# "Household Expenditure and Property Taxes: Evidence from a Fiscal Consolidation Plan"

## by Paolo Surico and Riccardo Trezzi

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# Preview

Interesting paper on a highly relevant, but challenging issue:

*What are the effects of a change in property taxes on household expenditures?*

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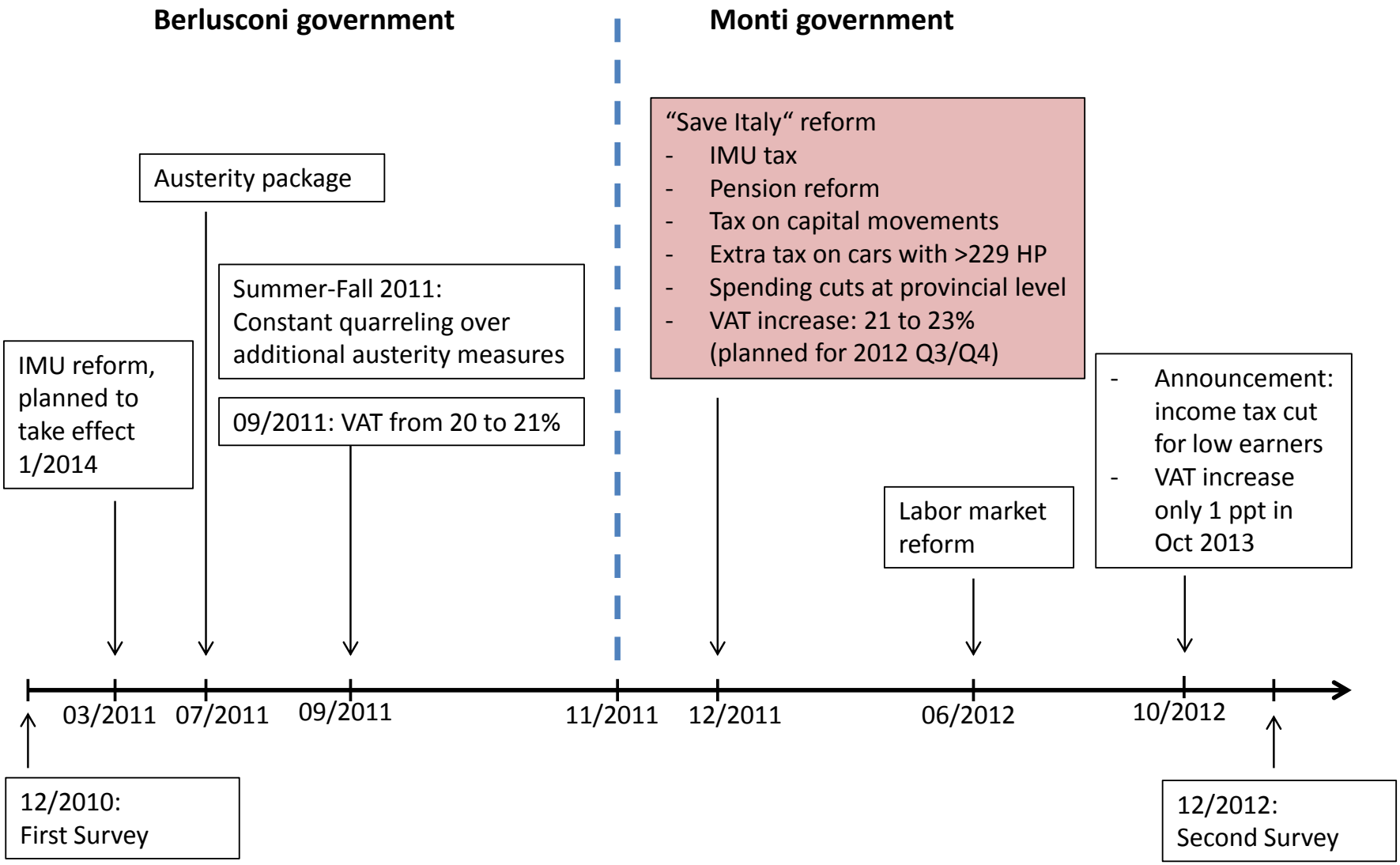
Outline of my discussion

- Brief review of the paper
- Comment 1: dealing with heterogeneous/non-linear effects
- Comment 2: many 0 observations in durables purchases
- Comment 3: permanent vs. temporary fiscal measures
- Comment 4: effects on the car industry

# Timeline of events



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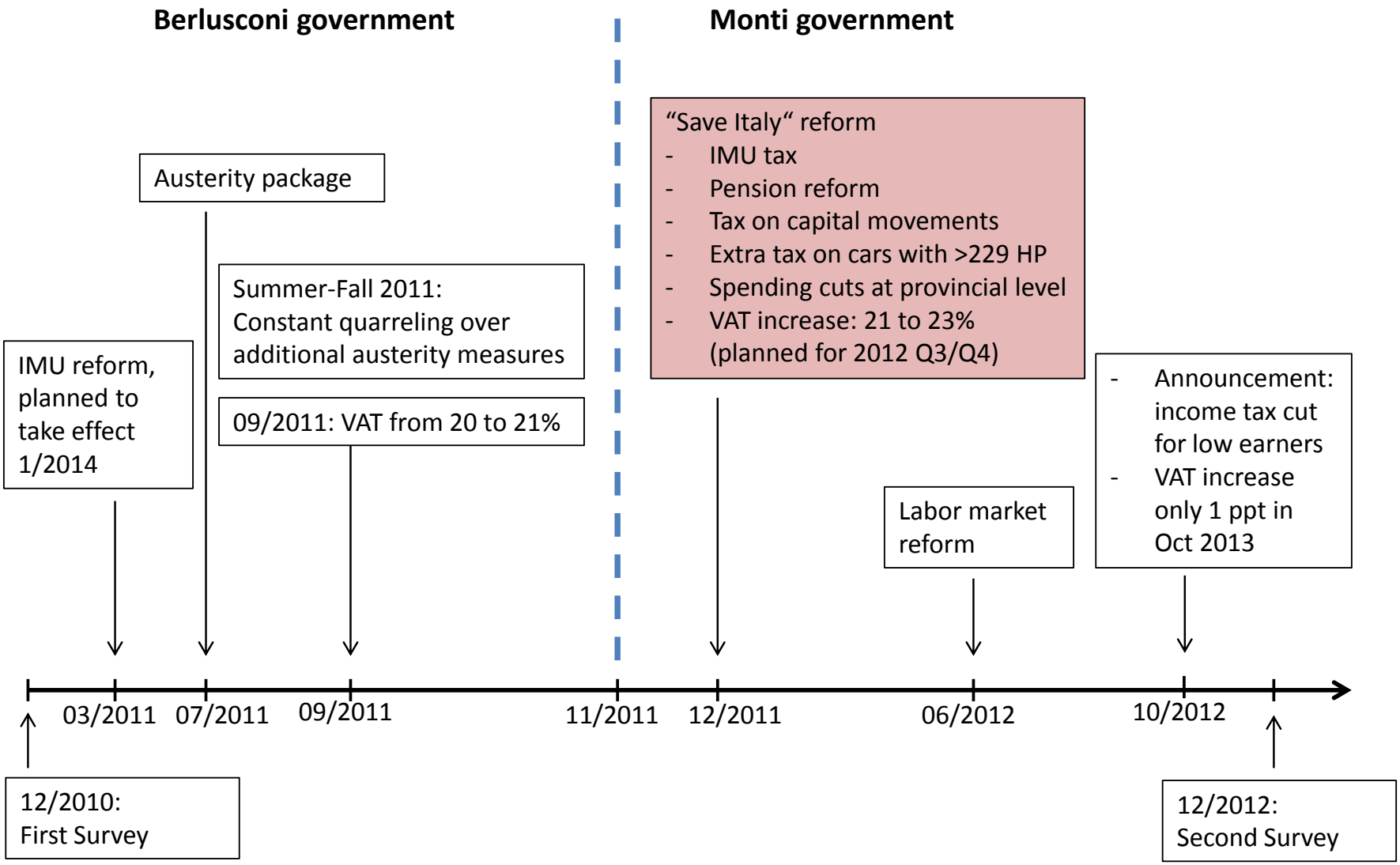


Event of interest: Change in municipal tax system on residential property (IMU)

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- Property tax rates vary considerably across municipalities

  $\rightarrow$ not due to local business cycle but rather political issues
- What about the other reforms in 2011/2012?

  $\rightarrow$ conditional correlations are pretty low

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- Important for policy decision: small decline in GDP vs. large increase in revenues

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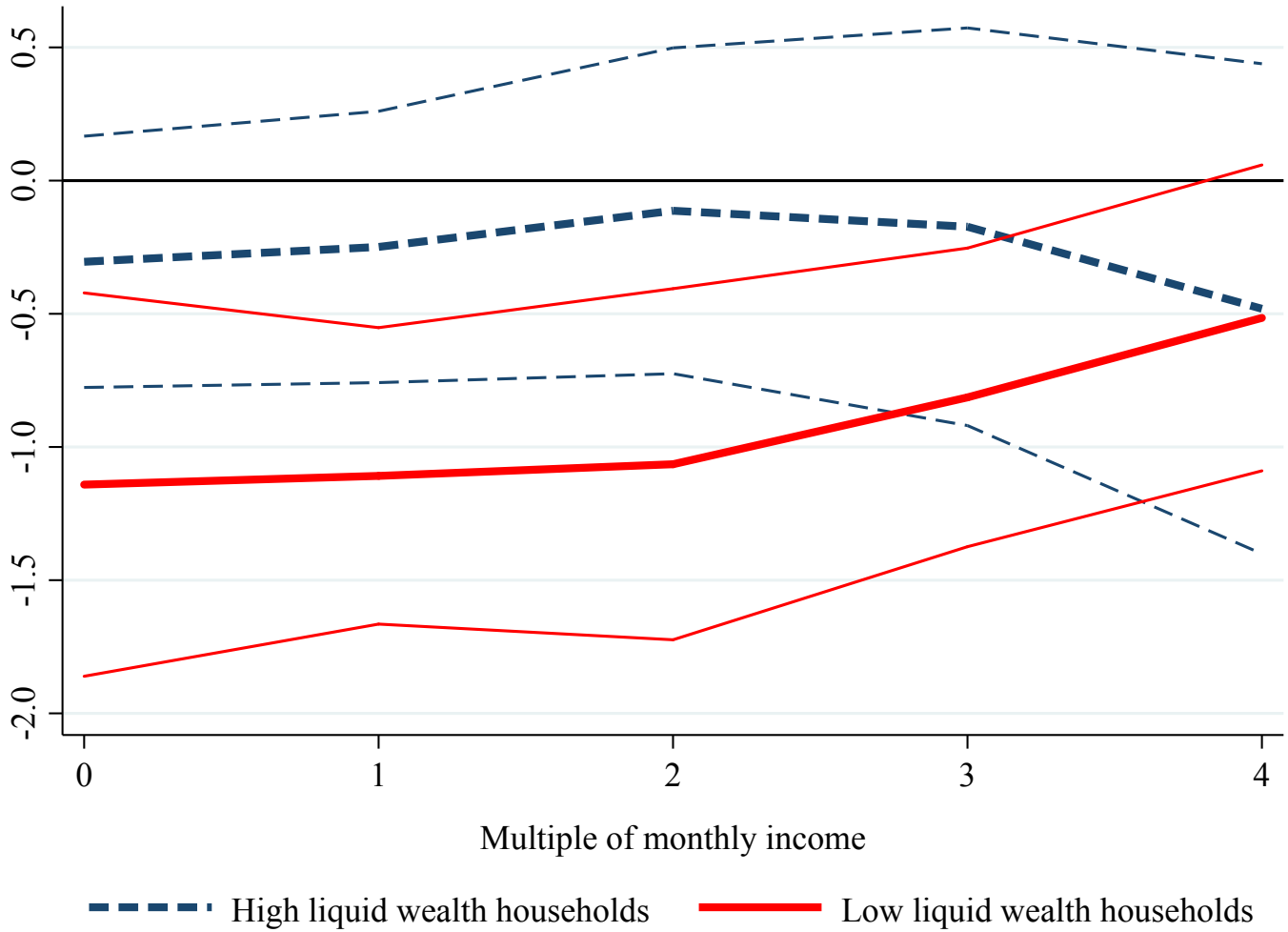

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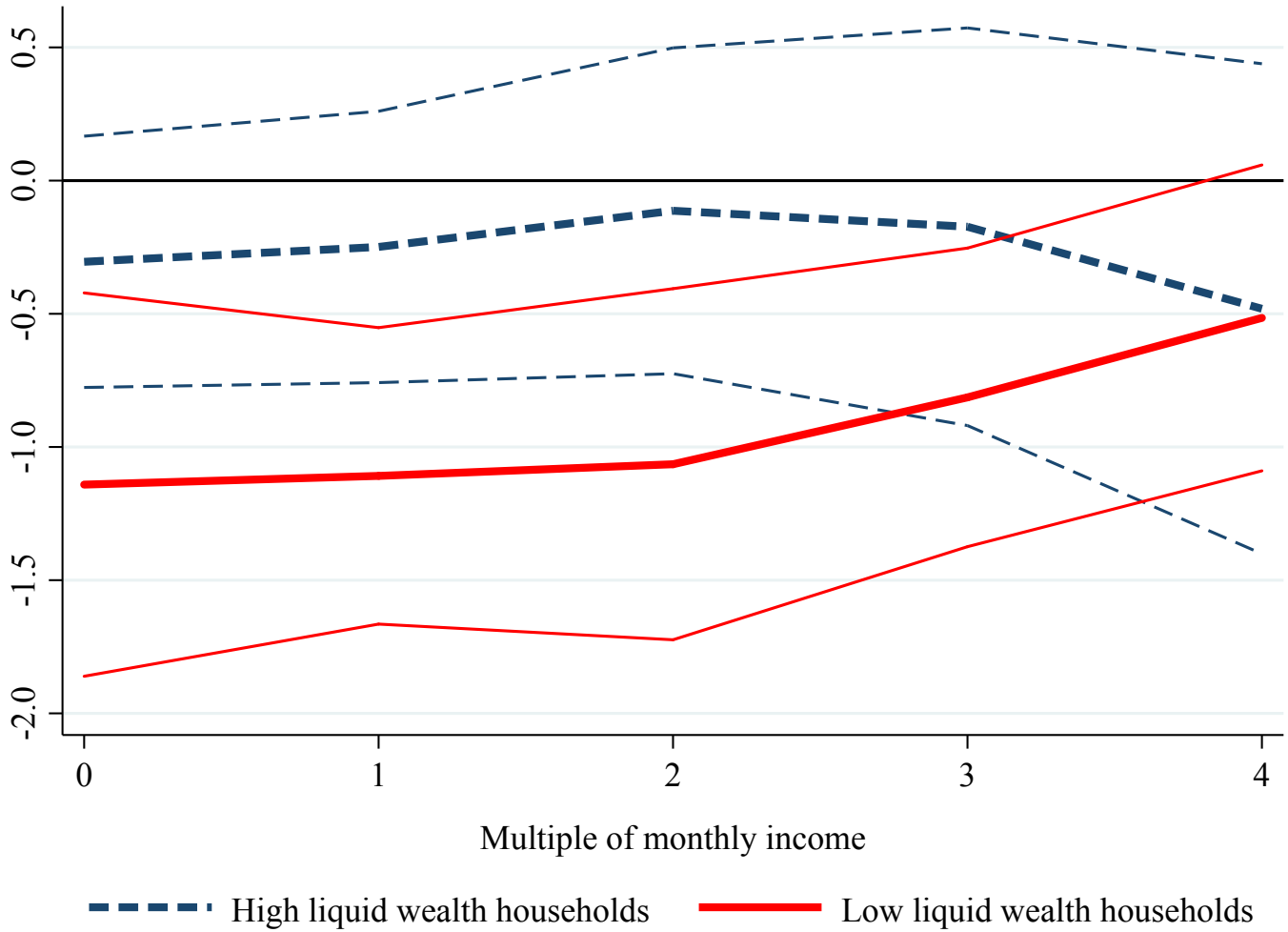


→ Inference should take uncertainty about threshold into account

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  $$\Delta C_i = \alpha + \gamma_1 IMUmain_i \times \mathcal{I}(LW_i < \theta) + \gamma_2 IMUmain_i \times \mathcal{I}(LW_i \geq \theta) + ..$$

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  $\rightarrow$ Hansen (1996) proposes bootstrap procedure

# Comment 2: Extreme # of 0 observ. for vehicle purchases

| Percentile | Vehicle Purch. | $\Delta$ Vehicle Purch. |
|---|---|---|
| 1% | 0 | |
| 5% | 0 | |
| 10% | 0 | |
| 25% | 0 | 0 |
| 50% | 0 | 0 |
| 75% | 0 | 0 |
| 90% | 0 | |
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Also to a certain extent true for durables purchases as a whole

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- Maybe one has to go for non-linear baseline model

  $\rightarrow$ Probit in the appendix is a good start

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## Probit: purchase yes/no

| **Panel A** | Full sample | | Home owners | |
|---|---|---|---|---|
| | Non-vehicles | Vehicles | Non-vehicles | Vehicles |
| IMU main | **0.04** | **-0.17** | **0.10** | **-0.16** |
| | [0.11] | [0.12] | [0.11] | [0.12] |
| IMU other | **-0.05** | **-0.04** | **-0.05** | **-0.04** |
| | [0.04] | [0.05] | [0.04] | [0.05] |
| △ HP ('000 €) | **0.01** | **-0.01** | **0.01** | **-0.01** |
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| Observations | 4,013 | 4,013 | 3,132 | 3,132 |
| Area under ROC | 0.63 | 0.77 | 0.62 | 0.76 |

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→ have you tried it for durables expenditures as a whole?

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| **Panel B** | Debtors | | Mortgagors | |
|---|---|---|---|---|
| | Non-vehicles | Vehicles | Non-vehicles | Vehicles |
| IMU main | **0.06** | **-1.01*** ** | **0.10** | **-1.06** ** |
| | [0.25] | [0.35] | [0.35] | [0.54] |
| IMU other | **-0.09** | **-0.03** | **0.02** | **0.21** |
| | [0.07] | [0.11] | [0.11] | [0.18] |
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→ low number of observations and high share of 0's means that effect depends on very few expenditure change observations

# Comment 3: Permanent vs. temporary measures

- Effect of fiscal measures might depend on their (expected) duration (see e.g. Giavazzi, Jappelli, and Pagano, 2000; Alesina, Favero, and Giavazzi, 2015)

# Comment 3: Permanent vs. temporary measures

- Effect of fiscal measures might depend on their (expected) duration (see e.g. Giavazzi, Jappelli, and Pagano, 2000; Alesina, Favero, and Giavazzi, 2015)
- SHIW asks about the expected duration (Question D37): *In your opinion, which is the probability that the Municipal Property Tax (IMU) will be abolished within the next 5 years and not replaced by another similar tax? On a scale of 0 to 100, assign a low number if there is little chance of this happening and a high one if there is a good chance.*

# Comment 3: Permanent vs. temporary measures

Figure: Perceived probability that property tax is temporary

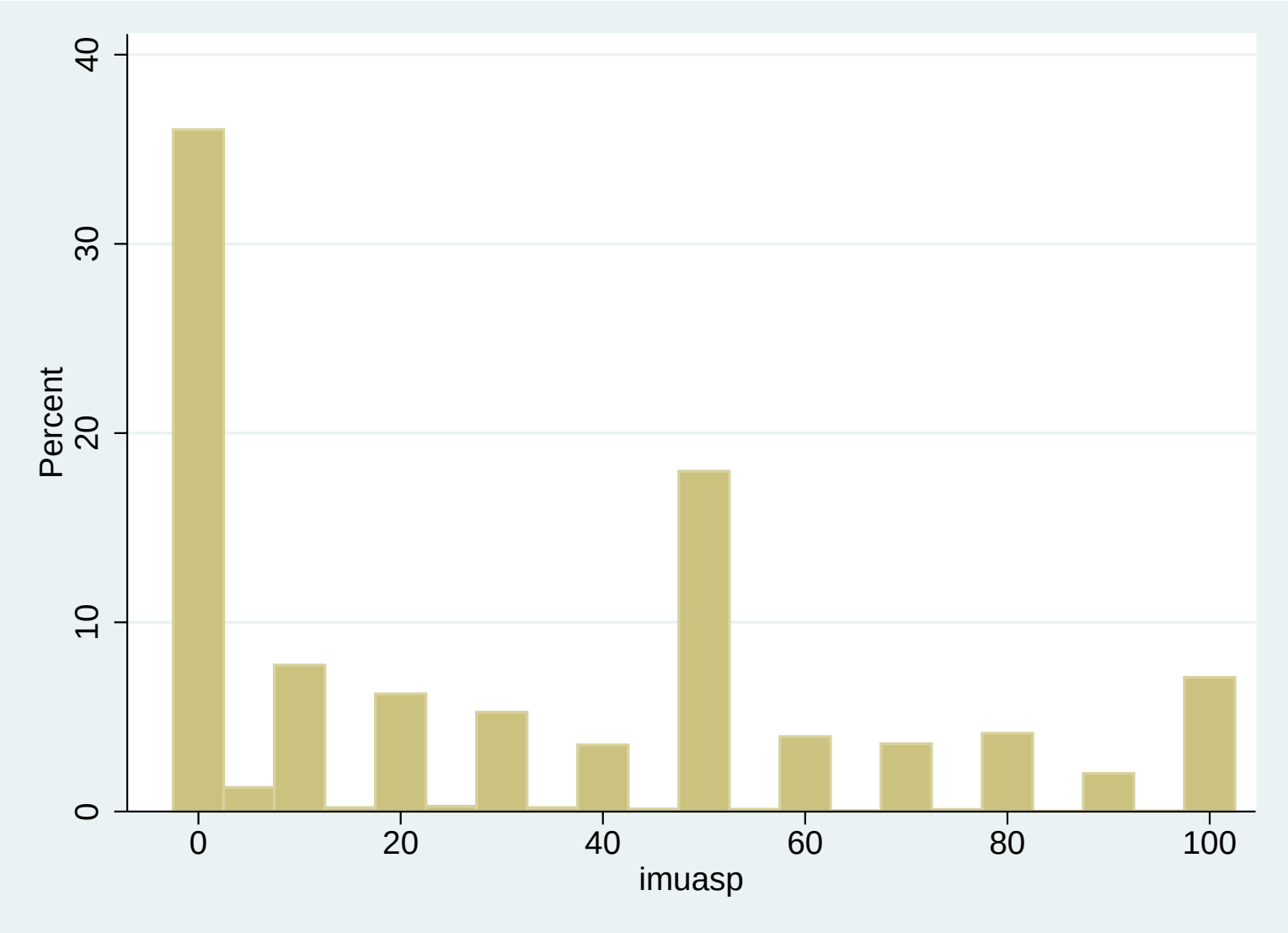

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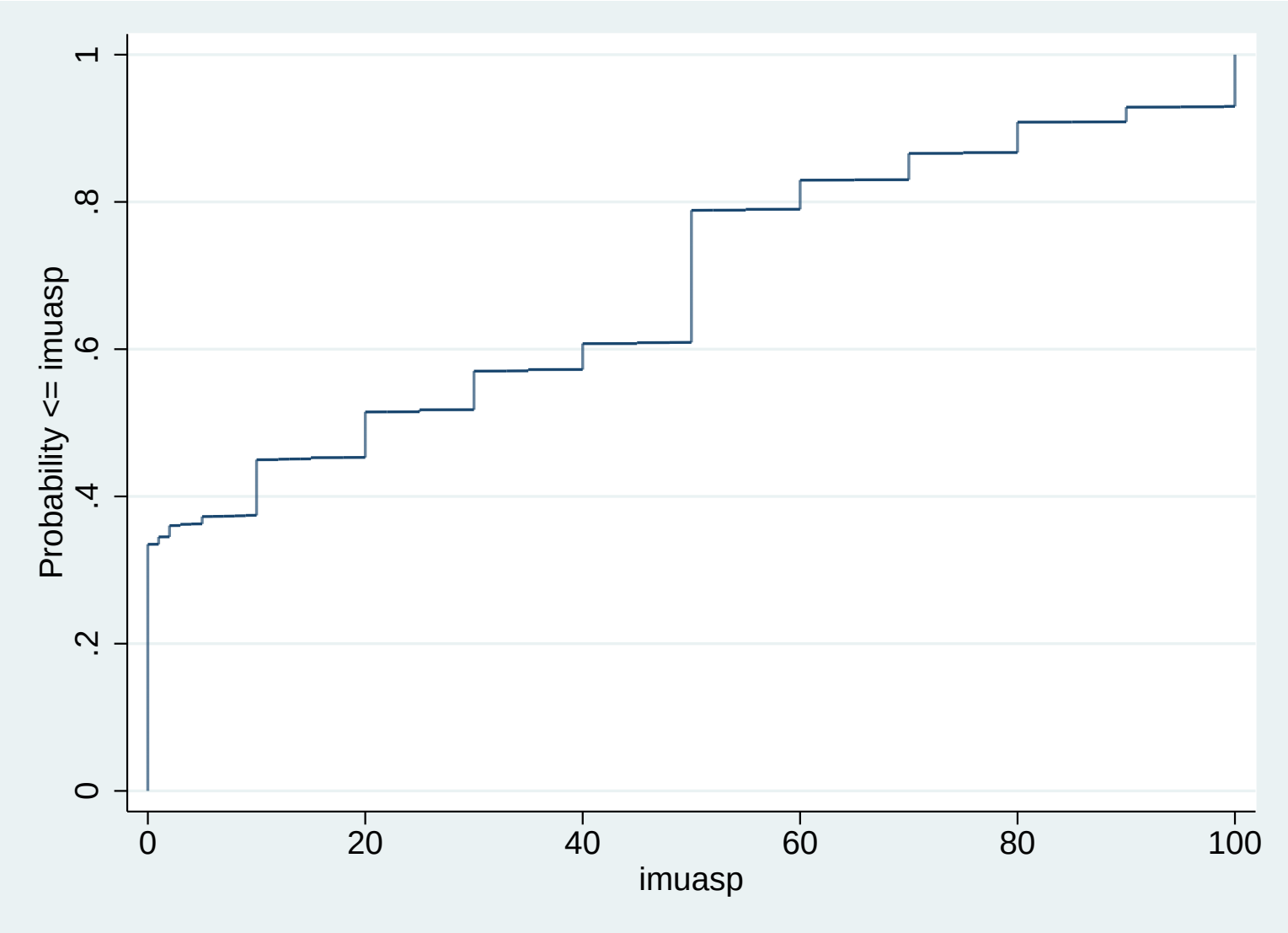
Figure: Cumulative distribution function



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- Full survey (approx. 8000 households) has considerable variation in this question
- Could be a worthwile extension to condition on this to see whether effects are heterogenous with respect to perceived persistence of measure
- Paolo and Riccardo state that 70% of households perceive the tax as temporary based on their cleaned sample of approx. 4000 households that are surveyed both in 2010 and 2012

  $\rightarrow$ Is this a selection effect?

# Comment 4: Effect on car industry

- Cutting down the expenditures on cars does not have to be bad for the Italian car industry per se

  $\rightarrow$ customers might substitute away from more expensive foreign cars towards cheaper home brands

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- Might be worthwhile to look at sales across car makers

**ITALY - NEW CAR REGISTRATIONS**

| | 2011 | Share | 2012 | Share | Change |
|---|---|---|---|---|---|
| FIAT | 363,274 | 20.76 | 294,875 | 21.02 | -19% |
| LANCIA -CHRYSLER | 85,560 | 4.89 | 71,436 | 5.09 | -17% |
| ALFA ROMEO | 58,181 | 3.33 | 42,185 | 3.01 | -27% |
| JEEP | 7,874 | 0.45 | 6,551 | 0.47 | -17% |
| DR MOTOR | 2,926 | 0.17 | 694 | 0.05 | -76% |
| FERRARI | 570 | 0.03 | 248 | 0.02 | -56% |
| MASERATI | 417 | 0.02 | 115 | 0.01 | -72% |
| LAMBORGHINI | 72 | 0.00 | 60 | 0.00 | -17% |
| **Total national carmakers** | **518,940** | **29.66** | **416,194** | **29.66** | **-20%** |
| VOLKSWAGEN | 138,900 | 7.94 | 113,606 | 8.10 | -18% |
| FORD | 146,861 | 8.39 | 99,034 | 7.06 | -33% |
| OPEL | 116,724 | 6.67 | 78,937 | 5.63 | -32% |
| CITROEN | 81,647 | 4.67 | 69,463 | 4.95 | -15% |
| PEUGEOT | 78,297 | 4.47 | 69,121 | 4.93 | -12% |
| RENAULT | 83,388 | 4.77 | 59,869 | 4.27 | -28% |
| TOYOTA/LEXUS | 68,944 | 3.94 | 56,410 | 4.02 | -18% |
| AUDI | 60,614 | 3.46 | 51,087 | 3.64 | -16% |
| NISSAN | 63,243 | 3.61 | 49,067 | 3.50 | -22% |
| HYUNDAI | 43,476 | 2.48 | 43,549 | 3.10 | 0% |
| BMW | 50,713 | 2.90 | 42,476 | 3.03 | -16% |
| MERCEDES | 51,107 | 2.92 | 42,379 | 3.02 | -17% |
| **Total foreign carmakers** | **1,230,800** | **70.34** | **986,814** | **70.34** | **-20%** |

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- There is probably quite a bit of cross-sectional correlation in the errors. Probably not much you can do about it without time dimension
- When you split the sample in high and low income groups (bottom 25% vs. top 75%) and do this for different subsamples, the cutoffs can be very different
- One of the policy recommendations is to allow tax deductions based on level of outstanding debt. Would this really be a good idea in a world with too much household debt?

# Conclusion

- Great paper!
- Still a few kinks to resolve
- Looking forward to reading the next iteration

# Bibliography I


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