



The Public Defense
of the Doctoral Thesis in Economics

by

Péter Gábor

on

EXPLAINING INFLATION DYNAMICS: THE ROLE OF PRICE
SETTING RULES, EXPECTATIONS AND EXCHANGE RATE

will be held on

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Central European University

Nádor Street 9, Budapest

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The doctoral thesis is available for inspection
at the CEU Economics Department

Abstract

The thesis consists of three self-standing papers that all investigate topics related to short term movements in the inflation rate. Chapter 1 provides empirical evidence on store-level pricing practices in Hungary. I calculate simple descriptive statistics about price setting and decompose inflation variation to variation in the frequency and average size of price changes. The focus of Chapter 2 is to identify the causal effect of inflation expectations on inflation using survey data on households' inflation expectations. Chapter 3 discusses how perceived trends in nominal exchange rate and foreign prices affects exchange rate pass-through to import prices.

Chapter 1 “Price Setting in Hungary -- A Store-Level Analysis” (joint with **Ádám Reiff**)

Chapter 1 uses Hungarian micro CPI-data between December 2001 and June 2007 to provide empirical evidence on store-level pricing practices in Hungary. Our focus is threefold. First, in supplement to a large number of empirical studies from all over the world we calculate simple descriptive statistics about price setting -- frequency and average size of price changes -- in Hungary, where the inflation rate was relatively high and more volatile during the sample period. Our paper is the first one to provide empirical analysis of price setting in Hungary based on a wide range of products.

Second, given the relatively high volatility of Hungarian inflation rate, we decompose inflation variation to variation in the frequency and average size of price changes. We use the method of Klenow and Kryvtsov (2008) for this decomposition. They argue that this exercise is informative about the question whether price adjustment takes place on the extensive or intensive margin, and helps us distinguishing between the two major sticky-price model families, time-dependent and state-dependent models. Calvo-type time-dependent models imply that all adjustment is on the intensive margin, while state-dependent models imply that some of the adjustment takes place on the extensive margin.

Third, using a similar decomposition into frequency and size effects, we estimate the inflation effect of three major Value-Added Tax (VAT) changes during our sample period.

We find that in terms of price flexibility, Hungary is in between the Euro area and the US: the frequency and average size of price adjustment is larger than in the Euro area, and smaller than in the US. Further, inflation variation is mainly driven by changes in the price increase and price decrease frequencies (i.e. in the relative share of price increases and decreases within all price changes), which is in line with the results reported by Gagnon (2007) in Mexico. Finally, the short-term inflation effect of a unit VAT-increase is estimated to be substantially larger than

that of a unit VAT-decrease.

Chapter 2 “Household inflation expectations and inflation dynamics”

Chapter 2 explores the linkages between inflation expectations and inflation. Inflation expectations influence prices through numerous channels. Investors need reliable inflation projections to make well-founded investment decisions. Firms need to determine their expected inflation rate in order to set prices, to make capital investment and deciding on borrowing and liquidity needs. Expected inflation is crucial in contracts which are not continuously renegotiated, like wages. Consumers use information on the future inflation rate when allocating consumption between today and tomorrow. If inflation expectations are high consumers tend to consume today, which may increase prices further.

Although expectations are important because of several reasons, the empirical literature on inflation expectation formation had a quite limited scope in general. Most of the literature analyzed whether expectations (of households, producers or investors) are unbiased and efficient predictors of future inflation rates.

This paper explores whether changes in expectations have an impact on other macroeconomic variables in three countries (Czech Republic, Hungary and the United Kingdom). The selection of countries was motivated by that all countries have inflation targeting monetary regimes, so managing expectations is in the focus of monetary policy and for all countries relatively long time series are available about inflation perceptions and expectations. In this paper I quantify qualitative survey responses about inflation perceptions and expectations and use a SVAR framework to identify the effect of changes in the expected inflation rate. Previous papers usually used simple ordering assumptions to put inflation expectations into VARs. The main contribution of this paper is that it proposes a SVAR framework with sign restrictions, which can be more appropriate to identify the effect of expectation shocks. Nominal wages are also included among the variables of the SVAR, to underpin one of central banks' main concerns, namely that non-anchored expectations may have an impact also on wage setting. The results show that an increase in inflation expectations raises prices and nominal wages in all the three countries. By comparing impulse responses I also evaluate how anchored expectations are in the three countries. Expectations are the most anchored in United Kingdom and the least in Hungary.

Chapter 3 “Asymmetric exchange rate pass-through in a small menu costs model”

Chapter 3 discusses how perceived trends in nominal exchange rate and foreign prices affects exchange rate pass-through to import prices. Asymmetric pass-through has been analyzed by many theoretical and empirical papers. The theoretical literature provides two main mechanism which are potentially important regarding asymmetric pass-through. Knetter (1994) argued, that if firms operate

under capacity constraints, which limits the magnitude of production on the short run, it is not worthwhile to have low prices. Hence, a depreciation of the exporter's currency might result in a lower pass-through than an appreciation, for which the capacity constraint is not binding. The other argument provides an explanation of asymmetries in the other direction. If firms compete strategically for market shares, an appreciation of the exporter's currency will result in firms adjusting by reducing the markup, while during a depreciation they will maintain the markup and allow prices to fall.

In this paper I provide an alternative explanation for asymmetric exchange rate pass-through. I estimate short run exchange-rate pass-through for seven European economies and I provide evidence that in some countries exchange rate pass-through is indeed asymmetric. I show that there is a positive correlation between the measured asymmetry in exchange rate pass-through and the average inflation of import prices. Next I calibrate a small menu cost model to analyze the exchange rate pass-through. The most closely related paper is Flodén and Wilander (2006), which also calibrated a menu cost model to analyze exchange rate pass-through. However they examined pass-through only at the individual firm level. In this paper I analyze the problem in a general equilibrium setup, so strategic interactions among firms also play a role. I show that measured pass-through is quite sensitive to different anticipated trends in exogenous variables, which may potentially explain the surprising diversity of pass-through estimates in time and cross-section in emerging economies. Although the model is very stylized, I could replicate many stylized facts on exchange rate pass-through: pass-through is incomplete, pass-through is higher if inflation is higher, asymmetry increases if inflation is higher.

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WORK EXPERIENCE

- 2006- *Senior Economist*, Monetary Strategy and Economic Analysis
Department, Magyar Nemzeti Bank (Central Bank of Hungary)
- 1999-2006 *Financial Analyst*, Financial Analysis Department
Magyar Nemzeti Bank (Central Bank of Hungary)

EDUCATION

- 2004-2011 *Ph.D Candidate.*, Economics, Central European University
(Budapest, Hungary) www.economics.ceu.hu
Field: Monetary economics
Dissertation: Explaining inflation dynamics: the role of price
setting rules, expectations and exchange rate
- 1994-1999 *M.A.*, Economics, Corvinus University of Budapest (Budapest,
Hungary) www.uni-corvinus.hu
Major: Finance
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TEACHING EXPERIENCE

- 2006 *Teaching Assistant*, Macroeconomics, Central European University
- 2005 *Teaching Assistant*, Econometrics, Central European University
- 1998 *Teaching Assistant*, Microeconomics, Corvinus University of Budapest

SKILLS AND QUALIFICATIONS

Microsoft Office, Eviews, Stata, Matlab
Fluent in English, fair in German

PRESENTATIONS

- 2008 Magyar Nemzeti Bank, Central European University, Budapest Economic Seminar Series (Budapest, Hungary)
- 2008 Center for Financial Studies, "Macroeconomics and Finance" Conference, (Frankfurt, Germany)
- 2010 KOF – Swiss Economic Institute, Conference on “Qualitative Survey Data” (Zurich, Switzerland)

PUBLICATIONS

Péter Gábor (2010): "Household inflation expectations and inflation dynamics", MNB Working Papers 2010/12

Péter Gábor - Ádám Reiff (2010): "Frequency and Size of Price Changes in Hungary – Evidence from Micro CPI Data", Journal of Management and Decision Economics

Bauer Péter - Gábor Péter (2009): "Inflation persistency in the traded and nontraded sectors", MNB Occasional Papers, 2009/82

Péter Gábor (2008): "Labour Market Flexibility in Hungary", published in 2008's issue of the MNB's Analysis of the Convergence Process

Péter Gábor - Ádám Reiff (2007): "Estimating the extent of price stickiness in Hungary: a hazard-based approach", mimeo

Péter Gábor - Klára Pintér (2006): "The effect of the MNB's communication on financial markets," MNB Working Papers 2006/9

Péter Gábor - Ádám Reiff (2006): "The effect of the change in VAT rates on the consumer price index," MNB Bulletin

Péter Gábor - Klára Pintér (2006): "Whom should we believe? Information content of the yield curve and analysts' expectations," MNB Bulletin

Csaba Balogh - Péter Gábor (2003): "The Interbank Money Market Past and Future Trends," MNB Occasional Papers 2003/28