

**Discussion of:**  
**Dynamic Elasticities of Tax Revenue:**  
**Evidence from the Czech Republic**  
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# Main contributions of the paper

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- Empirical estimates of tax elasticities using quarterly data
- Dynamic approach to tax elasticities
- Controlling for tax measures

# Not all that glitters is gold

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The paper claims:

**best practice = econometric estimates + short- and long-run elasticities  
+ controlling for tax measures**

**Yes but:**

- Tax measures may change not only the yield but also elasticity
- Estimates of the impacts of tax changes surrounded by uncertainty
- Quarterly data increase number of observations, but do they provide more information?

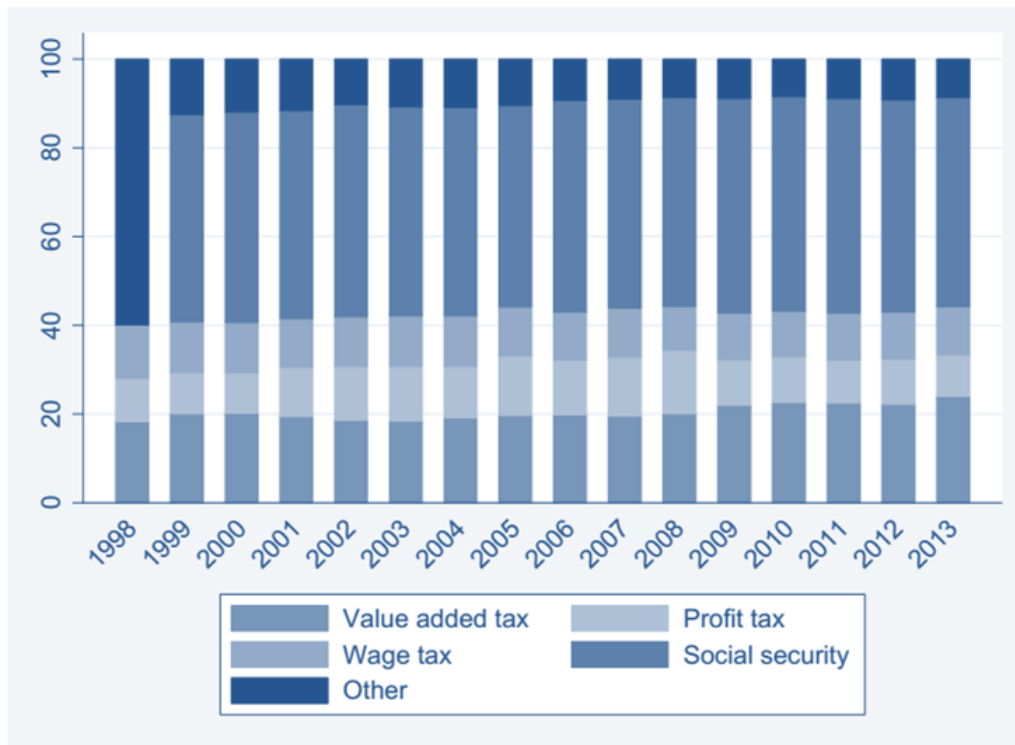
# Can econometrics deal with large reforms?

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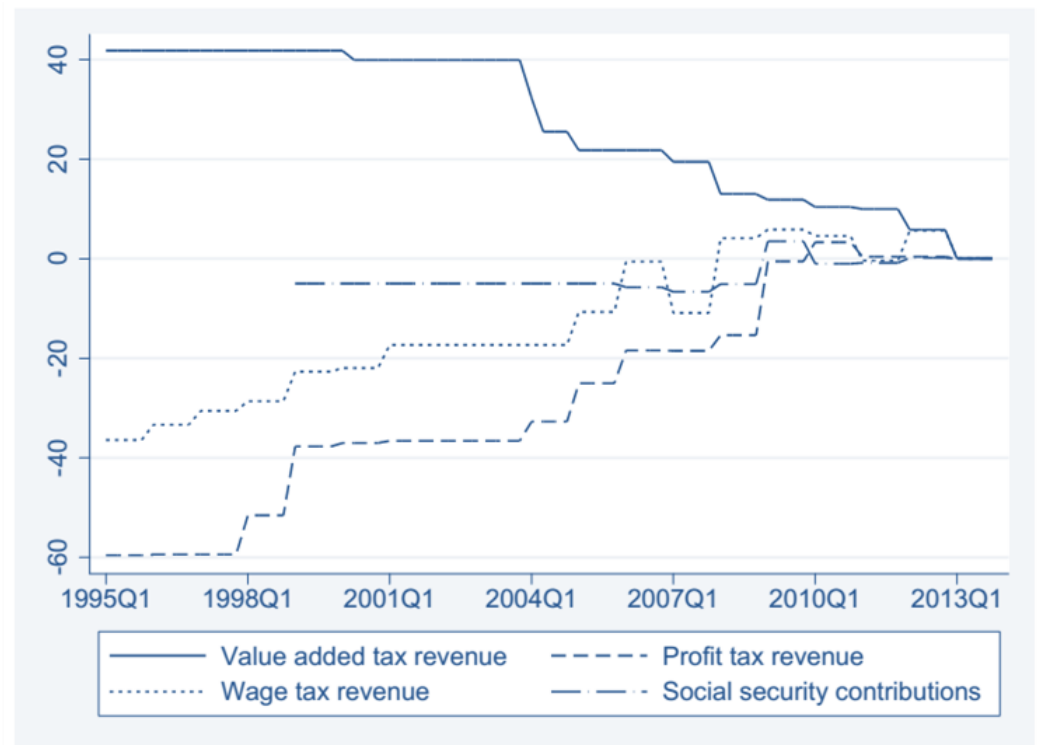
- Is the assumption of the EC framework of a stable long-run relationship plausible if the tax system undergoes large changes?
- Introduction of a single tax rate in 2008
  - Paper stylised:  $\log(\text{revenue}) = \beta_0 + \beta_1 * \log(\text{base}) + \delta * \text{reform}$
  - Controls for an impact on revenue, but not necessarily on elasticity
- Solutions:
  - Calibration based on the tax code
  - Different specification, e.g.:
$$\log(\text{revenue}) = \beta_0 + \beta_1 * \log(\text{base}) + \delta * \text{reform} + \beta_2 * \log(\text{base}) * \text{reform}$$
  - $\beta_2$  significant/sign?

# How reliable are estimates of tax measures?

Composition of Czech tax revenue in %



Cumulative effects of tax reforms in %



- Cumulative impacts of tax measures of +40/-60% without any visible impact on the composition of tax revenue?

## A few more remarks

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- Using quarterly data a necessary option, but tax revenue in nature annual – do quarterly data bring more information or noise?
- How are the impacts of measures distributed to quarters if presumably calculated at annual frequency using static elasticities?
- Cash vs. accrual data may affect dynamic properties. Accrual recording not fully harmonised across countries.
- Would a more subtle selection of tax bases, e.g. for profits, improve the results as compared to the one-fits-all ESCB approach?

# Summary of the main novelties

- Adjustment of long-run elasticities for tax measures:

	<u>Unadjusted</u>		<u>Adjusted</u>
PIT	1.0	→	1.4 (too high, affected by pre-2008 tax rates?)
VAT	1.1	→	0.9
CIT	1.3	→	1.7
SSC	0.9	→	1.0

- Dynamic properties

	<u>Short run</u>		<u>Long run</u>	<u>Adjustment process</u>
PIT	0.3	→	1.4	> 4 quarters (plausible?)
VAT	0.5	→	0.9	1 quarter
CIT	0.6	→	1.7	1-3 quarters
SSC	1.2	→	1.0	no lag