High Frequency Welfare Monitoring: Listening to Tajikistan

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Outline

- Motivation
- Approach
- Validation of sample
- Modality
- Dissemination Strategy
- Notes and Papers
- Examples from Monitoring

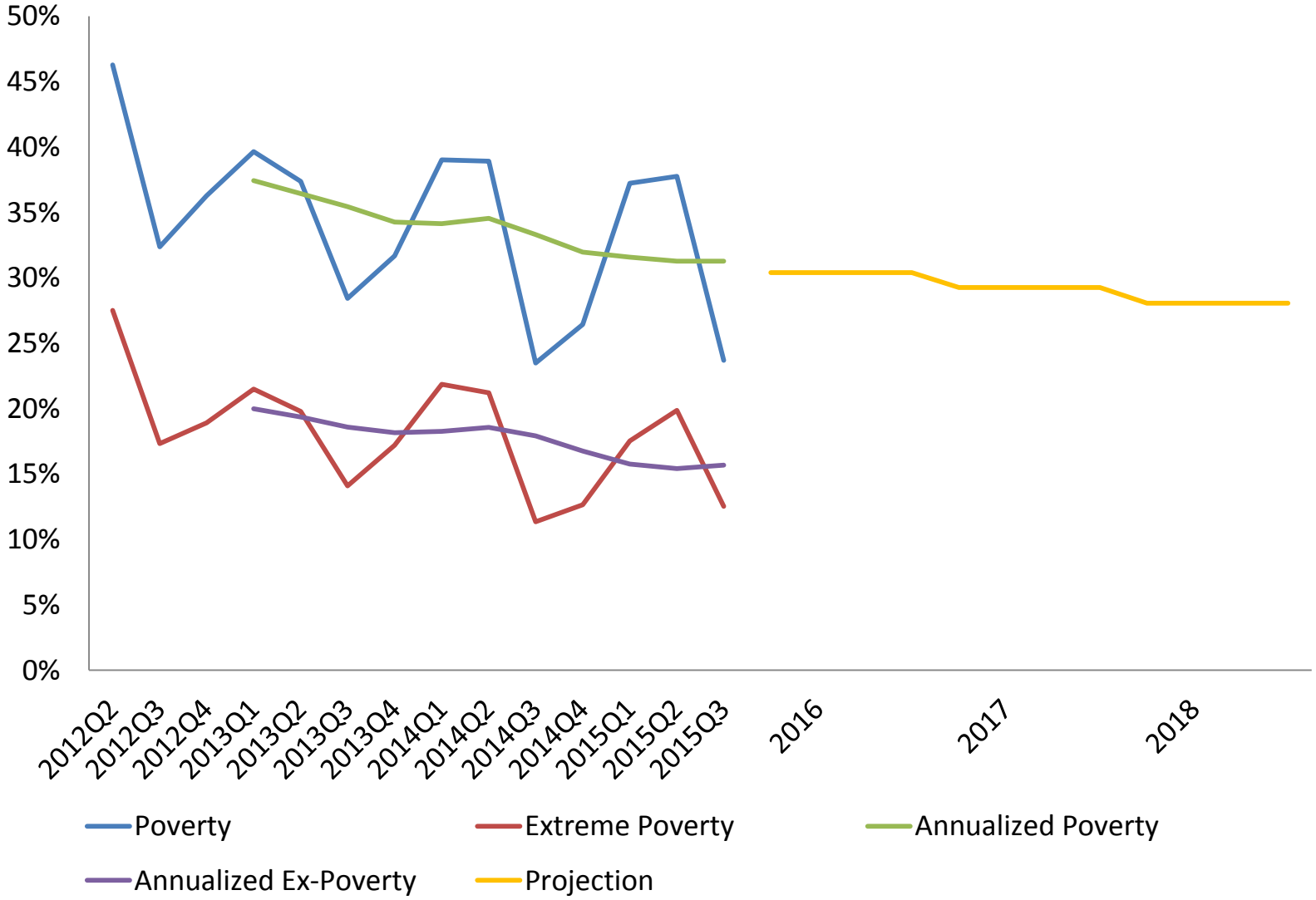
Motivation

Motivation

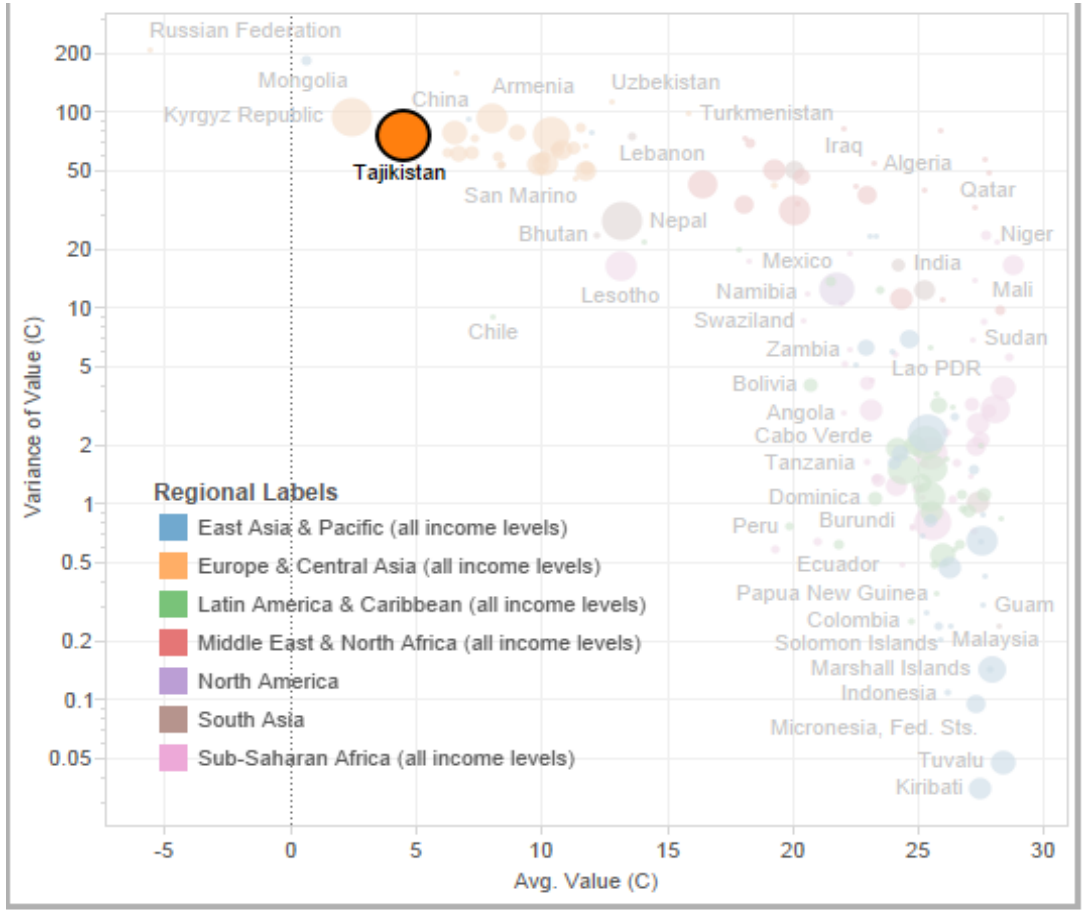
- Tajikistan is the poorest country in Europe and Central Asia
- It is a landlocked economy, with both an average temperature that is one of the lowest in the world, and some of the highest temperature variation in the world.
- Is (was?) the most remittance dependent country, almost all remittances originate in Russia

In Tajikistan, households are vulnerable to diverse shocks that are difficult to predict

Motivation

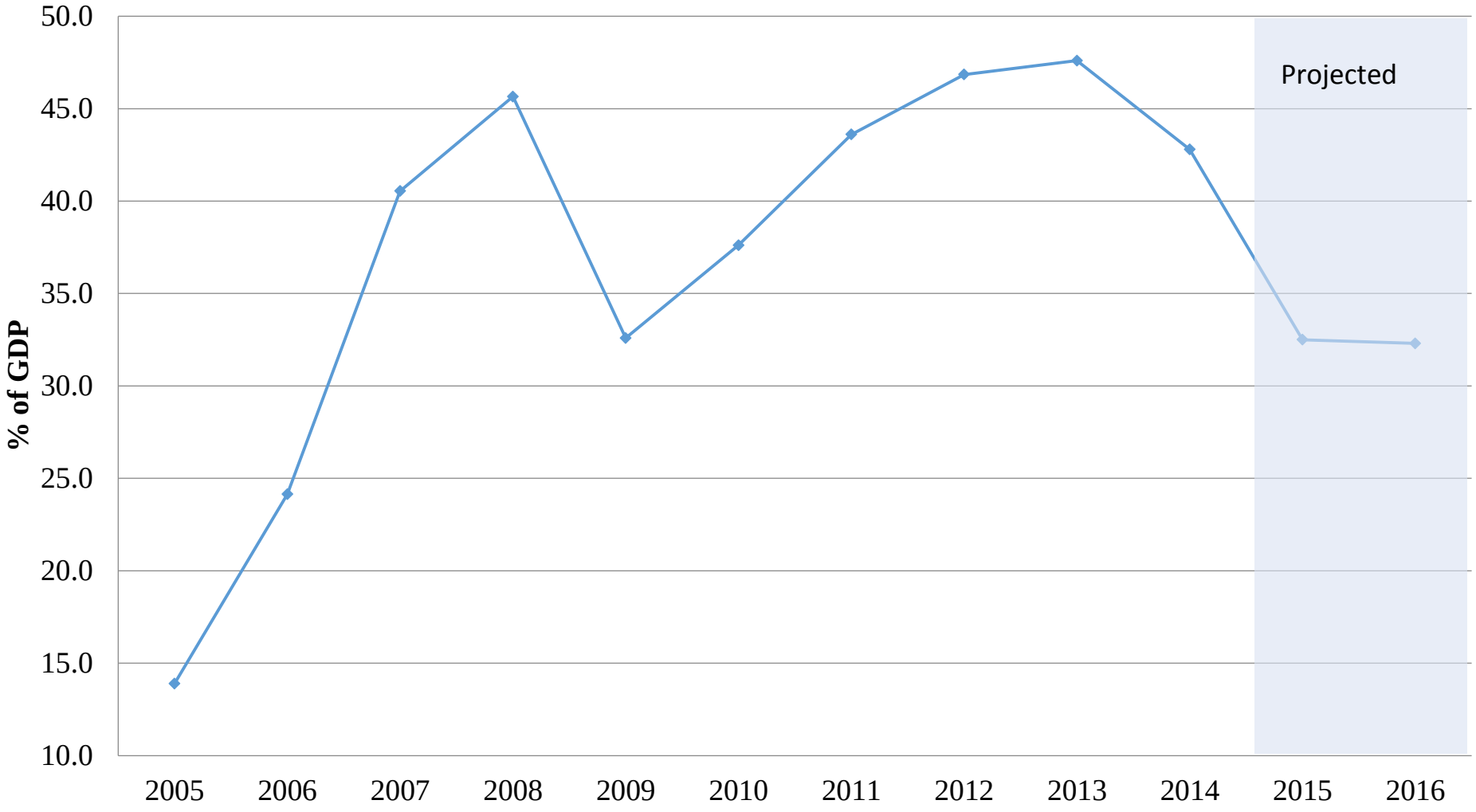

50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
2012Q2
2012Q3
2012Q4
2013Q1
2013Q2
2013Q3
2013Q4
2014Q1
2014Q2
2014Q3
2014Q4
2015Q1
2015Q2
2015Q3
2016
2017
2018
Poverty
Extreme Poverty
Annualized Poverty
Annualized Ex-Poverty
Projection

Extreme weather patterns expose vulnerable households



Note: data WDI as of 2/2/2016. Cicle size determined by latest available Personal remittances, received (% of GDP) (BX.TRF.PWKR.DT.GD.ZS); Average temperature and variance using monthly data from 1990 and 2009.source World Bank Climate Team.

Remittances Were Expected to Decline (Vintage Q1 2015)



Approach

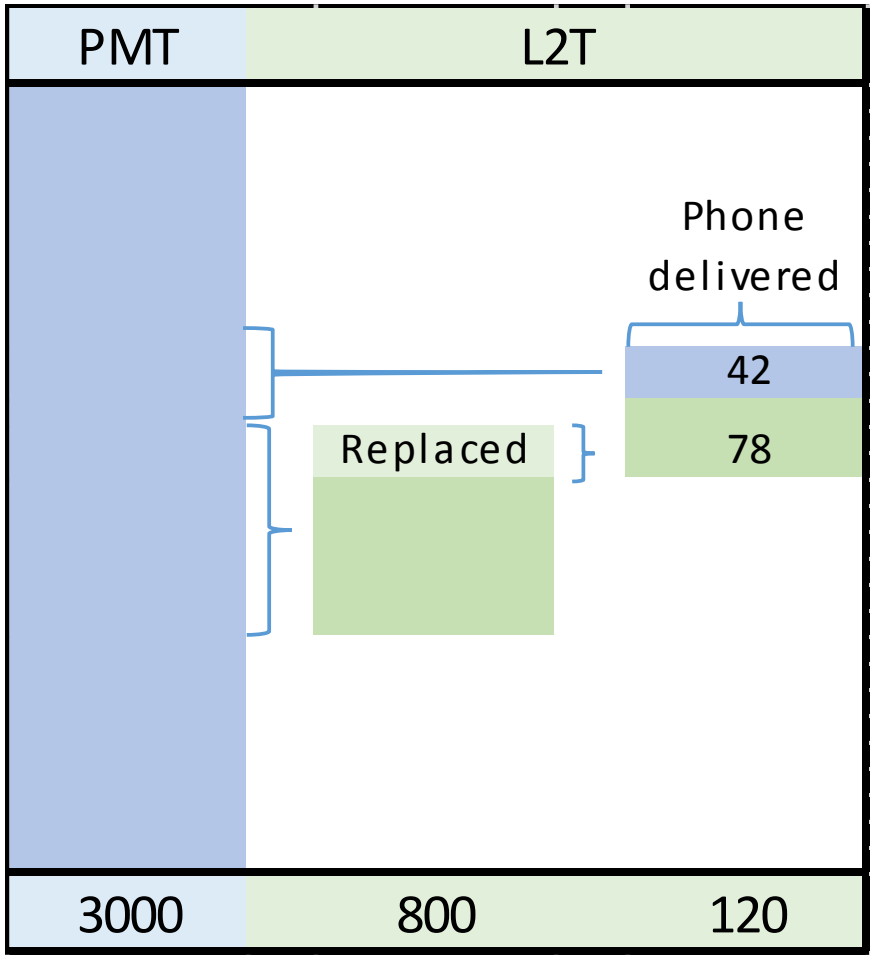
Questionnaire and monitoring design

- The main goal of the project is to monitor important vulnerabilities at higher frequency
  - Migration and remittances
  - Services: electricity and water
  - Subjective wellbeing
  - Employment
  - Wages and income

The Sample

- In the Spring of 2015, a nationally representative survey of 3000 households was fielded to aid the construction of a targeted social assistance formula
- The survey included a full consumption aggregate, allowing analysis by welfare groups (Quintile, B40, T60)
- The L2TJK team drew a sub-sample, and has followed the selected households in a panel design

The Sample



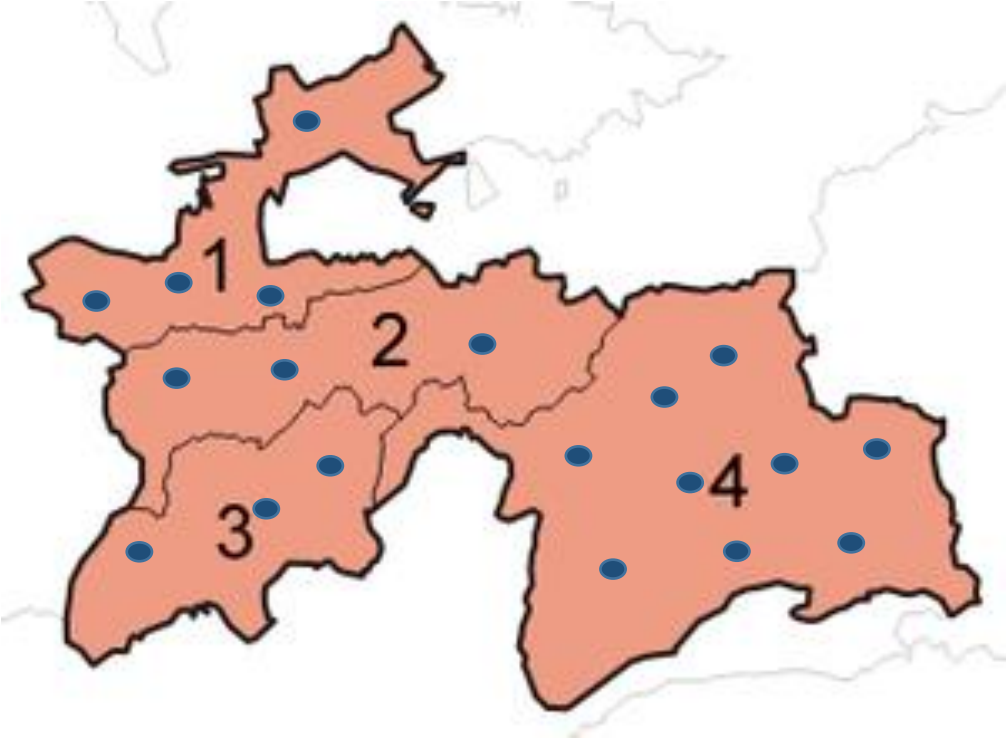
- All L2T households participated in the PMT survey
- Computer Assisted Telephone Interviews (CATI)
- Phones delivered to those with no number
- Population is split into those with Phones, and those without

Sample Design: maintaining representativeness

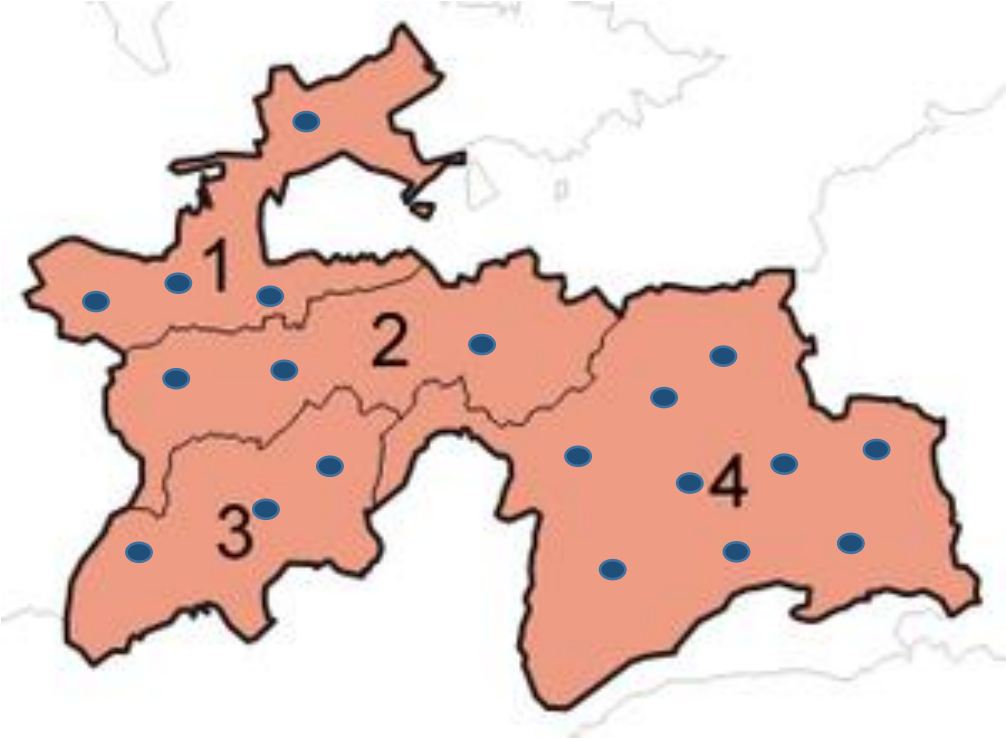
- Using the same PMT clusters
- Randomly selected sample of 800 households for primary reporting objective
  - Either 5 or 6 households selected in each cluster
- The approach maintains the same strata/geographic distribution
- Ensures that intra-cluster correlation remains within bounds
  - Simple random sample: high intra-cluster correlations in some areas, low in others

Sample Design: maintaining representativeness

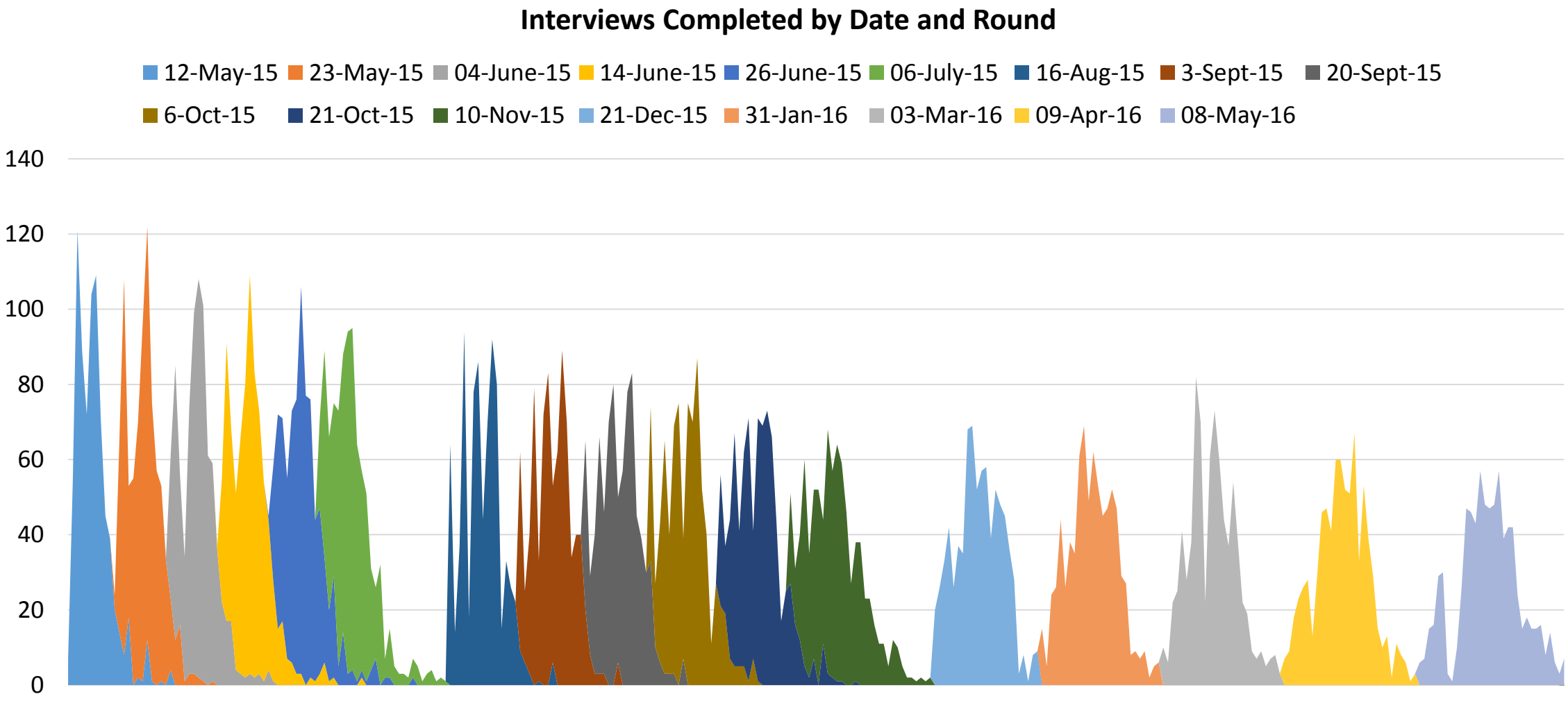
In The PMT Survey each blue dot represents
20 households



In The L2T Survey each blue dot represents
5 or 6 households



Interviews Completed by Date and Round



Data collection method

- Computer Assisted Telephone Interviews (CATI)
  - Response-adaptive
  - Enables more rapid data cleaning, sharing
  - Skips “repetitive” questions to lower survey fatigue
  - All interviews are digitally recorded for quality control

Validation of the Sample

Testing Representativeness

- Is the sample representative?
  - Test similarity selected and non selected households
- Summary: Balance between selected and non-selected along most dimensions

Validation – weighted means from baseline and waves

Variable	Baseline mean	Non-selected sample mean	P-value	Round 1 - Reweight	P-value	Round 1 - Baseline Weight	P-value
Number of Dependent Members	3.0	3.1	0.015	2.87	0.016	2.86	0.016
Dependency Ratio	76.1%	77.4%	0.072	74.5%	0.332	72.3%	0.072
Migrants (Long Recall)	55.1%	54.5%	0.692	54.4%	0.978	56.6%	0.692
Consumption	4494.1	4483.6	0.776	4436.89	0.711	4522.92	0.776
Count of Deprivations	3.986	3.974	0.374	3.98	0.844	4.02	0.373
Weighted Deprivation Index	25.8%	25.8%	0.819	25.7%	0.854	25.9%	0.819
MD Poor	18.7%	18.6%	0.777	18.8%	0.899	19.1%	0.777
Vulnerable to MD Poverty	51.6%	51.2%	0.429	52.8%	0.457	52.9%	0.430

Validation – weighted means from baseline and waves

Variable	Baseline mean	Non-selected sample mean	P-value	Round 1 - Reweight	P-value	Round 1 - Baseline Weight	P-value
Head/Spouse Unemployed	13.5%	13.0%	0.244	13.9%	0.545	14.8%	0.245
No HH Member Working	6.6%	6.5%	0.556	6.7%	0.779	7.1%	0.556
Poor Heating Access	78.2%	78.0%	0.656	77.5%	0.721	78.6%	0.655
Living Space Per Capita (m2)	9.97	9.76	0.549	10.280	0.647	10.527	0.549
Small Amount of Living Space	10.9%	10.6%	0.441	11.5%	0.510	11.7%	0.439
Lack Indoor Toilet	32.1%	32.1%	0.915	31.5%	0.670	31.9%	0.915
Lack Indoor Access to Water	54.5%	54.3%	0.703	54.2%	0.897	54.9%	0.703
Dirt Floor	40.2%	40.2%	0.935	40.1%	0.970	40.3%	0.935
Poor Quality Roof	4.2%	4.3%	0.488	3.5%	0.248	3.8%	0.488
No Indoor Bath or Shower	48.9%	47.9%	0.019	51.1%	0.043	51.7%	0.019

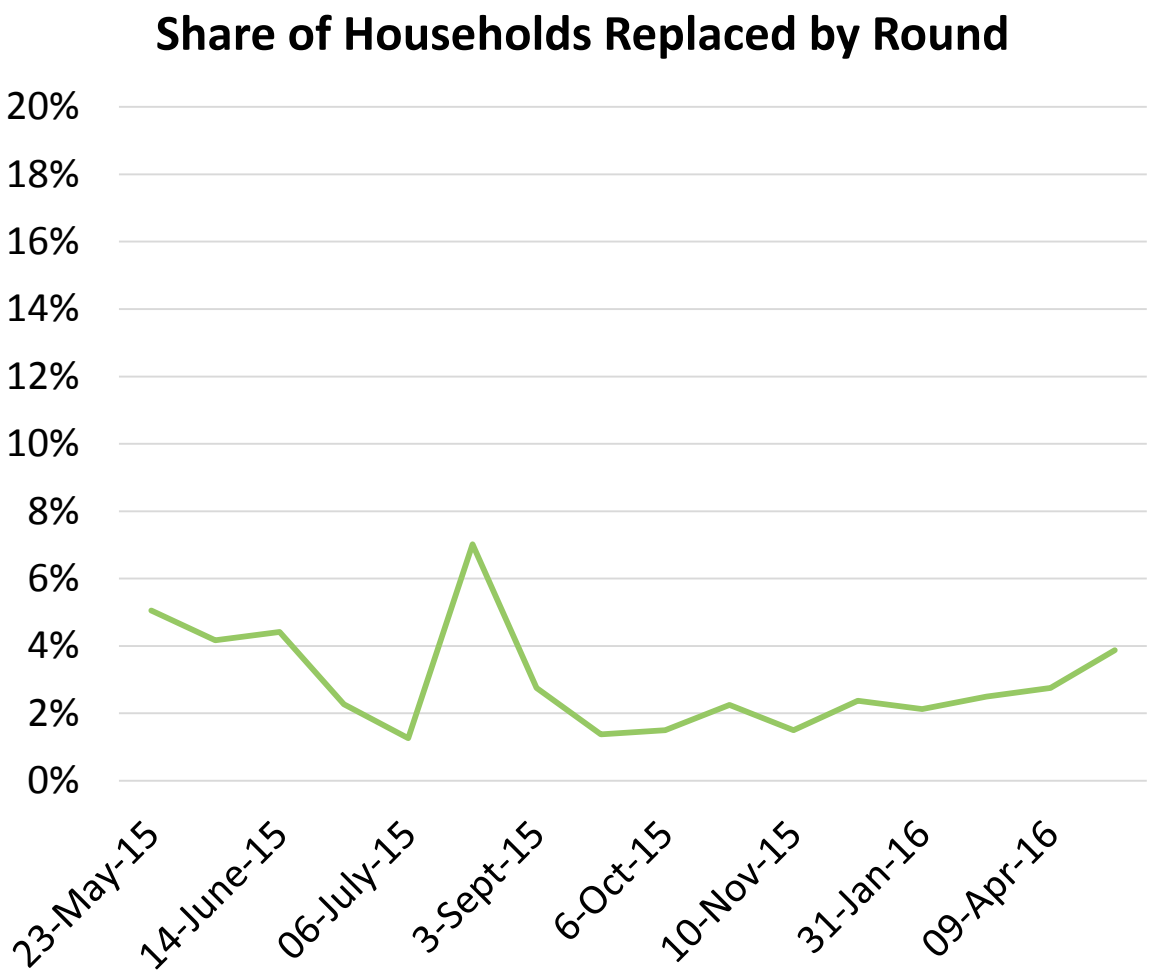
Validation – significance tests baseline and waves

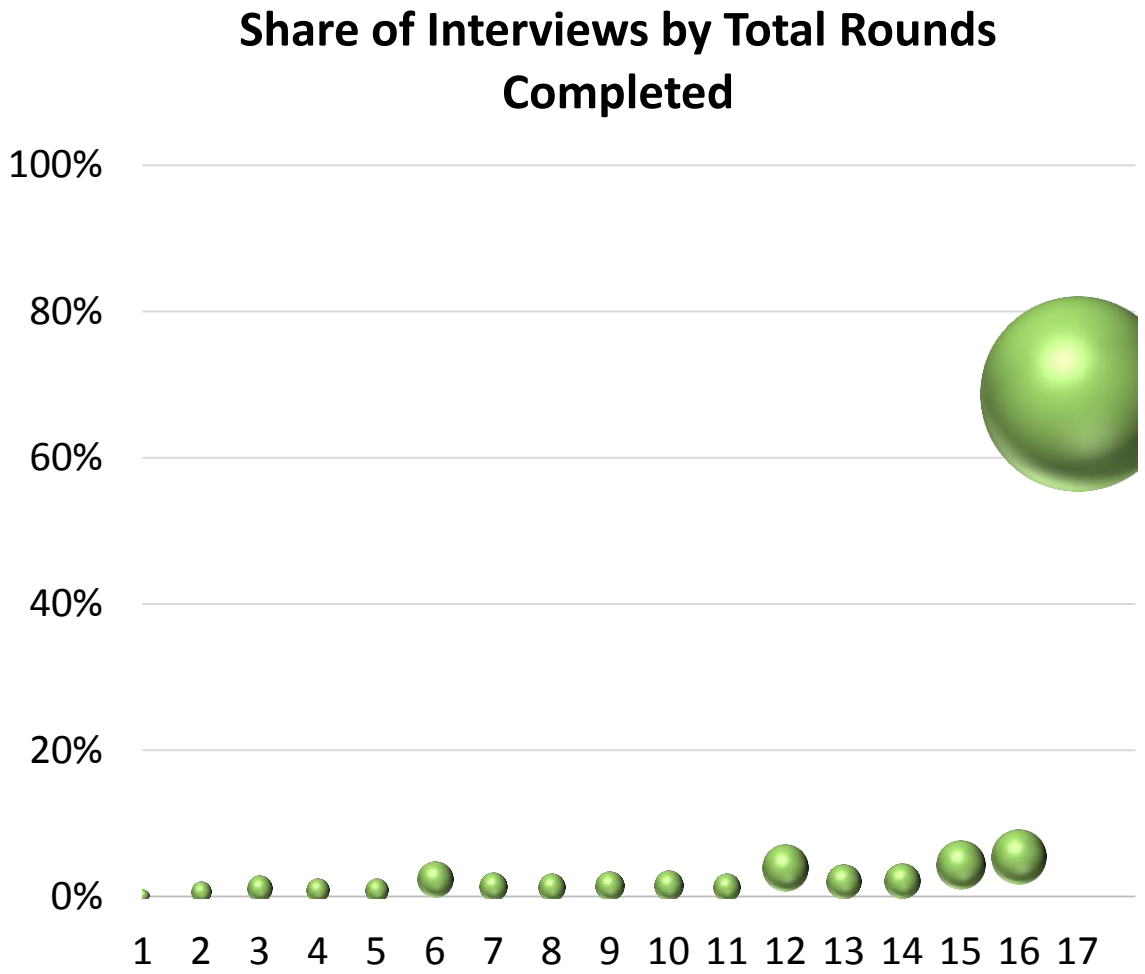
Variable	Baseline mean	Non-selected sample mean	P-value	Round 1 - Reweight	P-value	Round 1 - Baseline Weight	P-value
Own Computer	12.3%	0.126	0.389	11.5%	0.355	11.6%	0.389
Own Sat. Dish	33.7%	0.332	0.431	34.0%	0.712	34.9%	0.430
Own Generator	3.0%	0.026	0.062	4.2%	0.063	4.2%	0.061
Own Refrigerator	53.8%	0.535	0.591	54.3%	0.710	54.6%	0.591
Own Air Conditioning Unit	11.4%	0.115	0.582	11.3%	0.813	10.9%	0.581
Own TV	97.1%	0.968	0.060	97.9%	0.059	97.9%	0.059
Own Electric Iron	84.2%	0.834	0.057	86.1%	0.075	86.2%	0.058
Own Gas Stove	38.1%	0.379	0.606	38.9%	0.596	38.8%	0.606
Own Electric Radiator	25.4%	0.256	0.608	25.8%	0.932	24.8%	0.608
Own Sewing Machine	50.8%	0.498	0.056	52.7%	0.153	53.6%	0.054

Tests of Differences

- The number of dependent members is significantly different from the frame
  - Should be taken into account
- Possible decay in representativeness?
  - If replacement attrition is uncorrected
  - This is partially dealt with via weighting

Replacement and reweighting





Dealing with Differences due to Attrition

- Households that stop participating are replaced
- In light of some differences, weights are applied to account for attrition in each round
- The approach models the observable characteristics and…
  - Predicts attrition for each household
  - Uses the probability of attrition as a weight
  - Households which are most similar to those households get more weight

Validation – weighted means from baseline and waves

Variable	Wave 1 mean	Wave 2 mean	P-value (1 vs. 2)	Wave 3 mean	P-value (2 vs. 3)	Wave 4 mean	P-value (3 vs. 4)
Number of Dependent Members	2.86	2.84	0.278	2.85	0.464	2.84	0.615
Dependency Ratio	74.0%	74.2%	0.720	74.7%	0.437	75.0%	0.712
Migrants (Long Recall)	54.8%	55.1%	0.621	54.0%	0.278	53.7%	0.788
Consumption	4441.71	4442.09	0.991	4430.56	0.539	4418.69	0.689
Count of Deprivations	3.97	3.95	0.107	3.94	0.262	3.94	0.973
Weighted Deprivation Index	25.7%	25.7%	0.582	25.6%	0.487	25.6%	0.547
MD Poor	18.8%	18.9%	0.865	18.9%	0.801	18.4%	0.254
Vulnerable to MD Poverty	52.6%	52.4%	0.709	51.6%	0.100	52.3%	0.156

Validation – weighted means from baseline and waves

Variable	Wave 1 mean	Wave 2 mean	P-value (1 vs. 2)	Wave 3 mean	P-value (2 vs. 3)	Wave 4 mean	P-value (3 vs. 4)
Head/Spouse Unemployed	14.0%	14.1%	0.657	14.0%	0.572	13.3%	0.042
No HH Member Working	6.8%	7.0%	0.266	7.1%	0.533	6.8%	0.369
Poor Heating Access	77.8%	76.3%	0.000	76.0%	0.323	76.4%	0.352
Living Space Per Capita (m2)	10.315	10.228	0.487	10.250	0.751	10.142	0.221
Small Amount of Living Space	11.5%	11.2%	0.180	10.7%	0.047	10.8%	0.836
Lack Indoor Toilet	31.1%	30.7%	0.210	30.4%	0.393	30.3%	0.602
Lack Indoor Access to Water	53.8%	53.4%	0.255	53.6%	0.479	53.7%	0.826
Dirt Floor	39.7%	39.7%	0.985	39.2%	0.332	39.5%	0.554
Poor Quality Roof	3.4%	3.6%	0.168	3.8%	0.187	3.4%	0.236
No Indoor Bath or Shower	50.8%	50.7%	0.926	50.5%	0.592	50.8%	0.573

Validation – significance tests baseline and waves

Variable	Wave 1 mean	Wave 2 mean	P-value (1 vs. 2)	Wave 3 mean	P-value (2 vs. 3)	Wave 4 mean	P-value (3 vs. 4)
Own Computer	11.6%	11.6%	0.958	11.8%	0.436	11.6%	0.689
Own Sat. Dish	34.0%	33.7%	0.675	33.3%	0.453	33.0%	0.432
Own Generator	4.3%	4.0%	0.365	3.7%	0.177	3.4%	0.394
Own Refrigerator	54.6%	54.6%	0.905	54.4%	0.727	54.4%	0.983
Own Air Conditioning Unit	11.3%	11.1%	0.593	11.2%	0.906	11.0%	0.438
Own TV	98.0%	97.9%	0.729	98.1%	0.361	98.2%	0.531
Own Electric Iron	86.4%	86.2%	0.548	86.6%	0.185	86.6%	0.998
Own Gas Stove	39.1%	39.1%	0.956	39.4%	0.333	39.8%	0.329
Own Electric Radiator	25.9%	26.4%	0.239	26.7%	0.334	25.5%	0.018
Own Sewing Machine	53.0%	52.7%	0.505	53.1%	0.261	52.2%	0.028

Comparisons with Other Surveys

- In LAC
  - Two-thirds of recruited households in Peru failed to answer the first round of follow-up surveys.
  - Attrition slightly increased with each wave of the survey (between 1 and 3 percentage points per wave), reaching 75 percent in wave 6.
- In Ghana
  - Lower attrition, differences in design

Modality

Effects from Modality?

- Does the way that questions were asked affect the answers?
- Survey included a small experiment to demonstrate the relationship between **modality** and **responses**.
  - Same questions were asked randomly to some households in-person, and at other times over the phone
  - Systematic differences between average phone responses and average in-person responses indicate a modality effect

Design

	Face to Face	Phone
Round 1	Group 1	Group 2
Round 2	Group 2	Group 1
Round 3	Group 1	Group 2
Round 4	Group 2	Group 1

Modality Tests

	Days No Water		Days No Elec		Hours No Elec		Life Satis. HH		Life Satis. Self		HH Head Work	
face2face	1.348***	1.234**	0.177	0.168	0.216	0.285	0.028	0.029	0.201**	0.204**	-0.093**	-0.093**
	(0.489)	(0.526)	(0.179)	(0.203)	(0.645)	(0.716)	(0.096)	(0.097)	(0.098)	(0.099)	(0.041)	(0.041)
Main welf. agg.		-0.000		-0.000*		-0.000		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
Urban Location		-1.407		-0.016		-0.498		0.305*		0.454**		-0.033
		(0.916)		(0.219)		(1.029)		(0.180)		(0.182)		(0.099)
Household size		0.013		0.005		0.112		-0.035		-0.012		0.011
		(0.099)		(0.041)		(0.093)		(0.025)		(0.026)		(0.014)
Number of observations	123	123	143	143	141	141	311	311	311	311	311	311
Round Dummies	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R2	0.030	0.117	0.005	0.025	0.001	0.026	0.000	0.029	0.009	0.044	0.009	0.025

note: .01 - ***; .05 - **; .1 - *;

Modality Tests

	HH Head Work Days		Looking for Work		Lost Work		Lost or Few Hours		Owed Back Pay	
face2face	-0.048	-0.051	-0.006	-0.000	-0.013	-0.013	-0.052*	-0.052*	-0.008	-0.008
	(0.245)	(0.250)	(0.089)	(0.088)	(0.024)	(0.024)	(0.030)	(0.030)	(0.043)	(0.043)
Main welf. agg.		-0.000		-0.000		-0.000		-0.000		-0.000**
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
Urban Location		-0.105		0.064		-0.084**		-0.097*		-0.050
		(0.519)		(0.191)		(0.040)		(0.050)		(0.071)
Household size		-0.009		0.071***		0.015**		0.015**		0.000
		(0.047)		(0.026)		(0.006)		(0.007)		(0.009)
Number of observations	187	187	311	311	311	311	311	311	311	311
Round Dummies	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R2	0.000	0.017	0.000	0.100	0.001	0.053	0.006	0.042	0.000	0.036

note: .01 - ***; .05 - **; .1 - *;

Modality Tests – Within Cohort

	Days No Water		Days No Elec		Hours No Elec		Life Satis. HH		Life Satis. Self		HH Head Work	
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
face2face	1.307**	1.289**	0.198	0.166	0.277	0.224	0.028	0.028	0.201**	0.204**	-0.093**	-0.093**
	(0.494)	(0.502)	(0.192)	(0.212)	(0.642)	(0.687)	(0.096)	(0.096)	(0.097)	(0.098)	(0.041)	(0.041)
Cohort Dummy	-0.528	-0.637	-0.181	-0.184	-0.608	-0.526	-0.202	-0.196	-0.299*	-0.248	0.022	0.020
	(0.758)	(0.735)	(0.251)	(0.265)	(0.860)	(0.845)	(0.145)	(0.143)	(0.160)	(0.164)	(0.084)	(0.084)
Main welf. agg.		-0.000		-0.000*		-0.000		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
Urban Location		-1.854*		-0.017		-0.518		0.269		0.410**		-0.030
		(0.936)		(0.221)		(1.013)		(0.177)		(0.180)		(0.098)
Household size		0.021		0.003		0.111		-0.038		-0.015		0.011
		(0.105)		(0.039)		(0.094)		(0.025)		(0.025)		(0.014)
Number of observations	123	123	143	143	141	141	311	311	311	311	311	311
R2	0.035	0.066	0.010	0.022	0.006	0.016	0.011	0.037	0.030	0.056	0.010	0.022

note: .01 - ***; .05 - **; .1 - *;

Modality Tests

	HH Head Work Days		Looking for Work		Lost Work		Lost or Few Hours		Owed Back Pay	
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
face2face	-0.046	-0.058	-0.006	-0.000	-0.013	-0.013	-0.052*	-0.052*	-0.008	-0.008
	(0.246)	(0.250)	(0.089)	(0.088)	(0.024)	(0.024)	(0.030)	(0.030)	(0.043)	(0.043)
Cohort Dummy	-0.067	-0.019	0.071	0.159	0.012	0.013	-0.001	-0.001	-0.034	-0.035
	(0.286)	(0.286)	(0.162)	(0.134)	(0.032)	(0.030)	(0.045)	(0.045)	(0.062)	(0.061)
Main welf. agg.		-0.000		-0.000		-0.000		-0.000		-0.000**
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
Urban Location		-0.121		0.090		-0.082**		-0.097*		-0.055
		(0.524)		(0.188)		(0.040)		(0.051)		(0.070)
Household size		-0.009		0.073***		0.015**		0.015**		-0.001
		(0.044)		(0.026)		(0.007)		(0.007)		(0.009)
Number of observations	187	187	311	311	311	311	311	311	311	311
R2	0.001	0.014	0.001	0.099	0.001	0.051	0.006	0.040	0.002	0.024

note: .01 - ***; .05 - **; .1 - *;

Effects from Modality?

- Similarities along many dimensions
  - Modality not always important, but could matter for particular questions
- Not necessarily a problem that there are differences over the phone
  - *Changes* are more visible at high frequency
  - Though *levels* may differ
- Should be considered when comparing results to other surveys
  - Labor force surveys may not give same numbers
- Other Surveys find “desirability” bias
  - Not straightforwardly the case here

Dissemination Strategy

Website

http://www.worldbank.org/en/country/tajikistan/brief/listening2tajikistan

Countries / Tajikistan

BRIEF

Listening2Tajikistan: Survey of Wellbeing

May 30, 2016

This page in: English | Русский

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Overview

As the poorest country in Central Asia, Tajikistan is particularly vulnerable to shocks. From the current economic downturn in the Russian Federation, to seasonal electricity, water (Figure 1), and heating shortages, the country faces substantial risks to livelihoods and wellbeing.

Some of these risks could potentially derail the extensive improvements seen for the poor and vulnerable over the past decade. Strong economic growth in Tajikistan has

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RELATED

NOTE
November–December 2015 update
Mar 03, 2016

PRESS RELEASE
Results of the World Bank's High Frequency "Listening to Tajikistan" Survey Available Online
Feb 08, 2016

PRESS RELEASE
World Bank Discusses the Impact of Economic Slowdown on Households in Tajikistan
Dec 02, 2015

RESOURCES

The survey questionnaire (PDF, 546 KB)

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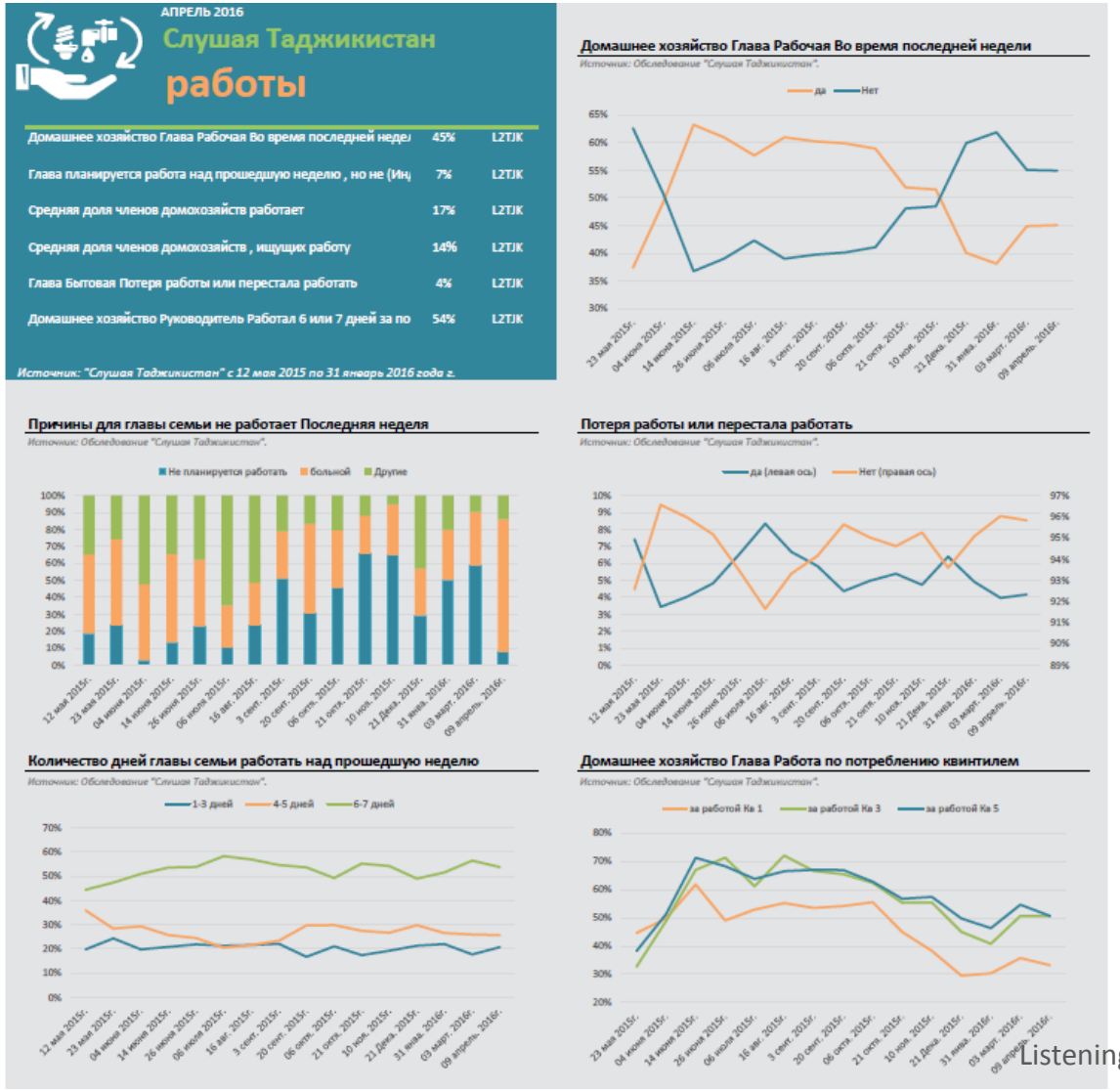
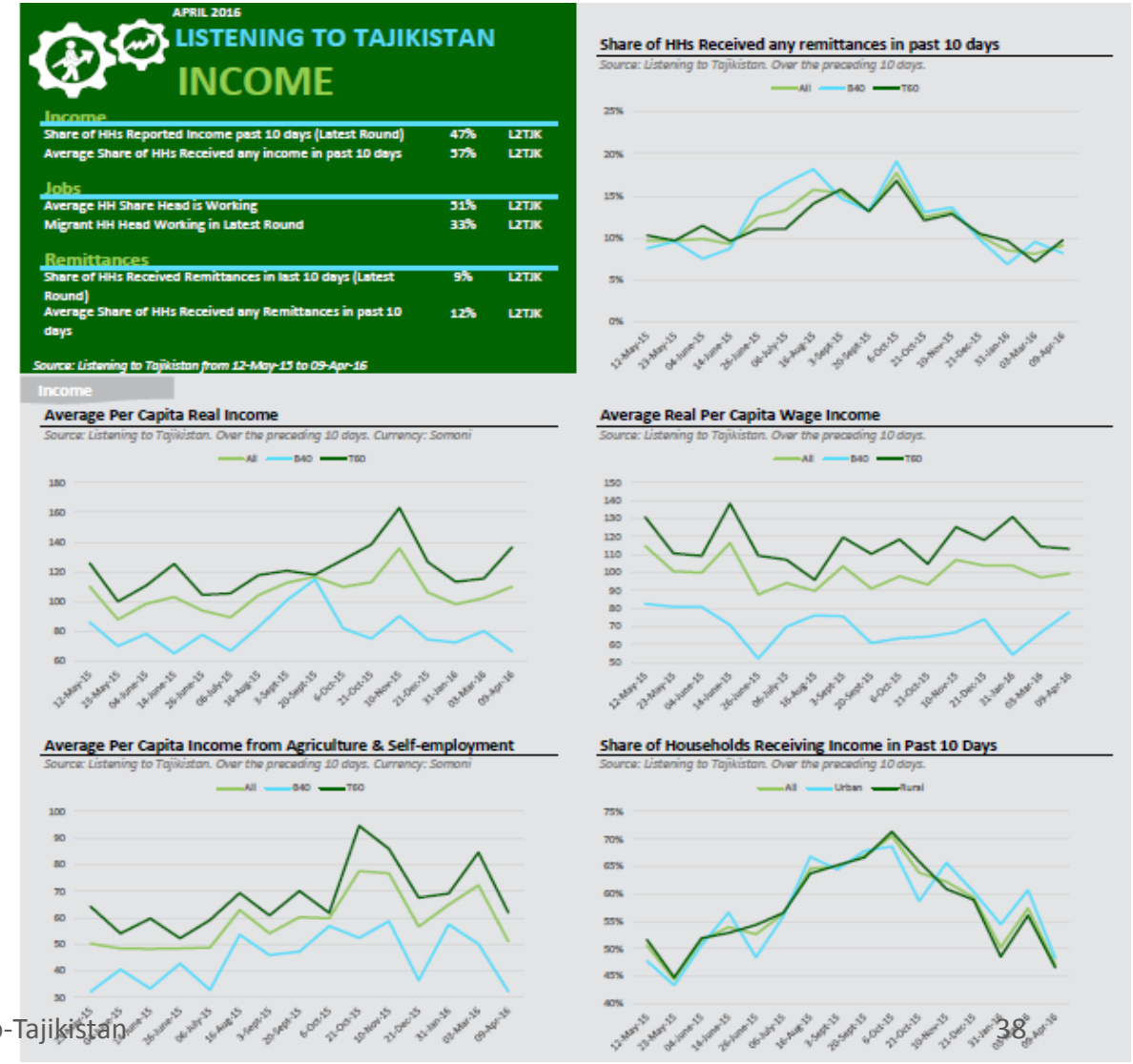
2-Page Thematic Briefs





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DUSHANBE, April 29, 2016, Asia-Plus – The World Bank survey *Listening to Tajikistan*

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The share of migrants returning to Tajikistan reportedly eases

30/03/2016 11:00
Asia-Plus
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DUSHANBE, March 30, 2016, Asia-Plus – The World Bank notes that Tajikistan, as the poorest country in Central Asia, is particularly vulnerable to shocks. From the current economic downturn in the Russian Federation,

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Share of households selling assets to pay for basic needs reportedly rises in Tajikistan

29/04/2016 14:22
Asia-Plus
Views: 3544

DUSHANBE, April 29, 2016, Asia-Plus -- The World Bank survey Listening to Tajikistan (L2TJK), in particular notes that The share of households able to pay for enough food steeply declined to 53 percent in January, the lowest point yet measured, but recovered somewhat by March, reaching 61 percent.

Households also reported an increasing prevalence of reducing expenditure on food to pay for other basic needs peaking in January, and also showing signs of recovery by March.

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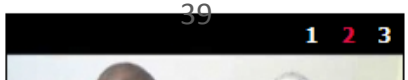

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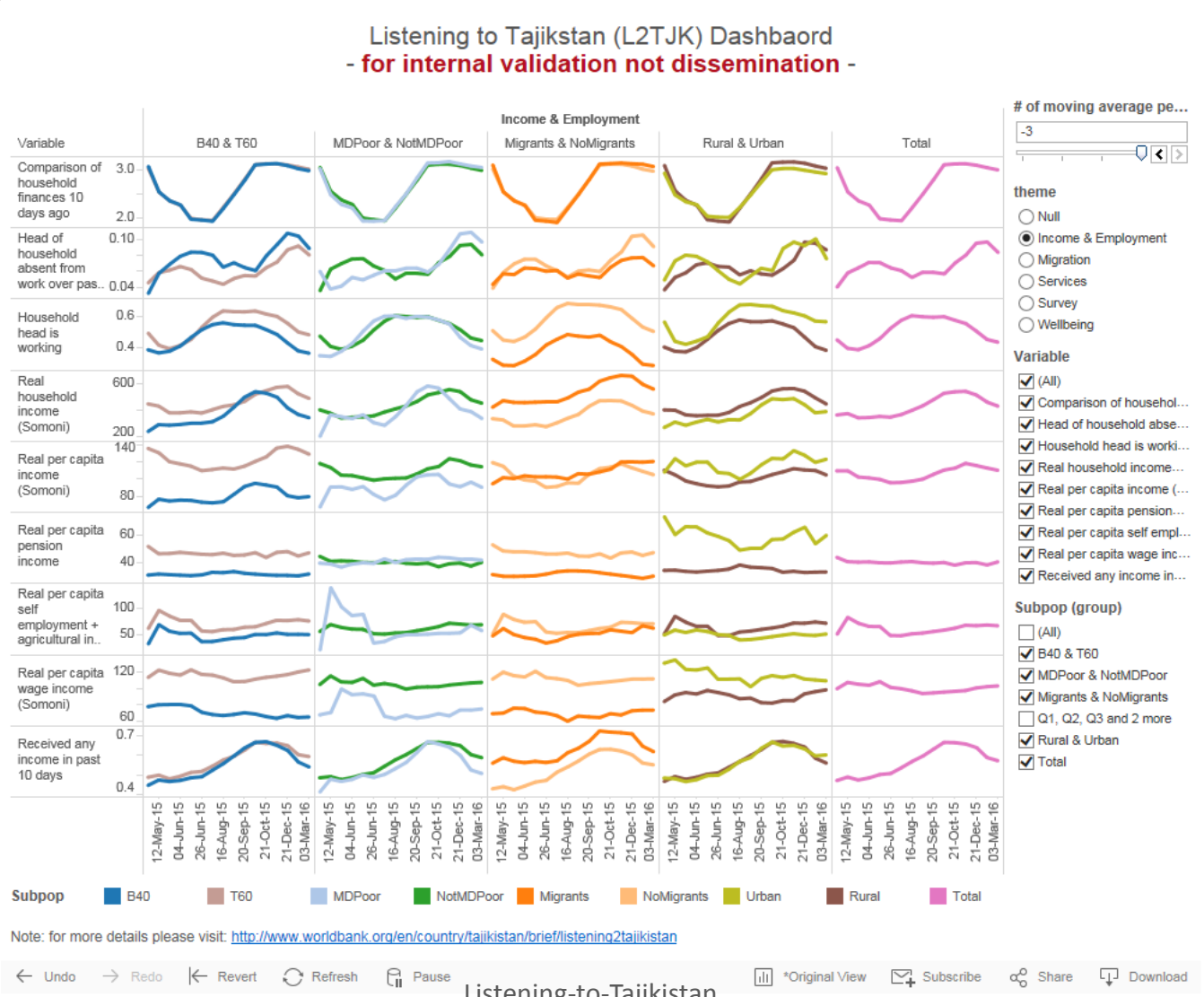

Link

Listening-to-Tajikistan

Thank you!

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