Questions affecting Transport and the TIR Administrative Committee adopted and endorsed the basic level requirements of the eTIR system and mandated the elaboration of technical specifications. The UNECE secretariat, in cooperation with the TIR Executive Board, organized a successful training seminar about the approval and control of TIR vehicles.

In 2007, the Inland Transport Committee reviewed its work in the area of **transport security** and, stressing the importance of this issue, established a multidisciplinary group of experts. The Expert Group has taken stock of the different initiatives on land transport security – regulatory initiatives at the international, national and industry levels – and has started to prepare proposals for further improvements. It is expected to complete its work and submit a final report in early 2008.

The project on **transport and trade of radioactive scrap metal** was completed and recommendations about prevention, detection and response procedures were published. Following the development of a training and capacity building strategy by the UNECE secretariat, the International Atomic Energy Agency will continue to work on regulatory, safety and security issues in this field.

In 2007, the first progress report about the implementation of the priority projects identified by the **TEM and TER Master Plan** was elaborated along with comparison of the Master Plan Backbone Networks with the E-Networks. UNECE actively cooperated with other regional commissions such as UNESCAP, UNESCWA and UNECA in developing interregional transport links.

The joint UNECE-UNESCAP Project to develop **Euro-Asian Transport Links** as part of a global United Nations Development Account Capacity-building Project was completed. The results included the identification of main Euro-Asian inland transport routes, prioritization of a number of infrastructure projects, development

of a GIS database, analysis of non-physical obstacles, organization of six national capacity-building workshops and a final UNECE-UNESCAP study.

The UNECE work on **rail transport** included new amendments to Annex II of the AGC and a workshop to exchange experiences and lessons in organizing demonstration runs of container block-trains. Work continues to further harmonize different rail transport legal systems and to promote rail interoperability in the UNECE region.

UNECE published revised pan-European rules about the **navigation of inland water vessels** and prepared amendments to the AGN. In close cooperation with relevant organizations and river commissions, UNECE began to implement decisions of the 2006 Pan-European Conference on Inland Water Transport.

Major challenges for 2008

The overall challenge will be to continue improving the efficiency, safety, environmental protection and security of transport. This will be done by amending the relevant UNECE international legal instruments in cooperation with various United Nations agencies, other international organizations as well as NGOs representing the transport and transport equipment industry, businesses, road users and consumers.

Concerning the **harmonization of vehicle regulations**, the World Forum will continue to update its regulations and will make further efforts to increase the participation of new countries. In this context, a conference is being organized to provide a new impulse for Asian countries to accede to the Agreements administered by the World Forum.

In the area of transport of **dangerous goods**, the challenge will be to take into account the entry into force of ADN, finalization of a set of amendments to ADR and ADN as well as conditions for its entry into force by 1 January 2009.

In the area of the transport of **perishable foodstuffs**, challenges will include the incorporation of references to less polluting vehicles and fuels in the ATP Agreement.

Concerning **road safety**, the United Nations Development Project, Improving Global Road Safety: setting regional and national road traffic casualty reduction targets, will be implemented in 2008-2009 by UNECE in cooperation with other regional commissions and other international partners. This projects aims to assist low and middle income countries to develop road safety targets and to provide them with examples of good road safety practices. Moreover, the UNECE will be involved in the preparation of a Global Ministerial Conference on Road Safety which is expected to be held in 2009. Within this framework, a preparatory meeting will be organized for the UNECE region.

In the area of road transport, the challenge will be to adopt the amendments to the **AETR** on driving and rest periods. Concerning the **CMR**, a signing ceremony for the new Protocol to the Convention on electronic consignment notes will be organized in May 2008.

The work on customs questions affecting transport will aim at **strengthening the TIR system** by means of improving transparency in the management of the guarantee system. Working towards the implementation of the eTIR system will continue to be a major challenge while promotion of the TIR system as a truly global transit system will be pursued.

UNECE will continue to provide a platform to exchange information and best practices in the **transport chains and logistics field**. The UNECE will be challenged to identify performance parameters and benchmarks to monitor and to measure the provision of efficient and sustainable logistics and transport chains.

A meeting of **Ministers of Transport of Euro-Asian countries** will be organized to ensure stronger political impetus to further development of the Euro-Asian Transport Links project as well as to obtain the necessary financing for Phase II (2008-2011).

In the area of **transport trends and economics**, two new expert groups may be established. The Group of Experts on Euro-Asian Transport Links could ensure the continuation of the Euro-Asian Transport Links project while that on hinterland connections of seaports could prepare recommendations on how to improve them. The development of appropriate statistical methodologies and terminologies will be pursued.

A major challenge in **rail transport** will be to ensure that some of the activities of the abolished ECMT Group on Railways are assumed by the UNECE. In addition, a possible revision of the AGC and accession of new contracting parties will continue to present a challenging task.

In 2008, high priority will be given to improving technical requirements and navigation rules for inland navigation. Work on facilitating the free movement of crew members across Europe will be intensified. Particular attention will be given to integrating environmental and security aspects. In 2008 UNECE will also start preparing a new edition of the White Book on Inland Navigation to promote the advantages of transport by inland waterway and indicate the problems it is facing in its development.

Cross-sectoral initiatives will be further strengthened through

- the **Transport, Health and Environment Pan-European Programme** (THE PEP) that will convene a High-level Meeting in 2008 and also through enhancing UNECE border crossing and trade facilitation cooperation;
- close cooperation with the Trade and Timber Division in the areas of **trade and transport facilitation**;
- close cooperation with the Economic Cooperation and Integration Division in the areas of **Public-Private Partnerships**;
- close cooperation with the Statistical Division to further **improve transport statistics** and their analyses.

The first Global Conference of Transport Ministers organized by the International Transport Forum will take place in 2008, on the topic of global warming and transport. UNECE will contribute to this high-level political debate and will find ways for appropriate follow-up through its working parties.

STATISTICS

One of the main tasks of the Conference of European Statisticians (CES) and its secretariat, the UNECE Statistical Division, is to **coordinate the international statistical activities** in the region. The CES and its Bureau provide a forum for the Heads of national and international statistical agencies to address the most relevant issues of official statistics. Participation of the major international organizations (like Eurostat, Organisation for Economic Cooperation and Development (OECD), United Nations Statistics Division (UNSD), Interstate Statistical Committee of the Commonwealth of Independent States (CIS), International Monetary Fund (IMF), World Bank, etc.) helps to ensure that statistical work undertaken by these organizations in the UNECE region is coordinated and duplication is avoided.

The CES **seminars** held at the annual plenary sessions are a unique forum for top level management of statistical offices to explore in depth the fundamental issues of statistical systems and leading-edge emerging topics. The seminars in 2007 considered improving efficiency and productivity of statistical offices, and the measurement of capital beyond its traditional economic understanding. As a follow-up, the CES will collect and share best practices in measuring effectiveness, efficiency and productivity of statistical offices.

In 2008, the CES plenary session will deal with measuring population movement and integration in a globalized world. The large flows of population between regions have an impact on the labour market, income situation, pension schemes, sub-regional wealth, etc. The Conference will discuss how to measure the effects of the changes in the composition of population and the integration of immigrants in society. A second seminar will look at the strategic issues linked to the measurement of international transactions. The increasing cross-border movement of goods, services and financial flows coupled with the growing complexity of international financial markets and financial instruments constitute a challenge to statisticians. It has become more difficult to distinguish between the various purposes of transactions and their allocation to specific countries. The attention of the Heads of statistical offices will be drawn to the contemporary policy issues related to international transactions and their statistical implications.

The **principles governing international statistical activities** were adopted by the UNECE in October 2007, as well as by the United Nations Department of Economic and Social Affairs, United Nations Conference on Trade and Development (UNCTAD), United Nations Development Programme (UNDP) and other regional commissions as binding for all statistical activities in their respective organizations.

Economic statistics

The UNECE secretariat participates in the process of updating the global methodological standard for the compilation of the Gross Domestic Product (GDP), the System of **National Accounts** 1993 (SNA 93). The aim is to ensure that the South-East European (SEE) and CIS countries are well informed of the process and their opinion is taken into account. A publication is being prepared that provides an overview of the methods used in 45 countries to measure the **Non-Observed Economy**. Two seminars on this topic were organized for the Central Asian countries (April 2007 in Kyrgyzstan and November 2007 in Tajikistan).

Among the emerging issues, the Statistical Division is actively involved in developing methodology to measure the impact of **globalization** on economic statistics. The increasing number of multinational companies and advances in communication and transport make the measurement of national economies through the traditional statistical methods more difficult. The CES created an Expert Group in cooperation with OECD, Eurostat, IMF and UNCTAD to prepare recommendations on how to deal with the distortions to statistics that are occurring as a result of globalization. Within the technical assistance framework, the UNECE organized in July 2007 a workshop on globalization in Ukraine.

In the field of **economic short-term statistics**, there is a serious lack of international comparability for the SEE and CIS countries for key indicators, such as industrial production and price indices. An analysis of the availability and comparability of short-term economic statistics in the CIS and SEE countries made in 2007 will guide the work to improve international comparability of short-term statistics for these countries. A pilot project to analyse the possibilities of calculating seasonally adjusted short-term statistics in the SEE and CIS region will be finalized in early 2008. The secretariat also aims to ensure that the SEE and CIS countries are able to catch up in the implementation of **business registers** – an indispensable tool for an efficient system of data collection from businesses. In 2008, a survey on business registers in UNECE non-EU member countries will be carried out in cooperation with Eurostat.

UNECE has actively contributed to the revision of the several existing manuals on **price statistics**. The results of an international survey on the use of the new Consumer Price Index (CPI) Manual will be published in 2008 in cooperation with ILO, and will be used for the revision of the electronic version of the CPI Manual.

Social and demographic statistics

The UNECE has a leading role (sometimes jointly with other organizations) in selected areas of social and demographic statistics, such as gender statistics, censuses, migration, and health status statistics. In **gender statistics**, the UNECE carries out methodological work as well as provides data on gender disparities. Training tools on gender statistics (developed in collaboration with the World Bank, United Nations Population Fund (UNFPA), Food and Agriculture Organization of the United Nations and UNDP) have been used in regional and national training events, particularly in the CIS and SEE countries.

The *Training Manual on Gender Statistics* is planned to be finalized by mid-2008. UNECE is also offering a unique forum for statisticians, researchers, and policy-makers to improve the measurement of violence against women.

In the area of **population and housing censuses**, the UNECE focused its work on supporting countries in the implementation of the CES Recommendations for the 2010 Round of Population and Housing Censuses. Several regional workshops were conducted for Central Asian and other CIS countries (in collaboration with UNFPA). A set of countries' experiences in register-based censuses has been published in 2007 and a collection of census forms and documentation is made available on the UNECE website. A publication on countries' practices used at the 2000 Census round is in print.

The Task Force on **migration statistics** made a feasibility study of using receiving countries' data to estimate emigration in sending countries and prepared draft recommendations. The work continues with the compilation of current practices to measure groups that are difficult to count, such as illegal, temporary and "circulatory" migrants, and to standardize survey tools to collect data on remittances (in collaboration with the World Bank). A feasibility study of a census module to measure emigration was carried out and the guidelines on emigration module to be included in the population census will be prepared in 2008.

UNECE provides statistical support **in monitoring the achievement of the Millennium Development Goals** (MDGs). The joint UNECE/UNICEF/UNDP Task Force on MDG statistics launched an electronic product on MDGs for the UNECE region (MDG Info) and started work for the 2007 update. A proposal to set up an MDG database, in cooperation with UNICEF and UNDP, depends on the availability of extrabudgetary funding for its implementation.

Cross-cutting issues

Since 2006, the UNECE has been involved in developing a framework for **measuring sustainable development** jointly with Eurostat, OECD and country experts. The framework will reconcile the two main methods used so far by different countries and organizations, based either on the concept of capital, or sets of indicators linked to sustainable development policies. The draft framework is planned to be ready by June 2008.

The UNECE secretariat provides a unique forum where **informatics managers** from national and international statistical offices can share experience with other countries. Task forces are working on preparing a website on recommended practices in **electronic data reporting** and a toolbox for sharing statistical IT tools among offices. The CES Bureau recently called for strengthening the work in the field of **statistical metadata** to provide guidance to national statistical offices in the use of metadata related standards and to advocate for a corporate role of metadata in managing statistical activities.

A seminar on **human resources management and training** in statistical offices will take place in 2008, as a follow-up to the CES seminar held in June 2006.

UNECE Statistical Database

The UNECE maintains a free **online statistical database** (www.unece.org/stats/data) available in English and Russian, covering developed countries and economies in transition in the UNECE region. The database includes macro-economic, social and demographic indicators with gender breakdowns where possible. Data on transport have recently been added. Monthly user downloads have doubled during 2007, and a user survey gave positive feedback. Updates planned for 2008 include seasonally adjusted data for selected macro-economic series, revised Purchasing Power Parity data in line with the results of the International Comparability Programme, new social data on work-life balance, science, technology, and ICT, and further integration of transport data.

Technical assistance

An important part of the work is to assist countries in **building and improving their statistical capacity** by organising seminars and workshops, providing advisory services and promoting the implementation of international standards and recommendations. UNECE also helps these countries to implement the **United Nations Fundamental Principles of Official Statistics** by giving advice on statistical legislation and institutional frameworks.

Advisory services and training workshops were provided to Armenia, Bosnia and Herzegovina, Kazakhstan, Moldova, Montenegro, Tajikistan, The former Yugoslav Republic of Macedonia, and Ukraine on various topics, such as statistical legislation and institutional frameworks, statistical literacy, national accounts, non-observed economy, price statistics, gender statistics, statistics on violence against women, MDGs, etc. UNECE continued participation in **monitoring the population and housing census** in the United Nations administered region of Kosovo, together with Eurostat, the Council of Europe and UNSD. The first part of a **Global Assessment** of the National Statistical System of Kazakhstan was carried out together with the Statistics Division of UNESCAP in autumn 2007. UNECE also participated in the EU led peer review of the National Institute of Statistics of Romania.

Six workshops took place in 2007 within the United Nations Development Account Project for statistical capacity building under the Special Programme for the Economies of Central Asia (SPECA). The project focuses on 3 areas: population and housing censuses, measurement of the health status of population and measuring non-observed economy.

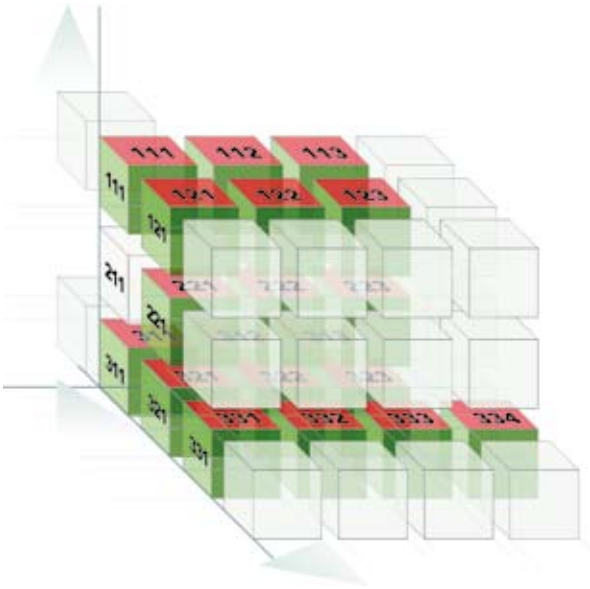
SUSTAINABLE ENERGY

In 2007, with oil prices climbing to $95 per barrel and tensions in the Middle East rising again, the UNECE Committee on Sustainable Energy launched an enhanced expert dialogue on energy security to be held during its annual sessions with the participation of representatives of Governments, energy industries, the financial community and relevant international organizations. This initiative was confirmed by the Panel on Sustainable Energy Policies held during the Sixtieth Anniversary session of the Economic Commission for Europe in April. Senior representatives of Belarus, Georgia, France, Russian Federation, Turkey, United States, International Energy Agency, European Investment Bank and the Energy Charter were joined by senior executives of Total and SwissRe / Conning & Company in noting that financing the large investments needed to ensure a secure and sustainable energy future was one of the key challenges ahead.

Enhanced Energy Security Dialogue. At its annual session in 2007, the Committee on Sustainable Energy held its first enhanced expert dialogue on "Investing in and Financing the Hydrocarbon Sector to Enhance Global Energy Security". A new publication completed by the UNECE Energy Security Forum, "'Emerging Global Energy Security Risks" was presented to the session. The report reconciles energy security risks from three points of view: that of the European Union, the Russian Federation, and the United States. Following its annual session, the Committee issued a Statement on Investing in Energy Security Risk Mitigation which further elaborates activities of the enhanced expert dialogue on energy security: a study on how energy security is perceived by decision-makers in Governments, industry and finance; an analysis of energy security and sustainable energy policies and an appraisal of the use of statistical indicators to measure the energy vulnerability of UNECE member States.

Clean Electricity Production. In line with the UNECE Reform to streamline the sustainable energy work programme, the Committee launched the new Ad Hoc Group of Experts on Cleaner Electricity Production for Coal and Other Fossil Fuels, with a Forum on Fostering Investment in Clean Electricity Production for Fossil Fuels, prior to the annual session of the Committee on Sustainable Energy in November 2007. The Forum brought together high-level representatives of the electricity and coal industries, regulators, the financial sector and Governments to review the technological issues and challenges along the production and supply chain as well as to assess financial markets, electricity markets and investing in cleaner electricity production from fossil fuels.

Energy Reserves and Resources. Demand is growing in global capital markets for a common terminology to classify and report energy and mineral reserves and resources. A common terminology can not only address differences in reporting within the same commodity classes, but can also support a common understanding across different commodity classes. Following the endorsement of ECOSOC in Decision 2004/233, the Ad Hoc Group of Experts on the Harmonization of Fossil Energy and Mineral Resources Terminology has led a global effort to develop a common code through application of the United Nations Framework Classification for Fossil Energy and Mineral Resources (UNFC), a system adopted, adapted or tested by more than 60 countries worldwide. Reconciling the views of disparate partners including the Organization of the Petroleum Exporting Countries, International Energy Agency, Society of Petroleum Engineers, International Accounting Standards Board, the minerals industry, and member States, the Ad Hoc Group of



Experts has made significant progress in promoting the widespread application of the UNFC. Although the UNFC will remain a classification system that can be directly adopted or adapted by member States or other organizations, there is growing recognition that its main strength is serving as an overarching umbrella system to which all other major systems can map against. In 2007, the Ad Hoc Group of Experts made substantial progress toward development of the global code through detailed mapping of the UNFC against other major classification systems, and by attracting additional participation and interest. As the project continues, expansion of work in this field will help to make all energy and mineral commodities more attractive to foreign investors for exploitation.

Energy Efficiency. UNECE promotes the formation of an energy efficiency market in Eastern Europe so that cost-effective investments can provide a self-financing method of reducing global greenhouse gas emissions through its Energy Efficiency 21 Project (EE21). Along these lines, dedicated financial instruments have been promoted, such as the European Clean Energy Investment Fund raised by SwissRe / Conning & Company under a mandate of the EE21 Project and announced during the sixty-second session of the Commission. An EE21 subproject on

financing energy efficiency investments for climate change mitigation, largely supported by the United Nations Foundation, the Global Environment Facility, the French Fonds Français pour l'Environnement Mondial, the European Business Congress was launched during the eighteenth session of the EE21 Steering Committee in May 2007. This technical assistance project will provide for the establishment of a dedicated public-private equity Fund for twelve countries in Eastern Europe, Central Asia and South-Eastern Europe for energy efficiency and renewable investment projects. Public participation in the Investment Fund was solicited in an analytical paper prepared for the Sixth Ministerial Conference "Environment for Europe" held in Belgrade during October 2007. In their Declaration made during the Conference, Ministers and heads of delegation welcomed the project and agreed to consider participating as public-sector investors in the energy efficiency investment fund which is being created through the Energy Efficiency 21 Project.

Regional Advisory Services on Energy have included the preparation of analyses on the energy situation, energy efficiency potential and prospects for countries of the Commonwealth of Independent States (CIS); assistance to national experts in the elaboration and preparation of plans, programmes and projects to facilitate the implementation of energy policies and strategies; assistance in the planning and implementation of programmes for capacity and institutional building and in the provision of training on business planning, financial engineering, project development and sources of financing; provision of advice and participation in workshops and seminars on the restructuring, rehabilitation and modernization of the energy sector in the CIS countries; and assistance in the preparation of project proposals for funding by the United Nations Development Account (UNDA), the United Nations Development Programme (UNDP) and the Global Environment Facility. Special attention has been paid to problems related to energy efficiency and conservation in economies in transition, notably the development of Energy Efficiency Investment Zones and elaboration of different financial mechanisms to attract foreign investors in order to realize energy efficiency projects in member States.

Natural Gas. At its seventeenth session in January 2007, the Working Party on Gas organized a Round Table on Securing Natural Gas Supply in the Context of Sustainable Development, bringing together leading gas experts from producing, consuming countries and countries of gas transit. A new study on Gas Saving to Reduce Natural Gas Demand and Enhance Energy Security was launched. Delegations discussed future steps for the implementation of the Blue Corridor project, aimed at establishing transport corridors in Europe for heavy-duty vehicles, using natural gas as fuel, instead of diesel. They also reviewed gas market and gas industry developments in the UNECE region and developments in the Natural Gas Vehicles (NGV) market worldwide. In September 2007 in Moscow an International Week of Rational Use and Distribution of Gas was organized by Gazprom, Russian Federation, in cooperation with UNECE and the International Gas Union. With the support of 26 gas companies throughout the UNECE region, the Gas Centre's Task Forces held meetings on the implementation of the European Union Gas Directive, gas transportation and pipelines, gas markets and gas industries as well as their implications for countries in Central and Eastern Europe. A High-Level Conference on the Role of the Mediterranean Basin in the Future Gas Supply was held in Oran, Algeria. Gas member companies and staff took part in the Conference on the Production of Special Gas in Orenburg, Russian Federation. The Technical Committee of the Gas Centre Database continued to work on a special gas map of

Europe. Gas Centre member companies are transferring data to the database where a map of the high pressure transportation and supply pipelines in Europe is being created. Newly created software will make the map interactive.

Clean Coal. The project on Capacity Building for Air Quality Management and the Application of Clean Coal Technologies in Central Asia (CAPACT) is designed to strengthen the capacity of air quality management institutions to implement the UNECE Convention on Long-range Transboundary Air Pollution with funding from the UNDA as an inter-sector project between the Committee on Sustainable Energy and the Committee on Environmental Policy. It provides assistance to participating Governments on energy pricing policy reforms and promotes investment project finance. Energy efficiency projects were also approved with UNDP and Global Environment Facility support in Belarus, Kazakhstan, Kyrgyzstan, Russian Federation and Ukraine.

Coal Mine Methane is a greenhouse gas over 20 times more potent than carbon dioxide. Mitigation of methane emissions not only yields important benefits related to climate change, but it can also provide an energy stream that delivers many additional co-benefits. In

the case of coal mines, methane capture and use improves mine safety, provides an additional energy source for power generation, heating or other uses, and supports another revenue centre within the mining operation. With 40 per cent of global production and 38 per cent of global coal mine methane (CMM) emissions, there is great potential for CMM capture and use in the UNECE region. The Ad Hoc Group of Experts on Coal Mine Methane pursues a work programme intended to identify and address key barriers limiting further implementation of CMM projects in the region. In 2007, the Ad Hoc Group of Experts continued work on promoting the financing of mine methane projects in Central and Eastern Europe and the CIS countries. In addition, mine safety remains very closely tied to methane utilization, and the Ad Hoc Group of Experts embarked on two new initiatives directly related to mine safety: (i) review of regulatory frameworks to identify outdated or ineffective rules and statutes relating to methane degasification, and (ii) assessment of the insurance industry's support for additional mine safety improvements in methane degasification and utilization. In addition, the Ad Hoc Group of Experts cooperated closely with the Methane to Markets Partnership, and is currently in the first stages of developing a common terminology for the global industry.

Major Challenges for 2008 include new initiatives to implement mandates of the Committee on Sustainable Energy and other United Nations bodies for sustainable development in the energy field, energy security, energy efficiency for climate change mitigation, a classification system for energy commodities, and inter-sector activities. The work programme will be implemented increasingly with innovative Internet applications to enhance communications and value-added information transfers within and between UNECE member States. The enhanced dialogue on energy security will include a study on how energy security is perceived by decision-makers, analyse the correlation between energy security and sustainable energy policies and appraise of the use of statistical indicators to measure the energy vulnerability of UNECE member States. The Energy Efficiency 21 Project will work with the European Clean Energy Fund to develop investment projects in Eastern Europe. The project will begin work on the Public Private Partnership equity fund for financing energy efficiency investments in twelve East European, South-East European and Central Asian UNECE member States. The new Ad Hoc Group of Experts on Cleaner Electricity Production from Coal and Other Fossil Fuels will launch activities under its agreed programme of work. The Committee on Sustainable Energy will address these challenges with several advantages including committed local experts, the interest of energy industry, government and financial sector decision-makers, and with significant extrabudgetary resources to complement the United Nations regular budget.

TRADE

Major achievements of 2007

In October 2007 the Committee on Trade held a successful Symposium on "Trade Rules, Regulations and Standards: Different Levels of Rule-making and their Impact". The Symposium built upon the outcomes of the 2006 Forum on a "Common Regulatory Language for Global Trade". These events provided policymakers with opportunities for enhanced policy dialogue on best practices in regulatory cooperation, trade and environment, and trade facilitation and security.

Another activity supporting the Committee's trade policy discussions is the secretariat's participation in the United Nations EC-ESA Trade Cluster and, in this context, the release of a joint publication on regional trade developments and preliminary work on the UNECE's contribution to an interagency report on Aid for Trade. Both of these have been prepared by the Trade Cluster in cooperation with the United Nations University Centre for Regional Integration Studies. The Trade Cluster is a working group under the Executive Committee on Economic and Social Affairs (EC-ESA). It was established to facilitate joint strategic planning and coordination among the United Nations agencies that are active in trade, including the United Nations Conference on Trade and Development (UNCTAD) and the five regional commissions.

The **UNECE Multiplier Point** information continued its dissemination programme aimed at facilitating trade within the UNECE region. The purpose of the programme is to reach out to a wider audience, particularly in countries in transition, to support and promote practices and methods that help member States diversify and expand trade and investments.

The network of Multiplier Points consists of private and governmental organizations, as well as not-for-profit organizations at national, regional and local levels that specialize in trade and enterprise development. The secretariat sends these organizations information on the Committee's work and the work of the UNECE. The Multiplier Points are expected to translate into local and national languages UNECE publications, recommendations, norms, guidelines, documents and other sources of information, and distribute them to potential users. During the past year several organizations have been added to the network.

In November 2007, the Working Party on **Regulatory Cooperation and Standardization Policies** held an International Seminar on Product Safety and Counterfeiting. The Working Party also approved a new Recommendation on Market Surveillance and Counterfeiting. The Recommendation, entitled, "Use of Market Surveillance Infrastructure as a Complementary Means to Protect Consumers and Users against Counterfeit Goods" (Recommendation "M"), calls for Governments to use their market surveillance infrastructure as a complementary means to identify suspected counterfeit goods on the domestic market during normal market surveillance activities. This approach entails minimum additional costs and delays in existing market surveillance activities and can be a very effective addition to existing measures to combat counterfeiting.

At its 2007 session, the Working Party on **Agricultural Quality Standards** and its four specialized sections, adopted:

(a) Revised standard layouts for fresh fruit and vegetables and for dry and dried produce for a trial period of one year;

(b) Eleven new/revised standards (for seed potatoes, cherries, table grapes, ceps, apples, inshell almonds, dried tomatoes, inshell hazelnuts, bovine meat, caprine meat and turkey meat);

(c) Seven revised texts of standards (for apricots, cucumbers, peaches and nectarines, pistachio kernels and peeled pistachio kernels, hazelnut kernels, blanched almond kernels, and dried peaches) to be recommendations on trial through 2008.

Further, the Working Party followed up on the decision in the UNECE Reform Plan to consult with the Scheme for the Application of International Standards for Fruit and Vegetables of the Organisation for Economic Co-operation and Development (OECD) to concentrate work on agricultural quality standards within the UNECE. Thus, it adopted revised terms of reference and working procedures that open up the possibility for any member of the United Nations or of one of its specialized agencies to participate, on equal footing, in the activities of the Working Party and its specialized sections.

These new terms of reference better reflect the realities of global trade in agricultural products and the actual participation in the Working Party – as well as meeting one of the important requirements of countries participating in the OECD Scheme. The terms of reference were submitted to the UNECE Committee on Trade for intersessional approval and will be presented to the Executive Committee for approval in the first quarter of 2008.

The UN Centre for Trade Facilitation and Electronic Business (UN/CEFACT) organized two Forums with between 230 and 250 participants in Dublin and in Stockholm to advance the work on its standards and recommendations.

At the September 2007 Forum in Stockholm, UN/CEFACT also celebrated 50 years of trade facilitation and 20 years of United Nations Electronic Data Interchange standards. This was highly appropriate because, back in 1957, it was Sweden that realized the value of standardizing trade documents. Supported by the other Nordic countries, it brought the matter before UNECE, which promptly set up a working group on trade facilitation. The successor to this group is today's UN/CEFACT.

Over those 50 years, jointly with ISO Technical Committee 154 (International Organization for Standardization), UNECE drew up many basic standards for trade documents, all of which are still being used in international trade. They include the: Forms Design Sheet and Layout Chart; Layout Key for Trade Documents; United Nations Trade Data Element Directory; Country codes; Currency codes; Dates and Times[1].

[1] *Also published as ISO standards 3535, 6422, 7372, 3166, 4217 and 8601. These are downloadable free of charge from the UNECE website at: www.unece.org/cefact/recommendations/rec_index.htm*

Already twenty years ago, UNECE saw that the universal acceptance of the United Nations Layout Key for paper-based trade documents and data had created a sound basis for standardizing EDI (electronic data interchange)[2]. In 1987, ISO approved the UN/EDIFACT[3] syntax rules for EDI (ISO standard 9735); and two years later, UN/CEFACT published the invoice and order UN/EDIFACT messages.

According to a recent Forrester research report[4], EDI transactions represent around 90 per cent of all electronic transactions. They continue to dominate business-to-business electronic communications worldwide, with an estimated 20 million messages exchanged every day. Between 1989 and the present, 208 UN/EDIFACT messages have been published. These messages facilitate the exchange of information in many areas including: transport; Customs; government and business tendering; just-in-time manufacturing; and finance.

Today, UN/CEFACT and its network of around 1,000 technical experts continues to build on its experience in order to support ever more simplified trade processes and the global standardization of trade and business information. New areas of work include the development of data libraries that can be used across different, evolving hardware and software technologies as well as projects to facilitate the transition from paper to electronic documents for small and medium-sized enteprises.

Major challenges for 2008

The Working Party on Regulatory Cooperation and Standardization Policies will pursue a new sectoral initiative under its model framework for regulatory co-operation (Model "L") to facilitate trade in Equipment for Explosive Environments. The Working Party will also develop a guide/case studies for best practices in Market Surveillance.

[2] *A detailed explanation of EDI can be found at: http://en.wikipedia.org/wiki/Electronic_Data_Interchange.*

[3] *United Nations/Electronic Data Interchange for Administration, Commerce and Transport.*

[4] *Forrester Research, Inc. Ken Vollmer "B2B Integration Trends: Message Formats". B2B Trends 2007 series, No. 1. Ken Vollmer is a principal analyst in Forrester's Application Development & Infrastructure research group, covering trends, issues, and strategies related to all forms of integration, including business process management (BPM), enterprise application integration (EAI), B2B integration (B2Bi), and electronic data interchange (EDI).*

A number of challenges await the Working Party on Agricultural Quality Standards. Work will continue with OECD on the concentration of work in UNECE. In addition, the secretariat will begin implementation of a United Nations Development Account project to help transition and developing countries to develop the capacity to implement international standards for commercial agricultural products and thus improve their trade competitiveness. UNECE, as lead agency, will work on this global project together with the other regional commissions and in collaboration with UNCTAD, the United Nations Industrial Development Organization (UNIDO), Codex Alimentarius and other agencies.

Further, the Working Party will continue to draw up new and revise the existing standards to reflect the changing requirements of producers, traders and consumers in exporting and importing countries. It is envisaged that two or three more meat standards will be published as United Nations sales publications.

UN/CEFACT is developing a Trade Facilitation Implementation Guide, funded by the Swedish International Development Agency. The Guide will assist developing and transition economies in elaborating and implementing national and regional trade facilitation strategies based on international standards and recommendations. It will also assist countries in assessing trade facilitation implementation issues related to discussions at the World Trade Organization (WTO). The approach being taken is an innovative one that shows countries how to assess what stage they have reached in implementation and what path they should take to achieve a stated goal.

The Guide will comprise a comprehensive modular Guide to Trade Facilitation Implementation; case studies on trade facilitation implementation (two case studies for each region); training material for both trainers and participants; a website; and a CD-ROM version of the Guide and related material. During 2008 a pilot workshop will also be held to test the effectiveness of the Guide.

Input to the Guide's content will be provided by the core members of the Global Facilitation Partnership which include, in addition to UN/CEFACT, the World Customs Organization (WCO), UNCTAD, UNIDO, International Chamber of Commerce and the World Bank. In addition, input will be received from a country reference group consisting of representatives from target countries. The first group will ensure that the main tools and techniques for trade facilitation implementation are included in the Guide and the second will ensure that the Guide meets the needs of a range of countries.

UN/CEFACT also has challenges to face in meeting the increasing demand for its next generation of electronic business standards, and particularly harmonized data definitions (core components), as well as in developing methods for giving users better and easier access to its standards.

TIMBER AND FORESTRY

Policy issues for wood and forests in 2007

2007 has been marked by an increasing realization of the need to invest in a more sustainable energy future, and the multiple ways in which forests and forest products can contribute to climate change mitigation. Forest products store carbon for long periods – European forests sequester nearly 140 million tons of carbon a year – and energy from renewable wood sources can be a substitute for non-renewable energies. Forests are the largest pool of terrestrial carbon, with 53 billion tons in Europe and the Russian Federation, and were as such a focus of discussion at the UNFCCC 13th Conference of the Parties, held in Bali in December 2007. The fourth assessment of the Intergovernmental Panel on Climate Change released in November 2007 acknowledges the use of renewable energy sources as an adaptation option, such as the use of forestry products for bioenergy to replace fossil fuels, leading to a reduced dependence on single sources of energy.

In the context of these policy developments, wood for energy has become increasingly important. Ambitious renewable energy targets have been adopted by European Union member States, requiring a significant change in consumption and production patterns. By 2020, 20 per cent of primary energy consumption should be derived from renewable sources, 13 per cent more than at present. Currently, biomass constitutes – with 66 per cent – the largest source of renewable energy in the EU, and wood is the major source of biomass, with 80 per cent. The EU Biomass Action Plan suggests doubling the production of bioenergy by 2010. The forest sector might play a major role in supplying the resources needed for meeting the bioenergy targets while, at the same time, sustaining the raw material supply for the wood processing industries, although uncertainty surrounds the issue of the sustainable levels of wood supply.

Achievements in 2007

Activities of the UNECE/FAO integrated programme of work on timber and forestry have in 2007 focused on exploring the implications of the changed wood energy situation for policymakers and others, and on improving the monitoring and analysis of sustainable forest management in all its aspects.

In January 2007, during the UNECE/FAO workshop **Mobilizing Wood Resources,** policymakers and other stakeholders from the forests and energy community assessed how Europe's forests could satisfy the increasing demand for raw material and energy while maintaining sustainable forest management. Conclusions and recommendations of the workshop contributed to shaping discussions in the context of the Ministerial Conference on the Protection of Forests in Europe (MCPFE) and were reflected in the resolution on "*Forests, wood and energy*" adopted at the fifth MCPFE Ministerial Conference in Warsaw in November 2007.

At the January workshop, UNECE/FAO was mandated to lead the efforts to obtain more reliable information on the realistic potential for and consequences of increased wood mobilization in this field. The results of the **Joint UNECE/FAO/IEA/EU wood energy enquiry**, presented to the Joint UNECE/FAO Working Party on Forest Economics and Statistics in March 2007, revealed that harvested wood volumes, in particular for energy generation, are significantly higher than reported by official international statistics.

This assessment of future wood requirements shows that significant amounts of wood, likely to outstrip domestic demand, would be required to meet the renewable energy targets set by policymakers.

Emerging challenges for the forest and energy sectors were discussed at the **UNECE/FAO Policy Forum on "Bioenergy Policies and Targets: Impacts on the Forest and Other Sectors,"** organized in the context of the sixty-fifth session of the Timber Commission in October 2007, which decided to continue work on assessing the wood supply potential of Europe's forests.

The regular activities under the programme also paid special attention to wood energy aspects: the annual market discussions in the context of the Timber Committee session, organized for the first time together with the International Softwood Conference, a major private sector forum, reviewed new market opportunities created by the wood-based energy policies sector alongside the regular in depth review of recent trends and the short term outlook. The programme's annual flagship publication, the **Forest Products Annual Market Review** also assesses the way in which wood energy policies and markets are reshaping the forest sector.

A number of capacity-building workshops were held in South-East Europe, to help countries develop adequate policies and institutions for the forest sector, with a focus this year on marketing and on wood energy.

Analysis and discussions of relevant policy developments have stressed the cross-sectoral dimension. The Timber Committee is increasingly cooperating with other parts of the UNECE, such as the Committee on Sustainable Energy and the Water Convention Secretariat. "Forests and Water" is the focus of another resolution adopted at the Warsaw MCPFE Ministerial, through which Signatory States commit themselves to the sustainable management of forests in relation to water, to coordinating policies on forests and water, and to facilitating the development and implementation of measures, which may include economic tools such as payments for ecosystem services.

The Section made a major contribution to the **Fifth Ministerial Conference on the Protection of Forests in Europe:** it provided support to the preparation of the resolutions, implemented about a third of the items on the MCPFE programme of work and prepared, jointly with the Liaison Unit Warsaw of MCPFE, the report *The State of Forests in Europe 2007*, the most comprehensive, up-to-date assessment of Europe's forests, based on criteria and indicators for sustainable forest management. The report concludes that overall, European forests are sustainably managed; and provides national and regional information for policymakers on the situation and trends in all aspects of sustainable forest management. It represents a qualitative improvement in data quality and coverage compared to earlier studies of a similar nature. Among other improvements, it contains information on the qualitative indicators i.e. on policies, institutions and instruments adopted by European countries, An *enquiry on private forest ownership in Europe* provides new data on the distribution of forest ownership in a number of European countries and allows for socio-economic observations and an understanding of the changes which have occurred during the past 15 years.

Challenges for 2008

For the Timber Committee and its partners, 2008 will be the year of strategic decisions and improved communication. A process of widespread consultation and focused decision-making will decide the broad lines of the activities of the Committee and its partner, the European Forestry Commission of FAO. A special, joint session of the two bodies, 28-30 April 2008, will decide on the integrated programme for the next 5 years, to 2013. Naturally all stakeholders and partner organizations will be involved in the process.

In October, the Timber Committee will be one of the sponsors of the Pan European Forest Week, to be held from 20-24 October in Brussels and Rome, which will focus on emerging issues, raising the profile of the forest sector and showing how regional organizations are working together to promote sustainable forest management in Europe. In parallel, countries are being invited to organize national events with similar objectives.

The high price of energy and the ambitious targets for renewable energy are having significant impacts on forest products markets and raise difficult questions about how much wood will be available on a sustainable basis to meet the targets as well as the needs of other users. There is an urgent need for better information for policymakers, as well as for a meeting place between the forest sector community and the energy community. The Timber Committee with its partners will pursue its work to analyse the future impact of these developments and in estimating the potential wood supply in Europe. UNECE with its multisectoral structure and convening power is ideally placed to address these complex issues. In this case, the Timber Committee is working with the Committee on Sustainable Energy as well as other partners in this area.

The Timber Committee will continue its activities to monitor and analyse forest products markets (including for energy), by collecting data, publishing the *Forest Products Annual Market Review*, the fastest and most comprehensive available review of market trends at the regional level, and organizing the Timber Committee market discussions, which provide an authoritative review of the market conditions in the forthcoming year, for the use of governments and market actors.

During 2008, work will start on the *Global Forest Resource Assessment 2010* (FRA 2010), led by FAO Rome. UNECE/FAO Geneva will continue to work closely with Rome in collecting and validating this information, for countries in the region. This enquiry is the keystone of all international data about forests, worldwide, so it is vital that the best possible data, fully checked and comparable, are collected for all countries in the world.

The programme to improve our coverage of forest sector policies and institutions will be developed: there is now a good information base, collected for the Warsaw ministerial conference: this will be validated, organized and made available, alongside new information being collected for FRA 2010.

During 2008, the programme of capacity building in the countries of Eastern Europe, the Caucasus and Central Asia will be continued, as resources allow, mostly in the fields of marketing and policies and institutions, building on partnerships developed in recent years.

HOUSING AND LAND MANAGEMENT

Achievements in 2007

The Committee on Housing and Land Management put strong emphasis on the implementation of policy recommendations and of the Ministerial Declaration on Social and Economic Challenges in Distressed Urban Areas in the UNECE Region that was adopted in 2006 and that will guide the work of the Committee in the next five years. The Committee also attempted to strengthen the linkages between housing, spatial planning and land administration in its activities.

A number of demand-driven follow-up and capacity building activities to the policy guidelines on condominium management, housing finance and social housing took place in 2007 under the auspices of the Committee. The issues discussed were concentrated on specific topics selected by the organizing country, such as integrated approaches for housing development, housing maintenance and management, and the sustainable development of small and medium-sized cities. They were perceived as useful and contributed to the implementation of policies.

The **country profile on the housing sector** of Georgia was published in 2007, using a streamlined approach with an increased emphasis on analytical parts and policy recommendations. The Ministry of Economic Development of Georgia recognized the usefulness of the country profile for the development of the housing sector, in particular regarding the management of the multi-family housing stock, the provision of affordable housing, the role of municipalities in housing and spatial planning, and the consolidation of the legal framework. A number of recommendations have already been implemented. A study for Belarus is ongoing, which follows a more integrated approach and therefore contains a chapter on spatial planning and land administration.

The Working Party on **Land Administration** held its fifth session in 2007. A major decision was the approval of the Real Estate Market Advisory Group, which is expected to provide additional expertise on real estate markets, finance and legislation to the activities within the Working Party's programme of work. In-depth discussions were held on institutional challenges and changes in land management, on policies regarding the imposition of fees and charges for land administration services, and on informal settlements. The latter was based on a joint workshop of the Committee, the Working Party and the International Federation of Surveyors on informal settlements, which considerably increased the awareness of stakeholders for the existing challenges in this area. A joint study on the topic will be prepared.

A questionnaire survey on fees and charges was carried out in 2007, through which the current practices of 40 member countries could be identified. Moreover, a number of workshops provided member countries and participants with information on the modernization of the land administration system, the creation of an effective institutional set-up, and sustainable land management.

The land administration review for Azerbaijan was published in 2007. It puts forward a number of recommendations, such as on legal aspects, land reform and land markets, privatization of urban land, land-use and spatial planning, real property cadastre and land registration, topographic and cadastre mapping, and international cooperation.

A publication "Spatial Planning – Key Instrument for Development and Effective Governance, with Special Reference to Countries in Transition" was discussed and approved for publication by the Committee at its sixty-eighth session. It was felt important to consider spatial planning as a way to better integrate the economic, environmental and social aspects of development. Several countries reported to have taken measures to adjust their spatial planning systems and legislation. For instance, laws and government programmes were adopted or amended in Slovakia (Law on Spatial Planning), Romania (Law on Spatial Planning and Urban Development), Moldova (National Plan of Territorial Arrangement) and the Czech Republic (Act on Town and Rural Planning).

Challenges for 2008

In view of the three pillars of work of the Committee, namely housing, spatial planning and land administration, there is a need to further integrate these areas. Chapters on spatial planning and land administration will be included in future country profiles on the housing sector. In 2008, reviews are planned in Kyrgyzstan and Azerbaijan, and launching events will be carried out in Georgia and Belarus.

Cross-sectoral activities should also be intensified. The secretariat is currently

exploring synergies between the Environmental Performance Reviews and the country profiles as well as between housing and population. A joint pre-mission to Kyrgyzstan of the Environmental Performance Review and the Country Profile on Housing will be carried out in February 2008. An in-depth discussion on linkages between housing and demographic developments is foreseen for the Committee's sixty-ninth session. The Committee also welcomed a proposal to establish an expert group on energy efficiency in the housing sector. The topic will be addressed in cooperation with the Sustainable Energy Division.

A major obstacle for the implementation of recommendations remains the weak institutional set-up and the lack of capacities at the national, regional and local government levels. Thus, the clear division of responsibilities, and the creation of effective decentralization and functioning public institutions should be stressed in future activities.

In land administration, the streamlining of institutional responsibilities between cadastre, land registration, mapping and rural development agencies; the use of land management tools for urban and rural development; and the promotion of public-private partnerships can be identified as areas for future action. Within the Working Party, ways to more closely link the workshop series with the programme of work will be discussed. Land Administration Reviews will be carried out in Tajikistan and Latvia in 2008. Workshops are planned on Legal Empowerment of the Poor in Bergen, Norway, and on Influence of Land Administration on People and Business in Cavtat, Croatia.

In the area of planning, future activities should emphasize public participation and effective division of responsibilities between national, regional and local governments. Moreover, the integration of spatial planning with housing policies, land administration and other policy areas such as education, infrastructure, health and economic policies, is needed.

POPULATION

Achievements in 2007

Population Ageing

The UNECE Ministerial Conference on Ageing convened from 6 to 8 November in León, Spain, marked the first five-year cycle of review and appraisal of the Madrid International Plan of Action on Ageing (MIPAA) and its Regional Implementation Strategy (RIS). Ministers and high-level officials from 45 UNECE member States and the European Commission, international organizations, non-governmental organizations and other stakeholders discussed progress achieved in implementing the MIPAA/RIS, shared experiences and good practices and identified priorities for future action. Twenty-four countries were represented at the ministerial level. The Conference adopted the Ministerial Declaration "A Society for All Ages: Challenges and Opportunities".

Adjustments to social protection systems, the labour market and health care constitute core areas of ageing-related policy interventions in many countries and they received corresponding attention at the Conference. Governments recognize that it is crucial to go beyond the adjustments motivated mainly by fiscal concerns and take a broader view, including promoting active ageing, lifelong learning and intergenerational solidarity, and leaving more room for individual choice in life-course transitions among education, work and retirement. Recognizing that population ageing will continue for many decades, member States emphasized the need to make adjustments that are sustainable in the long run.

The preparatory process for the Ministerial Conference included several meetings and monitoring activities. A group of leading experts on ageing established to prepare the Conference met in February in Vienna and proposed topics for the political declaration and agenda items for the ministerial conference. The intergovernmental Preparatory Committee for the Conference met in July in Geneva and in November in León, to negotiate the Ministerial Declaration and to elaborate the content and modalities of the Conference. The European Centre for Social Welfare Policy and Research, which is assisting the UNECE secretariat in the follow-up to MIPAA/RIS, published country-profiles based on a coherent set of ageing-related indicators.

In collaboration with the United Nations Population Fund (UNFPA), a capacity-development workshop "Ageing – a Challenge and an Opportunity for the Countries of Eastern Europe, the Caucasus and Central Asia" was organized in March in Chisinau, Moldova, with the participation of 18 out of the 19 countries of the target region. The workshop improved understanding of how to identify and analyze challenges and opportunities related to ageing and demographic change. It provided knowledge for developing action plans and projects in response to population ageing as well as practical guidance for compiling country reports for the Ministerial Conference.

Generations and Gender

The UNECE Generations and Gender Programme (GGP) is on its way to becoming the most compelling source of policy-relevant research on population issues in the UNECE region. It comprises a survey that deals with a broad range of influences on demographic behaviour in a longitudinal panel study, and a related contextual database that covers national and regional trends and policies on these issues.

The Sixth Meeting of the International Working Group of the Programme took place in January in Ljubljana, Slovenia. It decided on the format of analytic outputs of the Programme, exchanged experiences on its national implementation, and discussed issues related to international accessibility and dissemination of the collected micro-data. These decisions are being implemented and the release of the first harmonized micro-data files for comparative research is foreseen in January 2008.

Norway started the first wave of the survey, which brought the total number of countries that entered data-collection phase to 15. The two countries (Bulgaria, Russian Federation) that were scheduled to implement the second wave of the survey completed it successfully. Four more countries (Georgia, Lithuania, Norway, Poland) formed their contextual database, which is now available for eight countries.

Challenges for 2008

In the follow-up to the 2007 Ministerial Conference on Ageing, the challenges will be related to improving international exchange of experience and to monitoring of the implementation of MIPAA/RIS and the León Ministerial Declaration. Relying on the positive experience over the last couple of years, the cooperation in the network of focal points on ageing need to be strengthened further, including establishment of a framework for regular intergovernmental meetings. For monitoring, voluntary contributions need to be attracted from member States and partnerships strengthened with other organizations, such as the European Centre for Social Welfare Policy and Research, the International Institute on Ageing and the United Nations Population Fund.

In the Generations and Gender Programme, two crucial steps are scheduled for 2008: launch of the archive of harmonized micro-data for internationally comparative research, and presentation of policy-relevant results in an intergovernmental conference on generations and gender. The main challenges are (1) to shorten the time from data-collection to the availability of the harmonized micro-data for the countries already in the Programme, (2) to demonstrate the benefits of the programme beyond the research community, and (3) to encourage more countries to join. These challenges can be met in the strengthening strategic partnership with the European Commission in developing this Programme.

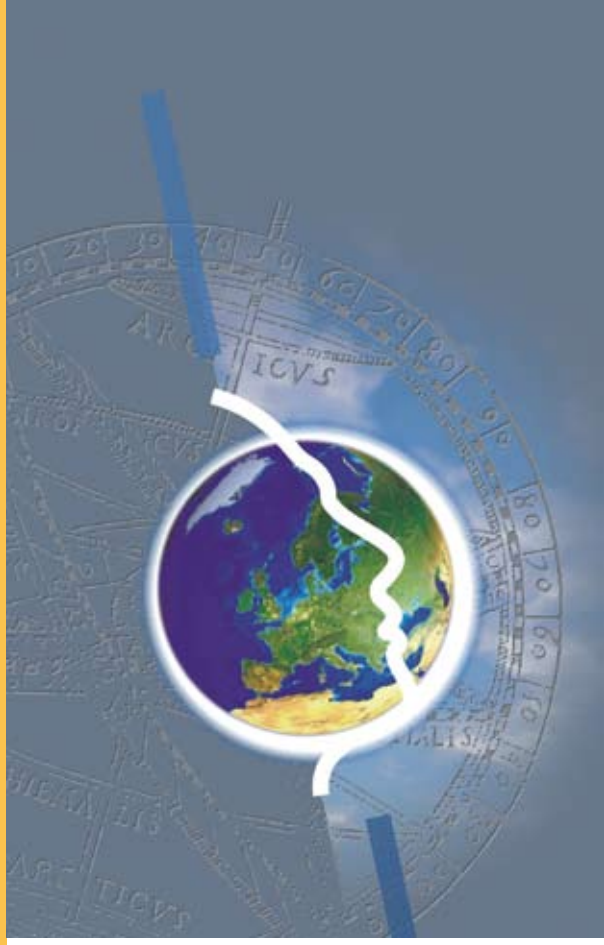
ECONOMIC COOPERATION AND INTEGRATION

The subprogramme on Economic Cooperation and Integration was created as a result of the UNECE reform adopted in December 2005. The Subprogramme aims to promote a policy, financial and regulatory environment conducive to economic growth, innovative development and higher competitiveness in the UNECE region, with a particular focus on countries with economies in transition. The adoption of its programme of work at the first session of the Committee on Economic Cooperation and Integration (CECI) in September 2006 paved the way for the activities of the Economic Cooperation and Integration Division. The year 2007 represented an important milestone, as the Subprogramme started work in five focus areas, and achieved concrete results building on considerable preparatory efforts.

The first meeting of the Team of Specialists on **Innovation and Competitiveness Policies** took place in March 2007, with the participation of a wide group of experts designated by UNECE member States as well as representatives of international organizations and other stakeholders. This Team of Specialists represents an important practical source of expertise and guidance to carry out the mandated activities in this area. The Team agreed on the modalities of implementing the tasks set up in the programme of work and on the concrete forms of collaborative work, including through the use of the CECI interactive information exchange platform. As a result of the cooperative efforts in this area, the Team developed a comprehensive Comparative Review of country experiences in the UNECE region focused on the creation of a conducive environment for higher competitiveness and effective national systems of innovation.

The International Conference "Reducing Barriers to Entrepreneurship and Encouraging Enterprise Development: Policy Options" (Geneva, June 2007) was attended by a large group of experts, in particular from countries with economies in transition. The Conference provided an opportunity to discuss how to overcome administrative barriers to enterprise establishment and operation and what regulatory changes are needed to create more favourable conditions for entrepreneurship. The participants made a number of recommendations and proposals to further improve the environment for entrepreneurship in the UNECE region. The network of experts in this area has served to provide valuable inputs to this process of identification of good practices in this thematic area. The support of experts from government, business and academia contributed to the productive discussions at the conference and the dissemination of its conclusions.

A Meeting of Experts on **Financing for Innovative Development** was held in Geneva in May 2007, with the participation of representatives of government agencies operating in this field, business angels, venture capital associations as well as the wider business community. The meeting was jointly organized with the United Nations Department of Economic and Social Affairs. The participants discussed the challenges faced by innovative enterprises in raising finance and the ways to address them, including the role of business angels and early-stage financing support programmes, venture capital and other forms of financing, as well as the importance of development finance institutions in fostering innovation. This meeting contributed to the ongoing efforts to establish and develop an expert network in this area. The deliberations provided an important input to the compilation of a Comparative Review of the experiences of UNECE countries in financing innovative development. The Review was completed with the continued support of this group of experts.



An International Conference "Intellectual Property Rights Protection and Transforming Research and Development Outputs into Intangible Assets in Economies in Transition" (Geneva, July 2007) discussed main challenges, good practices and policy options relating to the role of intellectual property in the transfer of technology from research institutions to the business sector. Among the topics addressed were: intellectual property strategies for entrepreneurs and small and medium-sized enterprises, intellectual property rights enforcement, intellectual property audits, accounting and valuation issues. The discussions at the conference provide a good basis for further collaborative work on these issues and for developing related policy options.

The Team of Specialists on **Intellectual Property** held its second annual session in July 2007. The Team reviewed progress in the compilation of a Comparative Report on the commercialization of intellectual assets, cooperation with other international organizations in this area, in particular the World Intellectual Property Organization (WIPO), and adopted its programme of work for 2008. The meeting welcomed the ongoing efforts for collaboration with other CECI thematic areas, in particular financing for innovative development, and cross-sectoral cooperation with related activities carried out in other

UNECE divisions, for example those covered by the Working Party on Regulatory Cooperation and Standardization Policies. Capacity-building activities took place in Belarus, the Russian Federation and Ukraine. In addition, training events on the use of intellectual property as a tool to raise finance were held in Geneva and Ljubljana in collaboration with WIPO and the expert network in the area of financing for innovative development,

An International Conference "Knowledge Sharing and Capacity Building on Promoting Successful Public-Private Partnerships (PPPs) in the UNECE Region" was organized in Tel-Aviv in June 2007 with the support of the Government of Israel. The conference discussed lessons learned from experiences of member countries and acknowledged the importance of capacity-building activities to foster the development of the necessary skills for the effective implementation of PPPs. The conference provided an occasion to review the Guidelines to Promoting Good Governance in Public-Private Partnerships, a document which demonstrates how Governments and the private sector can improve governance in PPPs and which can create the basis for the elaboration of training modules in this area. An Expert Meeting held on 13 November 2007 discussed further practical steps in developing a Comparative Review of practical experiences of PPPs in the UNECE region. CECI work in this area has been supported by the continued cooperation with UNESCAP and UNECA within the framework of the United Nations Development Account Project "Public-Private Partnership Alliance Programme for Capacity-Building in Infrastructure Development and Provision of Basic Services".

The extensive collaborative work has contributed to the elaboration of policy documents in all five focus areas which were submitted for consideration at the second annual session of CECI in December 2007. These documents can serve as the basis for the identification of issues and preparation of training materials and toolkits for future capacity-building activities.

Since it was launched in 1998, the ongoing UNECE project for the biomass sector has been at the forefront of new developments in the field of biobased energy carriers. The experience of innovative developments in the logistics chain of wood and agroresidues is being widely shared with countries within and outside the UNECE region.

In the course of the year, the Division developed, in close cooperation with the UNECE Information Systems Unit, and introduced on its webpage the CECI information exchange platform. The platform is an innovative technological tool for communication, networking and joint work with the CECI main constituency, in particular its Teams of Specialists and expert networks.

The challenges ahead

In 2008, the Economic Cooperation and Integration Division will build on the achievements of the past year and will continue its efforts in support of the implementation of the CECI programme of work and, in particular, in expanding the scope of demand-driven capacity-building activities. The Division will focus increasingly on the development of materials and tools that can support these activities, including the preparation of guidebooks, training materials and other toolkits in various thematic areas.

The Division is prepared to face the challenge of continuously reflecting the actual and changing needs of UNECE member States in its activities. It is committed, within the existing resource constraints, to assist member States, especially countries with economies in transition, in the dissemination and implementation of good practices fostering knowledge-driven development.

The Division's involvement in practical projects is also expected to gain new territory. In 2008 the biomass project will expand its activities from Northwest Russia to other regions of the Russian Federation that are developing their renewable energy sources. The focus of this work will be on the promotion of best practice in close cooperation with the private sector, in particular in the areas of logistics of second generation biomass flows in countries with economies in transition.

In order to overcome these challenges and support the effectiveness of the Division's work, it is essential to continue developing and strengthening partnerships with other international organizations and stakeholders in the different focus areas. These links will contribute to achieving synergies, facilitating the shared use of scarce expertise, will enhance the relevance of CECI activities and will better align them to actual needs. At the same time, by putting in contact various networks of interested parties, these efforts will promote knowledge sharing and the emergence of partnering communities across UNECE member States.

UNITED NATIONS SPECIAL PROGRAMME FOR THE ECONOMIES OF CENTRAL ASIA (SPECA)

SPECA activities in 2007 expanded in scope and gained in effectiveness thanks to the successful completion of the reform of the Programme. The second session of the SPECA Governing Council (Berlin, November 2007) reviewed the activities carried out by the Project Working Groups, discussed proposals on further strengthening the Programme, improving its coordination and cooperation with other programmes and organizations and approved the SPECA Work Plan for 2008-2009. This comprises 27 projects/activities with funding already secured or expected, amounting to a total of some $6 million and 21 projects with a total funding requirement of some $4 million which could be implemented in addition to the first group if supported by donors.

Comparative advantages stemming from well-coordinated support of the Programme by two regional commissions – UNECE and UNESCAP – were increasingly utilized. Two meetings of the SPECA Economic Forum were held in 2007. The first, "Focus on Asia" was organized in May in Almaty as part of the Asia-Pacific Business Forum of UNESCAP, attended by some 250 business and government representatives. The second meeting (Berlin, November 2007) was held in the form of the Conference "Central Asia and Europe: a New Economic Partnership for the 21st Century", attended by some 200 high-level representatives of Governments, the European Union, regional organizations, international financial institutions, private companies and the research community. Both meetings discussed how strengthened regional cooperation could contribute to improved trade and investment links between Central Asia and its Asian and European partners. Participants exchanged views on how the experience of the Association of Southeast Asian Nations (ASEAN) and the European Union could be adapted to the conditions of Central Asia. A regional group of researchers – supported by UNECE and UNDP – prepared a background study for the second meeting of the Economic Forum on how strengthened technical assistance by the United Nations family and its partner organizations can most effectively contribute to an improved regional business and investment climate. All six SPECA Project Working Groups (transport and border crossing, water and energy resources, trade, statistics, ICT for development, and gender and economy), held formal and/or informal meetings in 2007.

While providing support to Central Asian countries under SPECA, UNECE combined its in-house technical expertise with its ability to carry out normative, analytical, and technical cooperation functions as well as to provide a neutral umbrella for cross-sectoral, interministerial policy discussions and regular policy-business-research dialogues. In particular, during the period under review UNECE technical assistance to SPECA member countries concentrated, among others, on the following activities: (i) strengthening the capacity to implement UNECE conventions, standards and recommendations (in such areas as environment, trade, transport and statistics); (ii) improving national environmental governance and environmental information through the environmental performance reviews, and strengthening the capacity for transboundary water cooperation and management (environment); enhancing energy security and shifting towards a sustainable development path through improved energy efficiency; (iii) building the environment for "Single Window" implementation, and strengthening national trade facilitation institutions, including the capacity for World Trade Organization accession negotiations (trade); (iv) strengthening the national capacity to monitor demographic, social and economic progress towards the implementation of goals set out in the Millennium Declaration (statistics);(v)assisting in the development of transport infrastructure and border crossing facilitation (transport); (vi) improving ICT policymaking; and (vii) promoting gender equality and gender-sensitive economic policies under the MDG framework (gender mainstreaming).

TECHNICAL COOPERATION

UNECE's involvement in the provision of technical cooperation services reflects the growing demand for this type of activities. It builds upon UNECE's capacity in the areas of its mandate and expertise to address the evolving needs and potential challenges facing its member States.

Through a combination of its normative, analytical, and operational functions the Commission ensures a direct link between intergovernmentally agreed norms and standards and technical cooperation aimed at assisting member States in their implementation. Being an extension of its normative and analytical work, UNECE's technical assistance enables recipient member countries to benefit directly from the acquired knowledge.

In fulfilling its technical assistance function, the UNECE builds upon an accumulated in-house expertise in its sectoral areas of excellence and on the network of national policymakers and experts from line ministries it has established and extended over time among all countries in the region. UNECE technical cooperation activities target cross-border and subregional issues and involve experts from several countries, thus adding extra value to technical assistance and policy advisory services offered by other organizations, operating at a country level.

Taking into consideration the growing importance of UNECE technical assistance services, the sixty-second session of the Commission in April 2007 adopted a revised UNECE Technical Cooperation Strategy. As outlined in this document, the main goal of UNECE technical cooperation is to improve national capacities of countries of Eastern Europe, the Caucasus and Central Asia, and South-East Europe to implement UNECE legally binding instruments and other global and regional standards. Other important objectives include:

- Assisting with the formation of institutional frameworks in support of subregional and regional integration in areas relevant to UNECE's programme of work;
- Supporting countries with economies in transition in their capacity-building efforts towards the achievement of internationally agreed development goals in the UNECE region; and
- Assisting economies in transition in developing and implementing technical cooperation programmes/projects in the areas relevant to UNECE's programme of work, with a special emphasis on those activities related to resolving subregional and transboundary problems.

UNECE technical cooperation activities are focused on countries with economies in transition in the UNECE region and based on demands from Governments, either individually or as a group when subregional concerns are addressed. Most of these activities are linked to UNECE's normative work, aiming to improve the capacity of Governments to implement UNECE legal instruments, norms, standards and regulations. Being in line with the emphasis placed by the General Assembly on the implementation of the United Nations normative work, this approach helps to ensure that the activities do not duplicate those of other organizations. While planning and implementing technical cooperation activities, the UNECE takes into account the need to maximize their impact on the national capacity of the member States with economies in transition as well as to foster the principle of creating national ownership of such activities.

In line with the UNECE Technical Cooperation Strategy, the Commission employs the following main types of services:

- Advisory services. Through these activities, which aim at assisting member States with economies in transition to implement UNECE legal instruments and regulations, the Commission ensures the provision of technical expertise, the transfer of knowledge on policy-related issues, development strategies and programmes and the formulation of technical cooperation projects and programmes;

- Capacity-building workshops, seminars and training courses aimed at building knowledge and skills, which contribute to improving the capacity of recipient countries to implement global and UNECE legal instruments, regulations and norms; and
- Technical cooperation projects, including those with multisectoral and/or subregional focus, in areas where the UNECE has a mandate and expertise.

Most of the UNECE policy advisory services and capacity-building activities (workshops/training courses and technical cooperation projects) are organized at a regional/subregional level in order to maximize the number of countries benefiting from these activities. They are planned and implemented in cooperation with other international organizations and institutions both within and outside the United Nations system, as well as various subregional organizations and initiatives. The main principles underpinning this cooperation include the need to avoid potential duplication of activities, ensure effective allocation of resources, and promote complementarity of efforts and a more rational division of responsibilities. Particular attention is given to building partnerships with the business community and non-governmental organizations, which are maintained as a means to promote and support the implementation of UNECE activities and projects, in particular those relating to strategies, norms and standards developed for the region.

Major achievements in 2007

As of 31 October 2007, Regional Advisers and regular budget staff of the UNECE Divisions carried out more than 140 advisory missions, capacity building workshops and training activities. These activities were mainly focused on improving the capacity of transition/emerging market economies to implement UNECE legal instruments, regulations and norms, as well as assisting these countries in the accession to and implementation of UNECE international legal instruments. About 87 per cent of technical assistance projects, advisory missions and training workshops undertaken by the UNECE Regional Advisers and regular budget staffs were focused on its member States eligible for Official Development Assistance. In the foreseeable future, these countries will remain the primary recipients of UNECE technical assistance. National reporting shows that in 2007 member States made significant progress in implementing both UNECE legally binding instruments and "soft laws", in particular recommendations resulting from environment performance reviews, statistical standards, guidelines on housing policies, recommendations on land administration, guidelines for energy efficiency, and standards and recommendations for trade facilitation and electronic business.

In 2007, the UNECE continued to promote cooperation with the other United Nations regional commissions in a number of areas. The main objective of its efforts in this area was to facilitate cooperation for resolving the interregional issues of development concern through the use of the commissions' technical expertise as well as networks of policymakers and experts. The Special Programme for the Economies of Central Asia (SPECA) has been one of the promising examples of joint efforts in providing technical assistance, undertaken by UNECE in cooperation with UNESCAP.

UNECE's partnership with other regional commissions was particularly active in the implementation of eleven technical cooperation projects funded from the United Nations Development Account (UNDA), of which three projects were led by the UNECE. Implementation of these joint projects, focused on capacity building in the areas of environment protection, trade facilitation, clean energy, development of interregional transport linkages, statistics etc., helped the regional commissions to further strengthen the linkage between their normative, analytical and operational activities, in particular aimed at achieving the Internationally Agreed Development Goals, tackling transboundary issues and ensuring the provision of regional public goods. Moreover, it helped to promote more systemic approaches to resolving specific development problems of beneficiary countries. Five more project proposals, including two projects led by UNECE, have been considered by the General Assembly for financing under the Sixth Tranche of the UNDA (2008-2009).

In 2007, more than 45 other UNECE technical assistance projects/activities were funded from extrabudgetary resources contributed to its General and Local Technical Cooperation Trust Funds. The total amount of extrabudgetary resources provided by donors through these funds reached $6.95 million (as of 31 October 2007).

In providing technical assistance to the economies in transition, UNECE has continued its cooperation with other organizations of the United Nations family and regional organizations in order to improve synergy, promote complementarity of efforts and avoid overlapping and duplication of activities. UNECE has maintained active collaboration with the Organization for Security and Cooperation in Europe, World Bank, European Bank for Reconstruction and Development, and Asian Development Bank. Within the United Nations family organizations the United Nations Development Programme has been the most prominent partner, in practically all key areas of UNECE technical assistance. Technical cooperation with subregional organizations and initiatives, such as the Eurasian Economic Community, the Organization of the Black Sea Economic Cooperation, SECI/Stability Pact for Southeastern Europe, and Commonwealth of Independent States continued to strengthen in the areas of transport, trade facilitation, statistics, environment and sustainable energy.

GENDER

Progress made

During 2007 UNECE made substantive progress in mainstreaming gender into its work. The discussion on economics of gender at the Commission's sixtieth anniversary session and its recommendations played a key role in this process. New activities supported by extra-budgetary funding were undertaken by the Project Working Group on Gender and Economy of the United Nations Special Programme for the Economies of Central Asia (SPECA) and further progress was made in developing gender statistics (www.unece.org/oes/gender/welcome).

Sixtieth Anniversary session and its follow-up

- The session raised awareness that gender is among decisive factors promoting sustainable development in the UNECE region along with energy security and transport development. The discussion focused on links between gender equality, competitiveness and growth, country experiences, EU equal opportunities policy and role of UNECE and other international organizations in mainstreaming gender into economic policies. The importance of effective mechanisms to share power, child care and work, was stressed by Norway, to successfully use men's and women's talents to promote growth. Arguments for gender as "smart economics" were based on findings of the Gap Report of the Davos Forum and a new Action Plan on Gender Equality of the World Bank Group. Member countries encouraged UNECE to strengthen efforts to mainstream gender into its work, in particular in such areas as entrepreneurship, gender implications of ageing and gender-responsive budgets, and to identify relevant modalities.

- Member countries also took note of the proposal to organize a regional meeting in 2008-2009 to review progress and identify good practices in the area of women and economy in the context of the Beijing +15 review, and requested the Executive Committee to discuss its format and modalities.

- As a follow-up to the Commission session member countries established an Informal Group of member countries on gender and economy led by Norway. The group had two meetings and reported to the Executive Committee on proposed next steps: establishing a Network of representatives of economic/finance ministries and gender machineries (NETECON), improving knowledge of UNECE staff on gender issues (gender training), identifying a few "pilot" areas in the work programmes of Sectoral Committees where mainstreaming efforts could bring tangible results, preparing inputs for a global conference on financing for development planned for 2008 and exploring options for additional resources to carry the work.

Sectoral Committees

- Gender aspects are part of the regular UNECE programme of work only under the Conference of European Statisticians. In 2007, for the first time, gender was also discussed by another sectoral committee, at the second session of the Committee on Economic Cooperation and Integration in December. Gender related aspects of entrepreneurship and its legal framework were also included in the international conference on reducing barriers to entrepreneurship which the Committee organized in June.

SPECA Project Working Group on Gender and Economy

In 2007 the Project Working Group identified priorities areas for activities and sources of their funding: promoting gender sensitive economic policies and capacity building to increase women's economic opportunities in the small and medium-sized enterprise (SME) sector (www.unece.org/oes/gender/SPECA).

- *Promoting gender sensitive economic policies.* The following activities were completed: (i) a multi-stakeholder network of national statistical offices,

economic research institutes and national gender machineries was established; (ii) a stocktaking study on women's economic position and country policies reflected in National Development Strategies in SPECA member countries was prepared; (iii) two expert meetings discussed good practices in mobilizing women's economic potential in Central Asia (July in Geneva and November in Berlin). These activities were funded from the interregional DA project 2007-2008. The Working Group works in close cooperation with the United Nations Development Programme (UNDP), the Regional Bureau for CIS of the United Nations Development Fund for Women, International Labour Organization (ILO) and European Union.

- *Capacity building.* A total of 40 policymakers responsible for SME policies, representatives of women's business associations, members of academia and NGOs from SPECA member countries were trained during two workshops (Haifa, August/September and October/November) whose themes were support systems for women in small business, information and communication technologies for SMEs and opportunities for tourism in rural areas. Both workshops were fully supported by the Government of Israel and implemented by the Mount Carmel International Training Center in cooperation with UNECE. The workshops were run in Russian and course materials included the UNECE publication on good practices in access to financing and ICT for women entrepreneurs.

Gender statistics

Gender statistics continued to be one of the areas of major activities of UNECE under the Conference of European Statisticians. In addition to maintenance of the gender statistics website and database (http://www.unece.org/stats/gender/welcome1.htm), training tools on gender statistics were developed in cooperation with the World Bank as well as the Population Fund, Food and Agriculture Organization of the United Nations and UNDP. As part of its work on gender statistics, UNECE also continues efforts to improve measurement of violence against women as requested by Assembly Resolution A/RES/61/143.

Challenges

Among key challenges for 2008 are:

- Launching the preparatory process for a regional review in women and economy area in the context of Beijing +15 review.
- Strengthening gender aspects of work of sectoral committees.
- Supporting the SPECA Project Working Group programme of work for 2008, which includes assessment of business environment for women entrepreneurs in rural and urban areas in Kazakhstan and Kyrgyzstan (in cooperation with ILO), further work on MDG related indicators in the economic area, establishment of a knowledge hub on gender and economy, and two training workshops organized in cooperation with the Government of Israel.
- Providing timely contribution(s) on region-specific gender aspects requested by the General Assembly and the Economic and Social Council, in particular the financing for development process.
- Further developing cooperation with United Nations agencies under the "One United Nations" process at country and regional levels.

GOVERNANCE AND ORGANIZATIONAL STRUCTURE

GOVERNING BODIES

United Nations Economic Commission for Europe (UNECE)

Chairperson:
Mr. Alex Van Meeuwen (Belgium)

Vice-Chairpersons:
Mr. Gordan Markotic (Croatia) (up to 31 July 2007)
Mr. Yevhen Bersheda (Ukraine) (up to 31 December 2007)

Executive Committee (EXCOM)

Chairperson:
Mr. Alex Van Meeuwen (Belgium)

Vice-Chairpersons:
Mr. Elchin Amirbayov (Azerbaijan)
Mr. Slobodan Vukčević (Serbia)

Sectoral Committees

Committee on Environmental Policy

Chairperson:
Mr. Zaal Lomtadze (Georgia)

Vice-Chairperson:
Ms. Ruzanna Davtyan (Armenia)
Mr. Bert-Axel Szelinski (Germany)
Mr. Massimo Cozzone (Italy)
Mr. Bulat Yessekin (Kazakhstan)
Mr. Sinisa Stankovic (Montenegro)
Ms. Eldrid Nordbo (Norway)
Mr. Jon Kahn (Sweden)
Mr. John Michael Matuszak (United States of America)

Inland Transport Committee

Chairperson:
Mr. Ralph Kellermann (Germany)

Vice-Chairpersons:
Mr. Xavier Guérin (France)
Mr. Sergei Negrei (Belarus)

Members:
Mrs. Domna Papamichail (Greece)
Mr. Fabio Croccolo (Italy)
Mr. Bob Oudshoorn (Netherlands)
Mr. José Alberto Franco (Portugal)
Mr. Mikhail Maslov (Russian Federation)
Mr. Jean-Claude Schneuwly (Switzerland)
Mr. Emir Yüksel (Turkey)

Conference of European Statisticians

Chairperson:
Ms. Heli Jeskanen-Sundström (Finland)

Vice-Chairpersons:
Mr. Brian Pink (Australia)
Mr. Peter Hackl (Austria)
Mr. Eduardo Pereira Nunes (Brazil)
Mr. Walter Radermacher (Germany)
Ms. Aija Zigure (Latvia)
Mr. Vladimir Sokolin (Russian Federation)
Ms. Katherine Wallman (United States of America)

Observers:
Mr. Paul Cheung (United Nations Statistics Division)
Mr. Pieter Everaers (Eurostat, Statistical Office of the European Communities)
Mr. Enrico Giovannini (Statistics Directorate, OECD)
Mr. Rob Edwards (Statistics Department, IMF)
Mr. Mikhail Korolev (Interstate Statistical Committee of the Commonwealth of Independent States)
Mr. Ivan P. Fellegi (Chairman of the OECD Committee on Statistics)
Ms. Shaida Badiee (World Bank)

Committee on Sustainable Energy

Chairperson:
Mr. Jean-Christophe Füeg (Switzerland)

Vice-Chairpersons:
Mr. Renaud Abord-de-Chatillon (France)
Mr. Laszlo Molnar (Hungary)
Mr. Sergei Mikhailov (Russian Federation)
Mr. Nick Otter (United Kingdom)
Mrs. Barbara McKee (United States of America)

Trade Committee

Chairperson:
Mr. Rob van Kuik (Netherlands)

Vice-Chairpersons:
Mr. Georgi Stoev (Bulgaria)
Mr. Alexander Safarik-Pstrosz (Czech Republic)
Mr. Mikhail Antipov (Russian Federation)
Mr. Hasan Yalçin (Turkey)
Mr. Malcolm McKinnon (United Kingdom)

Timber Committee

Chairman:

Mr. Johann Dengg (Germany)

Vice-Chairpersons:

Mr. Heikki Pajuoja (Finland)
Mr. Branko Glavonjic (Serbia)

Committee on Housing and Land Management

Chairperson:

Ms. Doris Andoni (Albania)

Vice-Chairpersons:

Mr. Wolfgang Foerster (Austria)
Mr. Azer Khanlarov (Azerbaijan)
Ms. Natia Jokhadze (Georgia)
Mr. Peter Creuzer (Germany)
Mr. Hubert van Eyk (Netherlands)
Mr. Bogdan Suditu (Romania)
Mr. Andrey Starovoytov (Russian Federation)
Ms. Elena Szolgayova (Slovakia)
Mr. Marcos Vaquer Caballeria (Spain)
Mr. Ernst Hauri (Switzerland)

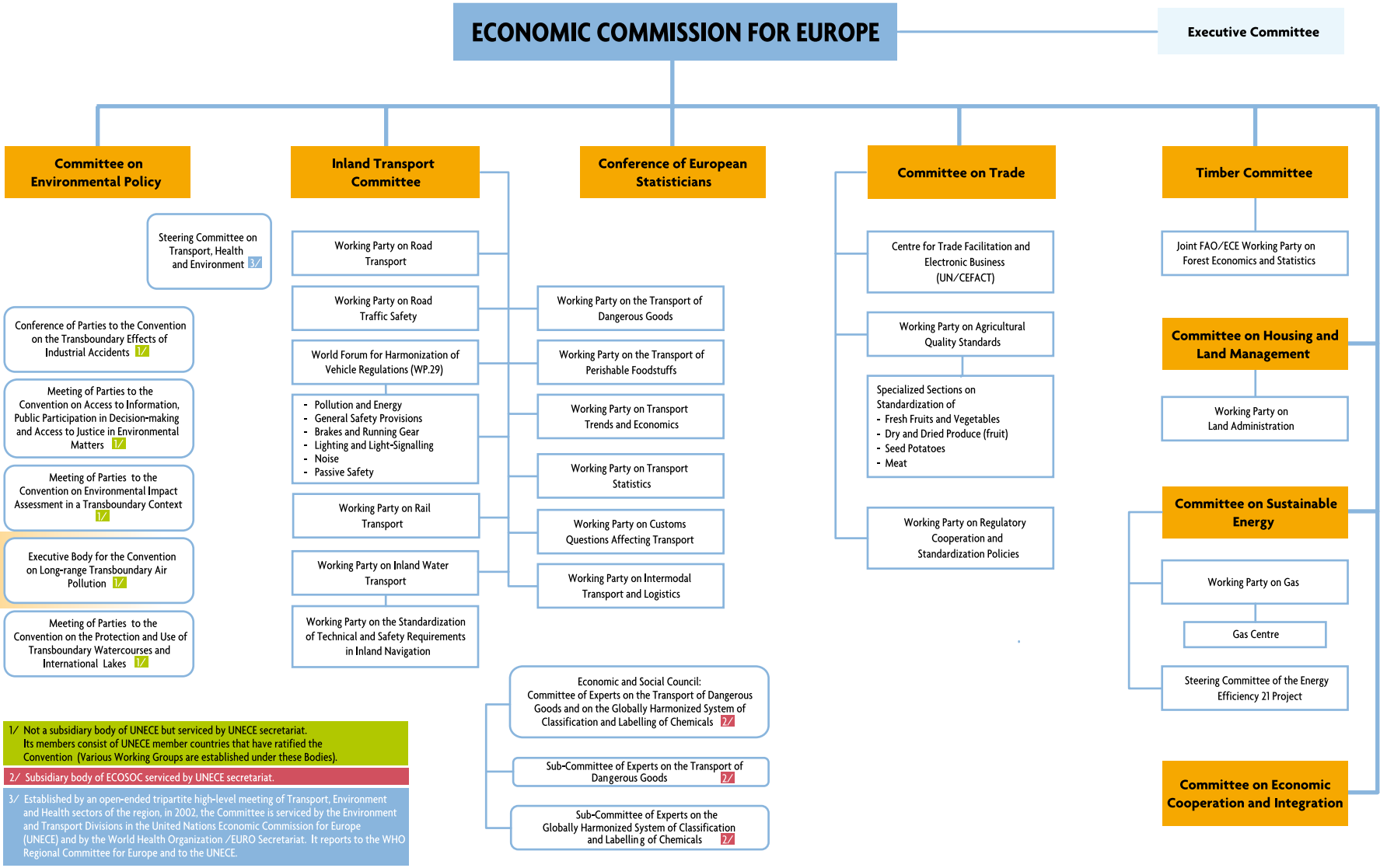
Committee on Economic Cooperation and Integration

Chairperson:

Mr. Matti Pietarinen (Finland)

Vice-Chairpersons:

Mr. David Salazar (United States of America)
Mr. Andrei Savinykh (Belarus)



1/ Not a subsidiary body of UNECE but serviced by UNECE secretariat. Its members consist of UNECE member countries that have ratified the Convention (Various Working Groups are established under these Bodies).

2/ Subsidiary body of ECOSOC serviced by UNECE secretariat.

3/ Established by an open-ended tripartite high-level meeting of Transport, Environment and Health sectors of the region, in 2002, the Committee is serviced by the Environment and Transport Divisions in the United Nations Economic Commission for Europe (UNECE) and by the World Health Organization /EURO Secretariat. It reports to the WHO Regional Committee for Europe and to the UNECE.

MEMBER STATES AND MEMBER STATES REPRESENTATIVES

Albania	H.E. Mr. Sejdi QERIMAJ
Andorra	H.E. Mr. Xavier ESPOT MIRÓ
Armenia	H.E. Mr. Zohrab MNATSAKANIAN
Austria	Mrs. Christina KOKKINAKIS
Azerbaijan	H.E. Mr. Elchin AMIRBAYOV
Belarus	H.E. Mr. Sergei ALEINIK
Belgium	H.E. Mr. Alex VAN MEEUWEN
Bosnia and Herzegovina	H.E. Mrs. Jadranka KALMETA
Bulgaria	H.E. Mr. Petko DRAGANOV
Canada	H.E. Mr. Marius GRINIUS
Croatia	H.E. Mrs. Mirjana MLADINEO
Cyprus	H.E. Mr. Andreas HADJICHRYSANTHOU
Czech Republic	H.E. Mr. Tomáš HUSÁK
Denmark	H.E. Mrs. Marie-Louise OVERVAD
Estonia	H.E. Mr. Tõnis NIRK
Finland	H.E. Mr. Vesa HIMANEN
France	H.E. Mr. Jean-Baptiste MATTÉI
Georgia	H.E. Mr. George GORGILADZE
Germany	H.E. Mr. Reinhard SCHWEPPE
Greece	H.E. Mr. Franciscos VERROS
Hungary	H.E. Mr. Gyula SZELEI KISS
Iceland	H.E. Mr. Kristinn F. ÁRNASON
Ireland	H.E. Mr. Dáithí Ó CEALLAIGH
Israel	H.E. Mr. Itzhak LEVANON
Italy	H.E. Mr. Giovanni CARACCIOLO di VIETRI
Kazakhstan	H.E. Mr. Amanzhol ZHANKULIYEV
Kyrgyzstan	H.E. Mr. Muktar DJUMALIEV
Latvia	H.E. Mr. Jānis MAŽEIKS
Liechtenstein	H.E. Mr. Norbert FRICK
Lithuania	H.E. Mr. Edvardas BORISOVAS
Luxembourg	H.E. Mr. Jean FEYDER
Malta	H.E. Mr. Victor CAMILLERI
Moldova	H.E. Mrs. Tatiana LAPICUS
Monaco	H.E. Mr. Robert FILLON
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Netherlands	H.E. Mr. Boudewijn J. VAN EENENNAAM
Norway	H.E. Mrs. Bente ANGELL-HANSEN
Poland	H.E. Mr. Zdzisław RAPACKI
Portugal	H.E. Mr. Francisco Manuel da FONSECA XAVIER ESTEVES
Romania	H.E. Mr. Doru Romulus COSTEA
Russian Federation	H.E. Mr. Valery LOSHCHININ
San Marino	H.E. Mr. Dario GALASSI
Serbia	H.E. Mr. Slobodan VUKČEVIĆ
Slovakia	H.E. Mr. Anton PINTER
Slovenia	H.E. Mr. Andrej LOGAR
Spain	H.E. Mr. Javier GARRIGUES FLÓREZ
Sweden	H.E. Mr. Hans DAHLGREN
Switzerland	H.E. Mr. Luzius WASESCHA
*Tajikistan**	H.E. Mr. Sirodjidin M. ASLOV
The former Yugoslav Republic of Macedonia	H.E. Mr. Georgi AVRAMCHEV
Turkey	H.E. Mr. Ahmet ÜZÜMCÜ
*Turkmenistan**	H.E. Mrs. Aksoltan T. ATAEVA
Ukraine	H.E. Mr. Mykola MAIMESKUL
United Kingdom	H.E. Mr. Peter GOODERHAM
United States	H.E. Mr. Warren W. TICHENOR
Uzbekistan	Mr. Badriddin OBIDOV

* Permanent Mission in New York.

As of 9 June 2008

SECRETARIAT

Number of UNECE staff members

Regular	195
Regional	6
Project staff	22
TOTAL	223

MANAGEMENT

Marek Belka
Executive Secretary

Office of the Executive Secretary

Paolo Garonna,
Deputy Executive Secretary

Susan Bartolo,
Chef de Cabinet and
Secretary
of the Commission

Patrice Robineau,
Senior Adviser to the
Executive Secretary

Environment, Housing and Land Management Division
Director

Transport Division
Eva Molnar,
Director

Statistical Division
Heinrich Brüngger,
Director

Economic Cooperation and Integration Division
Andrey Vasilyev,
Director

Sustainable Energy Division
Frédéric Romig,
Director

Trade and Timber Division
Virginia Cram-Martos,
Director

Technical Cooperation Unit
Zamira Eshmambetova,
Director

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

A. REGULAR BUDGET (in thousands of US dollars)

TYPE OF BUDGET	2008 Allotment
I. REGULAR BUDGET (SECTION 19)	
Post items	26,192.2
Non-Post items	2,066.7
Total:	**28,258.9**

II. REGULAR PROGRAMME OF TECHNICAL COOPERATION (SECTION 22)	2008 Allotment
General Temporary Assistance staff (Regional Advisers)	1,296.2
Other non-post items	230.8
Total:	**1,527.0**

III. UN DEVELOPMENT FUND (SECTION 35)	2008 Allotment
Non-post items	1,004,967.0
Total:	**1,004,967.0**

B. EXTRABUDGETARY (in thousands of US dollars)

TYPE OF FUND	2007 FINAL EXPENDITURES
General Trust Funds	3,740.8
Local Technical Cooperation Trust Funds/Projects	4,761.6
UNDP/UNFPA Projects	102.5
Total:	**8,604.9**

PUBLICATIONS (SELECTED)

GENERAL REPORTS

UNECE Report
- 2008
- 2007

Looking Back and Peering Forward – A Short History of the United Nations Economic Commission for Europe, 1947-2007
ECE/INF/2007/4 – April 2007

The Millennium Development Goals – The Way Ahead
A Pan-European Perspective
ECE/INF/2005/15 – June 2006

Annual Report of the Economic Commission for Europe to the Economic and Social Council
24 February 2006 – 27 April 2007

ENVIRONMENT

Environmental Policy and International Competitiveness in a Globalizing World: Challenges for low-income countries in the UNECE Region
ECE/CEP/146 – April 2008 – E (R forthcoming)

Environmental Monitoring and Reporting by Enterprises Eastern Europe, Caucasus and Central Asia
ECE/CEP/141 – 2007 – E,R

Environmental Indicators and Indicators-based Assessment Reports – Eastern Europe, Caucasus and Central Asia
ECE/CEP/140 – 2007 – E,R

Environment, Housing and Land Management
ECE/INF/NONE/2005/02/Rev.1 – August 2006 – E,F,R

Air pollution

Strategies and Policies for Air Pollution Abatement
2006 Review
ECE/EB.AIR/93 – E,F

- *Air Pollution Studies*

 # 16 Hemispheric Transport of Air Pollution 2007
ECE/EB.AIR/94 – January 2008

Environmental impact assessment

- *Environmental Series*

 # 8 Guidance on the Practical Application of the Espoo Convention
ECE/MP.EIA/8 – May 2006 – E/F/R

 # 7 Guidance on Public Participation under the Espoo Convention
ECE/MP.EIA/7 – May 2006 – E/F/R

Environmental performance reviews

Critical Issues in Implementation of Environmental Policies
UNECE Environmental Performance Review Programme
ECE/CEP/136 – October 2007 – E,F,R

 # 26 Republic of Serbia (Second Review)
 # 25 Republic of Montenegro (Second Review)
 # 24 Ukraine (Second Review) – E,R
 # 23 Republic of Moldova (Second Review)

Industrial accidents

Safety Guidelines and Good Practices for Pipelines
ECE/CP.TEIA/16 (Forthcoming)

UNECE Industrial Accident Notification System – Convention on the Transboundary Effects of Industrial Accidents
ECE/CEP.TEIA/13 – July 2005 – E/F/R

Public participation

Rules of Procedure (Forthcoming)

Guidance on Implementation of the Protocol on Pollutant Release and Transfer Registers
ECE/MP.PP/7 (Forthcoming)

Your Right to a Healthy Environment – A simplified guide to the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters
ECE/MP.PP/5 - E/F/R

Protocol on Pollutant Release and Transfer Registers
ECE/MP.PP/6 - E/F/R

Water

The Protocol on Water and Health: making a difference for a healthy environment
(Forthcoming)

Our Waters: Joining Hands Across Borders
First Assessment of Transboundary Rivers, Lakes and Groundwaters
ECE/MP.WAT/25 – 2007

Recommendations on Payments for Ecosystem Services in Integrated Water Resources Management
ECE/MP.WAT/22 – 2007 – E,R

Legal Basis for Cooperation in the Protection and Use of Transboundary Waters
ECE/MP.WAT/21 – 2006 – R (E forthcoming)

Strategies for monitoring and assessment of transboundary rivers, lakes and groundwaters
ECE/MP.WAT/20 – 2006 – E (R forthcoming)

Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes
ECE/MP.WAT/17 – January 2007 – E/F/R/German

- *Water Series*

#5 **Dam Safety in Central Asia: Capacity Building and Regional Cooperation**
ECE/MP.WAT/26 (E & R forthcoming)

 # 4 **Transboundary Water Cooperation: Trends in the Newly Independent States**
ECE/MP.WAT/16 – 2006 – R (E forthcoming)

GENDER ISSUES

Gender and Economic Policies (Forthcoming)

Access to Financing and ICT for Women Entrepreneurs in the UNECE Region
ECE/TRADE/336 - E,R

HOUSING AND LAND MANAGEMENT

Spatial Planning – Key Instrument for Development and Effective Governance with Special Reference to Countries in Transition
ECE/HBP/146 – March 2008

Guidelines on Social Housing: Principles and Examples
ECE/HBP/137 – April 2006 – E, R

Land Administration in the UNECE Region: Development Trends and Main Principles
ECE/HBP/140 – 2005 – E only

Housing Finance Systems for Countries in Transition: Principles and Examples
ECE/HBP/138 – 2005

Guidelines on Real Property Units and Identifiers
ECE/HBP/135 – 2005 – E only

- *Country Profiles on the Housing Sector*
(Available at: http://www.unece.org/env/hs/prgm/prgm.htm#profiles)

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