An Experiment on the Use of Electronic Devices to Collect Survey Data

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March 3, 2017

Research supported by NSF Grant No. 1456505

Survey research in the developing world is undergoing a major shift.

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- Increasingly, responses are recorded using electronic devices such as tablets rather than pen and paper.

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- Real-time monitoring of data quality
- Able to handle complex research designs

What are the downsides of using tablets?

- One potential downside is that using tablets could affect responses and response rates.
- What are these effects?

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  - No evidence of surveillance-related effects.

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- Survey response rates are higher in face-to-face interviews than in telephone or online ones.
- Certain survey modes and interviewer characteristics activate or worsen social desirability bias.

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- Bias can be activated or more severe in face-to-face interviews as respondents seek to minimize the social distance between themselves and the interviewer.

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- They're typically able to record audio or video content discreetly.

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- be less likely to provide information about their household income
- report higher household incomes
- The mechanism is that relatively poor respondents may be more likely to assume enumerators with tablets are of higher wealth or status and seek to minimize the social distance between themselves and the enumerator.

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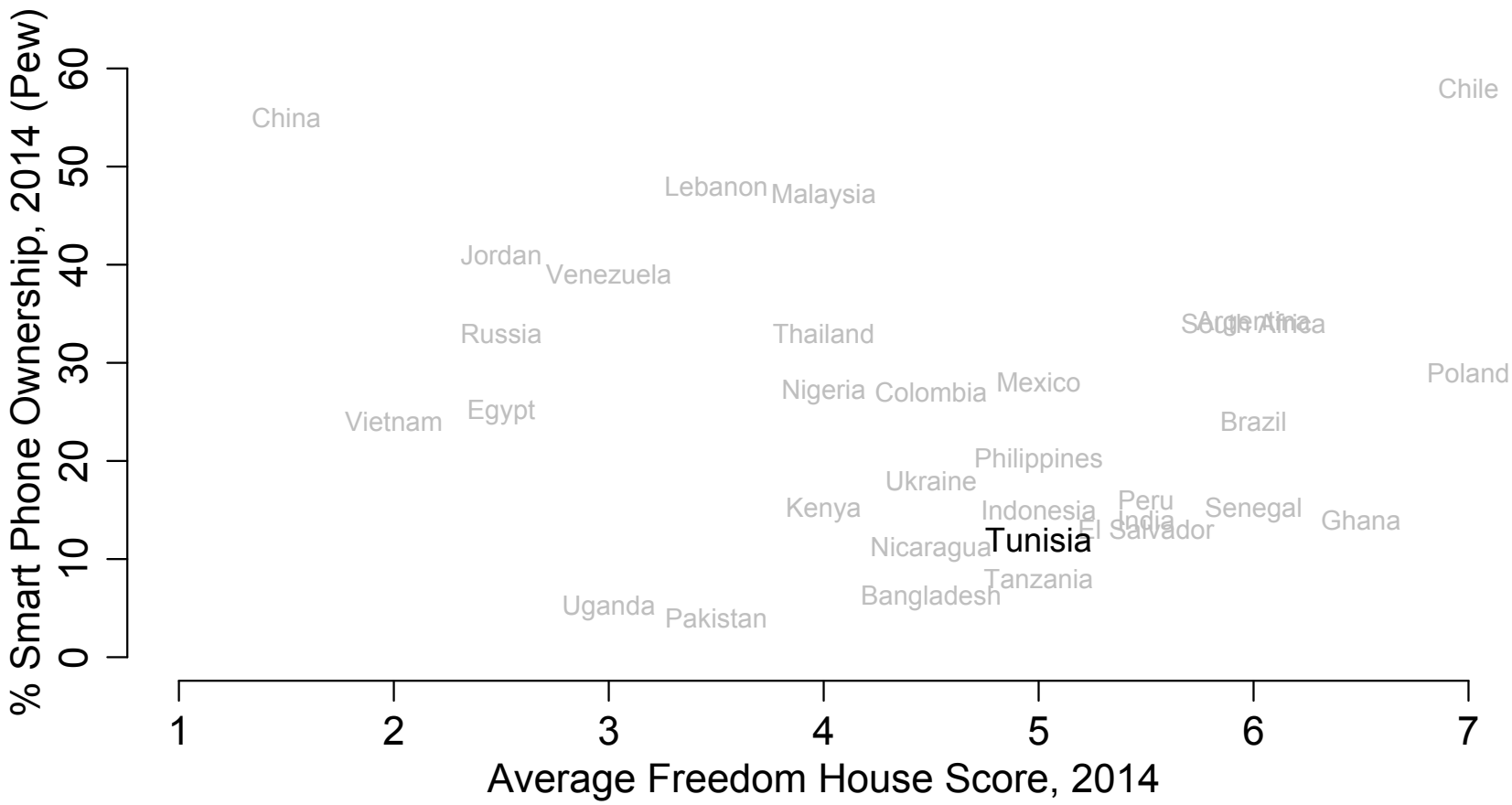
- be less likely to provide information about their support for the regime
- report greater support for the regime
- The mechanism is fear. Opposition partisans interviewed with tablets may be more afraid their responses will not be anonymous and thus revealed to the regime.

We test the hypotheses using data from Tunisia in 2014.

- The 2011 revolution stemmed in part from economic stagnation and inequality, which remain salient.
- Prior to the revolution, Tunisians lived under a brutal dictatorship with pervasive surveillance.
- The party that won the presidency and a plurality of seats in parliament in 2014 has close ties to the dictatorship.

Tunisia in Comparative Perspective



We test the hypotheses using panel survey data.

- We conducted a nationally representative panel survey.
- 1400 interviews were conducted with pen and paper for the first wave (October 2014).
- 25% of the interviews were conducted with tablets for the second wave (December 2014). The recontact rate was 70%.

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Balance across treatment groups on Wave 1 observables

Variable	Mean		P-Value for test that:	*N*
	CAPI	PAPI	CAPI = PAPI	
Income	2.46	2.30	0.04	1033
	(1.085)	(1.022)		
Nidaa Supporter	0.69	0.78	0.01	1063
	(0.462)	(0.417)		
Age	39.93	40.22	0.80	1084
	(16.196)	(16.316)		
Gender	0.54	0.53	0.80	1084
	(0.500)	(0.500)		
Education	3.25	3.01	0.01	1084
	(1.376)	(1.341)		
Employed	0.36	0.37	0.89	1084
	(0.482)	(0.482)		
Rural	1.26	1.34	0.02	1084
	(0.442)	(0.474)		
Pol. Interest	2.25	2.28	0.62	1080
	(0.942)	(0.947)		
Pol. Knowledge	1.94	2.04	0.07	1107
	(0.851)	(0.822)		

Note: Averages for each treatment condition of key variables. Standard deviation in parentheses. P-Value based on OLS regressions of variable on treatments.

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  We only know if a tablet was used in an interview if the interview was actually completed.
  - We do not know whether the presence of tablets at initial Wave 2 contact affected refusal to participate in Wave 2.
  - Implication: Potential to bias against finding hypothesized effects.

What are the wealth-related effects?

Category	Frequency	Percent
Under 200 dinars	410	18.91
Between 201 and 500 dinars	872	40.22
Between 501 and 1,000 dinars	562	25.92
Between 1,001 and 1,50 dinars	138	6.37
Between 1,501 and 2,500 dinars	56	40.22
More than 2,501 dinars	28	1.29
Don't know/No answer	102	3.95

Table: **Distribution of Monthly Household Income Among Wave 1 Survey Respondents.**

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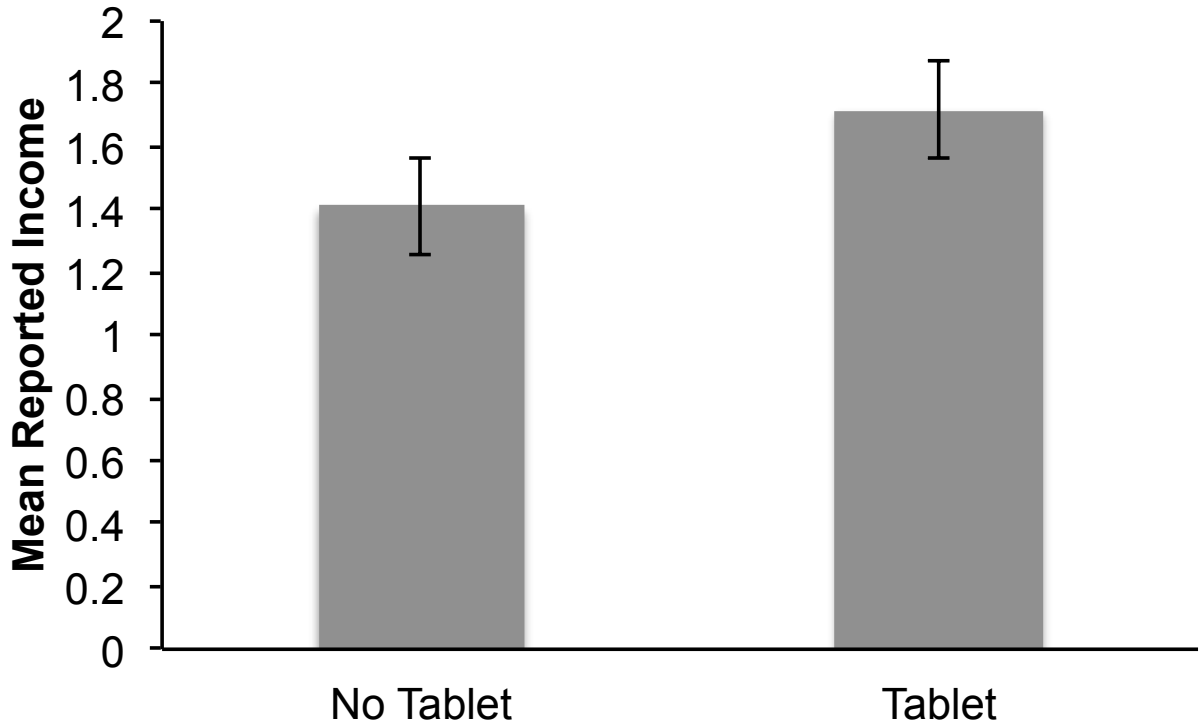
- No evidence that the poorest respondents are less likely to respond to questions about household income.
- All but three of the poorest respondents according to the household income question in the first wave of the survey reported their income in the second wave of the survey.

The poorest respondents report higher incomes in the presence of tablets.

Tablet Interviewer	0.00
	(0.000)
Second Wave	0.41***
	(0.050)
Second Wave x Tablets	0.31**
	(0.139)
N	407
R-squared	0.22

Relatively poor respondents do report higher incomes in the presence of tablets.



Wealthier respondents do not report higher incomes in the presence of tablets.

Tablet Interviewer	0.13*
	(0.072)
Second Wave	-0.09***
	(0.032)
Second Wave x Tablets	-0.05
	(0.067)
N	1619
R-squared	0.01

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- Nidaa Tounes politicians linked to previous authoritarian regime.
- 246 respondents reported being somewhat or largely dissatisfied with Nidaa Tounes.

What are the surveillance-related effects?

	Model 1 (Response Rate)	**Model 2** (Pro-Essebsi)	**Model 3** (Pro-Essebsi)
Tablet	0.21	-0.37	-0.07
	(0.614)	(0.263)	(0.169)
Income	-0.16	0.08	-0.18**
	(0.260)	(0.126)	(0.082)
Political Knowledge	0.05	-0.12	0.07
	(0.365)	(0.158)	(0.095)
Education	0.10	-0.10	-0.23***
	(0.243)	(0.107)	(0.061)
Rural	-0.21	0.52*	-0.029*
	(0.648)	(0.303)	(0.156)
Gov. Opposition?	Yes	Yes	No
N	246	232	740

Table: **The Effects of Tablets on Reported Satisfaction with Essebsi.** Model 1 presents results from a logistic regression. Models 2 and 3 present results from ordinal logistic regressions. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

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- However, with a fairly difficult test, reported income among the poorest respondents was higher when they were interviewed with tablets.
- Researchers should be aware of potential bias and use multiple strategies to measure income and other wealth-related outcomes.
- Further testing needed in other contexts:
  - Poorer countries or those with higher levels of inequality.
  - Countries with authoritarian regimes and/or surveillance states.

Thank you!