

Informal employment and SBR coverage by comparing LFS with SBR



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Introduction

- **SBR is statistical database** (firms, employment, job creation, ...), **sampling frame** (small enterprises surveys, trade survey , wage and employment survey, ...)
- **Since the SBR is based on administrative sources**
 - Coverage : legal units (registered or not in social security fund), wage-employees (registered)
- **Analyse the coverage of SBR (units, employees) = the statistical representativeness (employment, production, value added, ...)**
 - Informal sector : under coverage of production
 - **Informal employment : under coverage of employees**

Definition and method

- An employee in the private sector is considered “**informal**” if he has **no social security registration** in the Tunisian National Social Security Fund.
- **Residual balance techniques** : Compare labour force statistics produced through an **exhaustive** source with statistics providing on ‘registered’ or ‘**formal**’ employment source.

Tunisian Business Register

- **Statistical Business Registers 1996-2014 (SBR) : Panel of all registered private firms in Tunisia**
 - including those without salaried employees, i.e. the self-employed
 - Covers all sectors – except agriculture
- **Sources of update** : Fiscal direction, social security fund, customers, industrial promotion agency and economic surveys.
- **Statistical methodology to improve quality** : activity status, address, size and economic activity
- **Content**
 - Firms : Identification, activity, nationality, regime, dates, ..., turnover, profits, exports, imports, ...
 - Natural person : gender, age, income,
 - registered wage-employee : identification, gender, age, quarterly wage, ...

Labour Force Survey

- **Quarterly, covers 130 thousands households** (second quarter),
- **Demographic and economic population characteristics**
employment, unemployment rate, job creation, ...
- **Individual anonymous data** : 2008-2012 : all employees < status, Age, Gender, activity, place of activity, governarate)

Data integration

The two sources use different concepts and classifications (coverage, units, variables)

- Integration of **sector** :
 - Correspondence table (CT) : place of activity (LFS) with enterprise status (SBR)
- Integration of **units**
 - CT : LFS concepts with SBR concepts
- Integration of **variables**
 - CT : activity classification (LFS) with NAT2009 (naceRev2)

Final data

- **Coverage** : private sector excluding agriculture (47167 records)
- **Content** :
 - 4 dimensions: employment status , year, gender, age group, activity code and governorate
 - 6 variables : total wage employees(LFS), formal wage employees(SBR), total self employees (LFS), formal self employees (SBR), median wage and median income (SBR).

Descriptive results

- Informal employment accounts 30% of all non-agricultural private sector and **11% of private sector excluding construction.**
- The overall informal employment rate declined slightly in the last years.
- The rate of self-employment has decreased from 20% in 2008 to 13% in 2012.
- The rate varied considerably by age, gender and region : 50% of young employees are unregistered and in general the all women are registered.
- The link between informal and income is significant : the employees having low income are more likely to be informal.

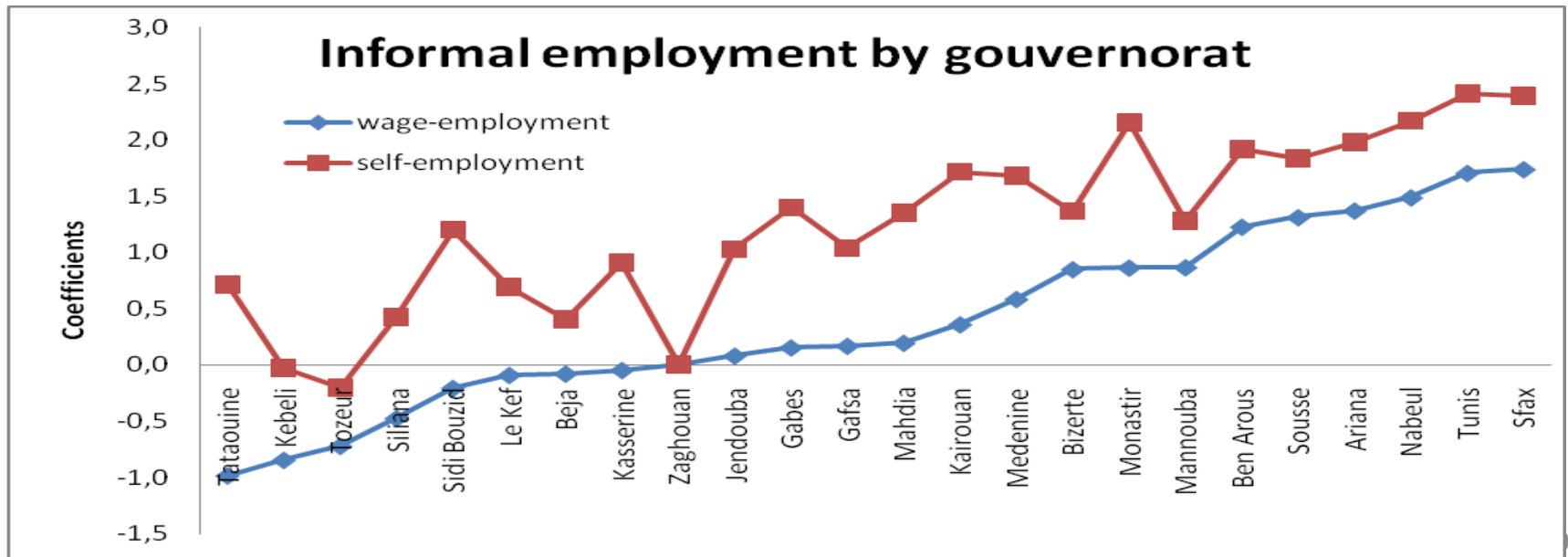
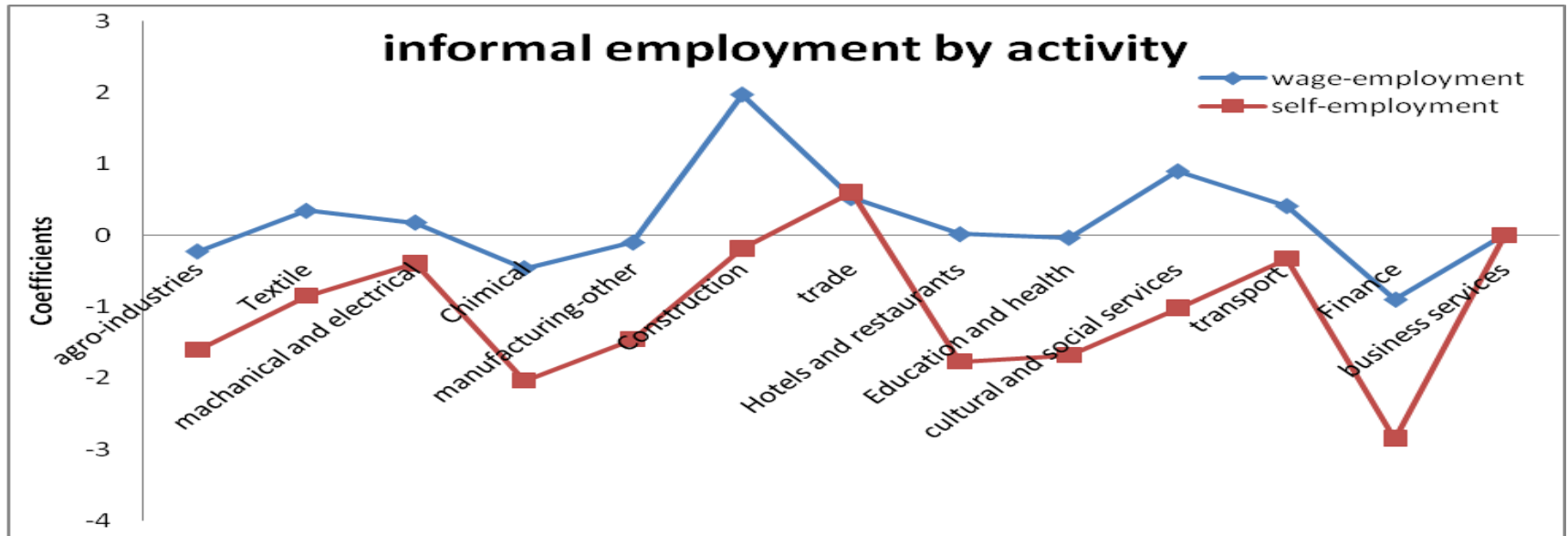
Econometric results

$$\ln \text{Informal} = \beta_R \ln \text{Revenue} + \beta_A A + \beta_G G + \beta_I I + \beta_L L + \beta_\tau \tau + e_{it}$$

OLS regression estimates by employment status

	wage-employment		self-employment	
N	4706		1249	
R2	0.529147		0.538651	
Parameter	Estimate	Pr > t	Estimate	Pr > t
Intercept	4,4	<.0001	2,3	<.0001
LnIncome	-0,24	<.0001	-0,06	0.0372
Man	1,11	<.0001	0,67	<.0001
Woman
< 30 years	2,51	<.0001	1,64	<.0001
B :31-40	1,79	<.0001	1,57	<.0001
C :41-50	1,6	<.0001	1,6	<.0001
D :51-60	0,96	<.0001	0,88	<.0001
>= 61 years				

Econometric results



Informality and SBR quality

Informal : difference between LFS and SBR (LFS-SBR)

Employment status	Sign of the difference	SBR quality indication
Self employment	+	<ul style="list-style-type: none">• Undercoverage of enterprises
	-	<ul style="list-style-type: none">• False active control• Activity codification control
Wage employment	+	<ul style="list-style-type: none">• Undercoverage of wage employees
	-	<ul style="list-style-type: none">• Activity codification control

Conclusions

- **Coverage SBR <enterprises> = 87%**
 - MicroEnterprises survey : add a specific modul for the unregistered small enterprises (quota method)
- **Coverage SBR <wage-employees> = 88% private sector excluding construction**
- **Control false active probability and activity codification for informal negative strata**

Thank you

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