



# **Central Banking under Prolonged Global Uncertainty: The Latest Lessons while Searching for the "New Normal"**

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# Firms' responses to shocks by price, wage and employment in Macedonia

## **Aim:**

- Which are determinants of different adjustment strategies (adjustment in price or costs) in response to supply shocks (cost and wage shocks)?
  - Four different models to answer this question
- Focus on cost-cutting strategies – which are the determinants that explain the choice of specific cost-cutting strategy – special emphasize on labor costs - reduce wages, reduce permanent employment and reduce temporary employment
  - Six models to answer this question

**Methodology:** probit model



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## Results:

- In the case of supply shock probability of firms' making some adjustment in prices and/or costs increases with the intensity of competition and firms' technology.
- Probability of firms adjusting employment higher in more competitive environments
- Collective agreement at a higher level increases the probability of adjustment in permanent employment and hours worked.
- Firms are less likely to adjust permanent employment when the share of temporary workers is higher
- Firms are less likely to adjust employment and wages when the share of part-time workers is higher



# Firms' responses to shocks by price, wage and employment in Macedonia

## Strengths:

- **Unique database** – survey on wage and price setting behavior of Macedonian firms following the ECB Wage Dynamic Network
- **Results potentially useful for calibrating structural macroeconomic models**
- **Relevant policy implications**
  - monetary policy – better understanding of the price and wage dynamics
  - labour market policies, competitiveness...



# Firms' responses to shocks by price, wage and employment in Macedonia

## Comments...

- Why not investigate **firms' responses in the case of demand shock**...it would be interesting to compare firms' adjustment strategies in case of demand vs supply shock
- "To summarize our main results regarding the cost-cutting strategies, ***we find that product market competition is a substantial determinant in the firm's decision to adjust labour costs instead of non-labour costs.***" ...however, estimates on determinants of non-labour cost and hours worked as firms' adjustment strategies **are not elaborated and presented in the paper, but only in the appendix** (Table 2C)...Very relevant issue with important policy and social implications...should be included in the paper...



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## Comments...

- Some of the results are not in line with theory:
  - For example, collective agreement doesn't seem to be an important determinant of the adjustment strategies in case of supply shocks (opposite sign, when significant or borderline significance)...**Maybe results are specific for the Macedonian case? And why?** This finding is the real value added of the research as they reveal some structural specifics of the Macedonian economy...I think more discussion on these issues will increase the quality of the paper



# Firms' responses to shocks by price, wage and employment in Macedonia

## Comments...

- Little discussion on the empirical method – **Why probit model?** Most of the studies in this area use these models...still some explanation on the choice of the model and its advantages for this particular study is needed
- **Why not multinominal logit/probit model instead of several probit models?** Multinominal logit provides an opportunity to model the probability of the different adjustment strategies in one single model...increases the number of observation and degrees of freedom...additionally can serve as robustness check of the results

\* Dhyne, E. and Druant, M. (2010). *Wages, Labor or Prices - How do Firms React to Shocks*. Working Paper Series 1224, European Central Bank )



# Firms' responses to shocks by price, wage and employment in Macedonia

**...and some suggestions (further research):**

- Small sample for cross-section analysis...maybe include more countries with similar characteristics as Macedonia (Croatia, WDN survey conducted in 2014, *Adjustment of labor costs in Croatia during the crisis – results from WDN survey*)





# The costs and benefits of sovereign interest rate exposure – Evidence from a panel of CESEE countries

- **Aim:**

- **Investigate determinants of short and long-term bond yields in CESEE countries**
- **Provide estimates on interest rate risk and risk preferences in sovereign debt portfolios in CESEE countries** (Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Russia, Slovakia Slovenia and Turkey) **by using new structural debt database**
- **Several different specification estimated**...dependent variable: one and ten year bond yield; explanatory variables: public debt and deficit (share of government revenue), GDP growth, inflation, three-month interbank rate, reer, non-performing loans + ATR (average time to interest rate re-fixing) to test for potential portfolio rebalancing effects

- **Methodology:**

- **SUR Panel approach – OLS and GLS estimators**



# The costs and benefits of sovereign interest rate exposure – Evidence from a panel of CESEE countries

- **Results:**

- Fiscal variables (public debt), NPLs and monetary variables (real interest rate and inflation) important for the cost of financing
- Fiscal variables more important for the costs of the long-term, whereas monetary variables more important for the cost of short-term funding (conventional monetary policy measures more effective in steering the short-end of the yield curve)
- Results provide evidence for portfolio rebalancing effects (effectiveness of unconventional monetary policy measures)
- Aggregate risk aversion has decreased over time given that, on the margin, the costs have dropped more sharply than the risk inherent to sovereign debt portfolios



# The costs and benefits of sovereign interest rate exposure – Evidence from a panel of CESEE countries

- **Strengths:**
  - **Use of newly constructed structural debt database that allows construction of unique indicators**
    - Average time to interest rates re-fixing (ATR), average term to maturity of total debt (of domestic- and of foreign- currency obligations), currency composition of total debt...
  - **Contribution to debt management empirical literature...especially for the CESEE region**
  - **Important implications for policy makers in the CESEE region**



# The costs and benefits of sovereign interest rate exposure – Evidence from a panel of CESEE countries

## Comments...

- **SUR panel approach**...maybe provide some discussion in the paper why this method is chosen and what are its advantages
- SUR estimator “large T, small N” estimator – in the analysis T=25 periods; however, short time span – only seven years (2009-2016)



# The costs and benefits of sovereign interest rate exposure – Evidence from a panel of CESEE countries

## Comments...

- “...evidence from a panel of CESEE countries”...**how you define the CESEE region?** Russia - CIS group of countries...Turkey?
- 8 EU countries + 2 non-EU countries...determinants (and the relative importance of the determinants) between these two group of countries might be different (e.g.. higher political uncertainty)...**Can outliers drive the results? Like Russia and Turkey? Results without them?**
  - Additional robustness check...maybe Jackknife procedure (“leave one out”)...are results stable once these countries are excluded?
- Current account balance...additional **explanatory variable** to be included and...
  - ...what about external factors (e.g. VIX, the price of global liquidity, treasury bond yields in the US or Germany)?
- Forecasts instead of current levels of some explanatory variables

\* International Monetary Fund (IMF), 2014, Central, Eastern and Southeastern Europe: Regional Economic Issues, “Safeguarding the Recovery as the Global Liquidity Tide Recedes” (Washington, April)



# The costs and benefits of sovereign interest rate exposure – Evidence from a panel of CESEE countries

## Comments...

“The average weight attached on cost minimization has increased notably, from 5% in 2010 to roughly 18% in 2015. This implies that **the weight on risk minimization has decreased by 13 percentage points within five years.**”

- Effect seems very strong for such short time period...especially in the period when domestic and global risks has increased dramatically (prolonged recessions and subdued growth in developed countries, economic slowdowns in emerging markets, refugee crisis, Brexit, political uncertainty, terrorist and cyberattacks, climate change), and...
- ...result predominantly driven by Turkey and Russia (and to lesser extent Romania). In all other countries the decline in the weight given to risk minimization much smaller.
- **Maybe more discussion on this result...and connect this with implications for the policy makers**



**Thank you for your  
attention!**