

Structural changes

Labour market in the 21st century: the way forward

Joanna Tyrowicz



October 2019, Lietuvos Bankas

Motivation = key take-aways

- Facts vs perceptions
- Narratives
(“narrative economics” of Robert Shiller, earlier “mega-narratives” of Carlota Perez)
- Can transition help us understand automation?

- Conventional transition narrative
 - SOEs went bankrupt
 - Jobs lost, people had to re-skill
 - Winners vs loser + agriculture

- Conventional transition narrative
 - SOEs went bankrupt
 - Jobs lost, people had to re-skill
 - Winners vs loser + agriculture
- Untold stories of economic transition

- Conventional transition narrative
 - SOEs went bankrupt
 - Jobs lost, people had to re-skill
 - Winners vs loser + agriculture
- Untold stories of economic transition
- Stories to be told about automation

Myth 1: demise of the inefficient state/manufacturing sector

- Transition was all about SOEs going down
SOEs going down
- Mostly case studies, little data
- Lots of fuss about corruption

Myth 1: demise of the inefficient state/manufacturing sector

- Transition was all about SOEs going down
SOEs going down
- Mostly case studies, little data
- Lots of fuss about corruption

Why

- Data often missing, or hard to collect
- Bad news sell better
- Traumatic events and bold crimes are better recollected

Untold story 1: most of labor/capital actually survived

New data (from Poland)

- Hand collected trajectories of **all** plants
- Harmonized coding of plant fates

Untold story 1: most of labor/capital actually survived

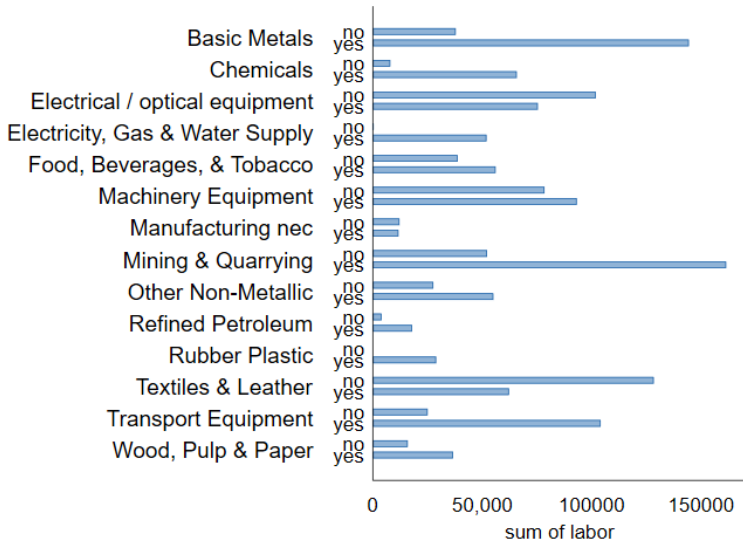
New data (from Poland)

- Hand collected trajectories of **all** plants
- Harmonized coding of plant fates

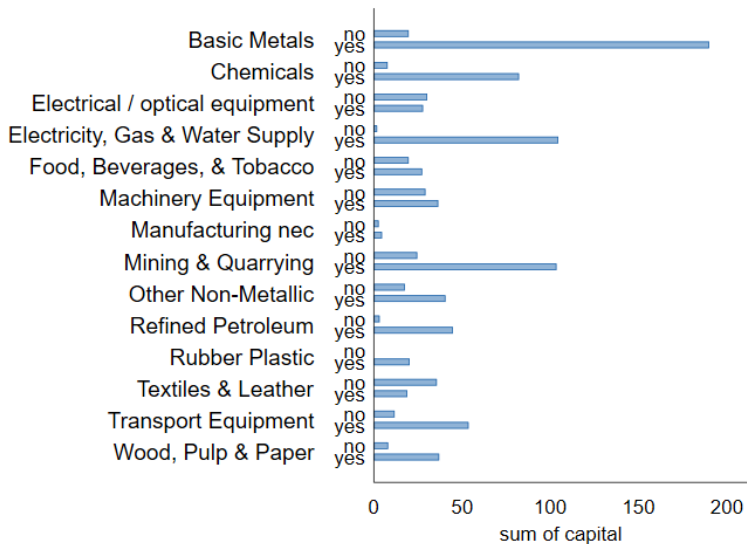
New findings

- Not much of labor laid off due to bankruptcies
- Not much capital lost due to bankruptcies
- FDIs rarely closed down (and lot of cherry picking)

Untold story 1: most of labor/capital actually survived



Untold story 1: most of labor/capital actually survived



Myth 2: jobs destroyed, people had to change employment

- Transition was driven mostly by OWNERSHIP or SECTORAL flows
massive unemployment
- Safety nets expensive (and humiliating)
- Optimal speed of transition (job creation vs job destruction)

Myth 2: jobs destroyed, people had to change employment

- Transition was driven mostly by OWNERSHIP or SECTORAL flows
massive unemployment
- Safety nets expensive (and humiliating)
- Optimal speed of transition (job creation vs job destruction)

Why

- SOEs inefficient (overmanning)
- Central planning pushed for too much manufacturing
- Insufficient urbanization and servicization

Untold story 2: people did not change jobs much

Old data

- Aggregate (changes in) employment are poor basis for inferring worker flows
- Ad hoc repeated panels or cross-section are not an actual panel either
- Most research concentrated on few countries
(Czech Republic, Estonia and Slovenia)

Untold story 2: people did not change jobs much

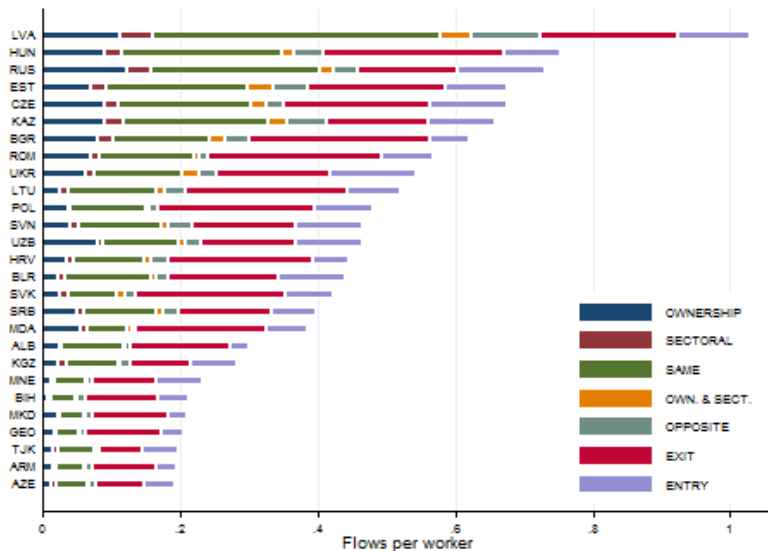
Old data

- Aggregate (changes in) employment are poor basis for inferring worker flows
- Ad hoc repeated panels or cross-section are not an actual panel either
- Most research concentrated on few countries
(Czech Republic, Estonia and Slovenia)

New data and new findings

- A comprehensive retrospective panel
(Life in Transition Survey, 27 countries, since 1988)
- Synthesis of estimates in the available papers (meta-analysis)

Untold story 2: people did not change jobs much



Untold story 2: much job change did not do good

		Literature			Literature (+controls)	
		All	Net	Gross	All	All
		Productivity growth at time t				
Job destruction	β	-0.069***	-0.005	-0.113***	-0.196***	-0.050**
	N	430	85	345	430	430
	R^2	0.788	0.953	0.759	0.028	0.784

Untold story 2: much job change did not do good

		Literature			Literature (+controls)	
		All	Net	Gross	All	All
Productivity growth at time t						
Job destruction	β	-0.069***	-0.005	-0.113***	-0.196***	-0.050**
	N	430	85	345	430	430
	R^2	0.788	0.953	0.759	0.028	0.784
Job creation	β	-0.003	-0.000	0.003	-0.008	0.003
	N	430	85	345	430	430
	R^2	0.782	0.953	0.752	0.000	0.782

Untold story 2: much job change did not do good

		All	Literature Net	Gross	Literature (+controls) All All	
Productivity growth at time t						
Job destruction	β	-0.069***	-0.005	-0.113***	-0.196***	-0.050**
	N	430	85	345	430	430
	R^2	0.788	0.953	0.759	0.028	0.784
Job creation	β	-0.003	-0.000	0.003	-0.008	0.003
	N	430	85	345	430	430
	R^2	0.782	0.953	0.752	0.000	0.782
Gini index at time t						
Job destruction	β	0.144***	0.019	0.254***	0.361***	0.151***
	N	348	67	281	348	348
	R^2	0.915	0.954	0.921	0.041	0.907

Untold story 2: much job change did not do good

		All	Literature Net	Gross	Literature (+controls) All All	
		Productivity growth at time t				
Job destruction	β	-0.069***	-0.005	-0.113***	-0.196***	-0.050**
	N	430	85	345	430	430
	R^2	0.788	0.953	0.759	0.028	0.784
Job creation	β	-0.003	-0.000	0.003	-0.008	0.003
	N	430	85	345	430	430
	R^2	0.782	0.953	0.752	0.000	0.782
		Gini index at time t				
Job destruction	β	0.144***	0.019	0.254***	0.361***	0.151***
	N	348	67	281	348	348
	R^2	0.915	0.954	0.921	0.041	0.907
Job creation	β	0.017***	0.0003	0.023***	0.006	-0.001
	N	348	67	281	348	348
	R^2	0.902	0.954	0.899	0.000	0.901

Technological unemployment

- “Robots replace you in your job” and PERMANENTLY

Technological unemployment

- “Robots replace you in your job” and PERMANENTLY
- Robot → Karel Capek’s 1920 Broadway play *Rossum’s Universal Robots*

Technological unemployment

- “Robots replace you in your job” and PERMANENTLY
- Robot → Karel Capek’s 1920 Broadway play *Rossum’s Universal Robots*

“According to my conviction it cannot be doubted that the severe economic depression is to be traced back for the most part to the internal economic causes. The improvement in the apparatus of production through technical invention and organization has decreased the need for human labor, thereby caused the elimination of labor from economic circuit and thereby caused a progressive decrease in purchasing power of the consumers.”

Technological unemployment

- “Robots replace you in your job” and PERMANENTLY
- Robot → Karel Capek’s 1920 Broadway play *Rossum’s Universal Robots*

“According to my conviction it cannot be doubted that the severe economic depression is to be traced back for the most part to the internal economic causes. The improvement in the apparatus of production through technical invention and organization has decreased the need for human labor, thereby caused the elimination of labor from economic circuit and thereby caused a progressive decrease in purchasing power of the consumers.”

Albert Einstein,
interview for Boston Globe, 1933

Current evidence on job destruction through automation

- Autor & Acemoglu (...): robotization more powerful than offshoring
- Autor, Dorn & Hanson (2019): destroys families
- Siu & Jaimovich (2018): permanent, concentrated in few demographic groups

Current evidence on job destruction through automation

- Autor & Acemoglu (...): robotization more powerful than offshoring
- Autor, Dorn & Hanson (2019): destroys families
- Siu & Jaimovich (2018): permanent, concentrated in few demographic groups

Outside US (country studies, EU LFS or EU KLEMS):

- positive for productivity, no strong effects for employment
- own effect (direct) vs increased demand and between industry shifts
- next to no evidence on early labor market exits

Current evidence on job destruction through automation

- Autor & Acemoglu (...): robotization more powerful than offshoring
- Autor, Dorn & Hanson (2019): destroys families
- Siu & Jaimovich (2018): permanent, concentrated in few demographic groups

Outside US (country studies, EU LFS or EU KLEMS):

- positive for productivity, no strong effects for employment
- own effect (direct) vs increased demand and between industry shifts
- next to no evidence on early labor market exits

Why the differences?

→ John J. Horton & Prasanna Tambe (2019) study *Flash* programmers

Current evidence on job destruction through automation

- Autor & Acemoglu (...): robotization more powerful than offshoring
- Autor, Dorn & Hanson (2019): destroys families
- Siu & Jaimovich (2018): permanent, concentrated in few demographic groups

Outside US (country studies, EU LFS or EU KLEMS):

- positive for productivity, no strong effects for employment
- own effect (direct) vs increased demand and between industry shifts
- next to no evidence on early labor market exits

Why the differences?

- John J. Horton & Prasanna Tambe (2019) study *Flash* programmers
- John van Reenen (1997!) paper on British manufacturing

1. Caution when taking cases as universal evidence
Narratives may drive the policy choices instead of data

1. Caution when taking cases as universal evidence
Narratives may drive the policy choices instead of data
2. Demographics is a powerful driver of labor market reallocation
For the most part, automation may be unnoticeable

1. Caution when taking cases as universal evidence
Narratives may drive the policy choices instead of data
2. Demographics is a powerful driver of labor market reallocation
For the most part, automation may be unnoticeable
3. On the go monitoring requires high quality data
Automation requires more sophisticated data than the transition



Thank you and
I am happy to take questions!

- w: grape.org.pl
- t: grape.org
- f: grape.org
- e: j.tyrowicz@grape.org.pl