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Contents

Highlights

A recently published book – "The Euro, Inflation and Consumers' Perceptions. Lessons from Italy", edited by Paolo Del Giovane and Roberto Sabbatini (Springer, 2008) - collects a number of studies on the impact of the introduction of euro banknotes and coins on consumer prices and on the explanations for the gap between perceived and measured inflation. The focus is on Italy, as the title indicates, but the results have more general relevance, as the empirical evidence for other countries presented in one essay shows (*see the article by the editors on page 2 of this newsletter*).

On 13 May 2008 the Bank of Italy hosted the scientific conference "Luigi Einaudi: Economic freedom and social cohesion". The conference, introduced by Governor Mario Draghi, focused on the fertile dialectic contrast between the two pillars of Einaudi's social policy thought. On the one hand, the Italian economist valued innovation, economic competition, openness of social élites and the chance given to new entrepreneurs to start new enterprises, on the other, he strongly felt the need to provide shelters to women and men, who may not willingly accept the biting wind of competition as an everyday life condition.

The speakers addressed methodological, theoretical and philosophical aspects of Einaudi's thought (the documentation is available, in Italian, at the following link http://www.bancaditalia.it/studiricerche/convegni/atti/conv_einaudi). Differently from other liberal thinkers, such as Friedrich von Hayek, liberty and social justice were welded together in Einaudi's analysis and in his policy proposals. The centrality of the market was always analysed in its economic and social implications and the scope of Government activity for economic progress was one of the main topics of his academic and newspaper writings. The depth of Einaudi's ideas about social and economic development was strongly enhanced by his epistemological acumen and his originality in mastering and forging his language with scientific accurateness and a great variety of tones and registers.

On 23-24 June 2008 the Bank of Italy hosted the conference "DSGE models in the policy environment" at its headquarters in Rome.

The opening address, delivered by Governor Mario Draghi, stressed the importance of bringing together participants from central banks, academia and international institutions to share opinions about current issues and future directions of macroeconomic modeling, a key element in the conduct of modern monetary policy. Governor Draghi emphasized that DSGE models are particularly appealing to the policymaker in that not only are they theoretically consistent but are also promising in their ability to conform to the data.

The first session (presentations by Woodford, Rostagno, Sessa and Amisano; discussions by Gilchrist, Iacoviello, Arce and Zagaglia) focused on how to better model the complex interaction between financial intermediation and credit aggregates, on one side, and the real economy on the other, an issue which has moved to centre stage in the policy discussion following the recent turmoil in the financial markets. The findings tend to indicate that, while embedding financial intermediation into DSGE models does not seem to sensibly alter the impact of monetary policy on the macroeconomy, it significantly improves the ability of those models to provide an explanation of observed macroeconomic and financial developments. The second session (presentations by Laforte, Primiceri and Comin; discussions by Rebucci, Wouters, Laubach) was devoted to the analysis of the main sources of business cycle fluctuations. It emphasized the role of general-purpose and investment-specific technology shocks and the process of adoption of new technologies in shaping the dynamics of asset prices and the real economy. The session also examined the relationship between monetary policy, investment (notably residential) and the business cycle. The third session (presentations by Monti, Giannoni, Del Negro and Iskrev; discussions by Coenen, Lippi, Nicoletti and Pisani) tackled the issue of how to improve both the forecast and the "nowcast" capabilities of DSGE models, integrating them with other, data-intensive, modeling strategies, and gave an overview of the main empirical problems which are still encountered in their specification, estimation and validation, notably the identification of structural parameters.

The conference ended with a round-table discussion in which Coenen (ECB) and Rebucci (IMF) provided an assessment of the usefulness of these models in policymaking, reviewing the main successes (as well as failures) of the NAWM and GEM models (developed at the ECB and IMF, respectively). Canzoneri, Woodford and Gilchrist offered their views on the relevance for modern monetary policymaking of the DSGE modeling approach and explored the most likely challenges this literature will face in its future development.

The conference programme, papers and presentations are available at the following link: http://www.bancaditalia.it/studiricerche/convegni/atti/conf_DSGE.

The Euro, Inflation and Consumers' Perceptions.

(continued from page one) On 1 January 2002 euro banknotes and coins were introduced in twelve EU Member States. The cash changeover was a technical success. From the very start, however, a good many of euro-area citizens blamed the single currency for a sharp rise in prices. This volume offers empirical evidence to determine whether the euro actually had a major impact on prices, and to help explain why, if it did not, so many people believe it did. It also provides fresh empirical evidence on the determinants of individual inflation perceptions, both following the changeover and in more "normal" times, making a number of significant findings.

First, the changeover affected price list revisions substantially. There was a clear increase in the percentage of items whose prices changed. Some of these changes reflected the cost of modifying price lists, so that price variations that would ordinarily have been spread out in time were bunched in the changeover period. However, in less competitive industries (such as services and traditional retailing) the changes observed indicate that consumers' inability to gauge euro price levels correctly enabled firms to exploit the opportunity for sharper increases.

Second, despite these price movements, there is a range of evidence that the introduction of the euro did not have a major impact on average inflation. The effects of "anomalous" price variations in consumer price series were moderate, as the sharp price rises for some items were largely offset by much smaller rises for other components that weighted heavily in the overall consumer basket. Even in the restaurant trade, which was thought to have been severely affected by the changeover, price rises in 2002 were indeed large but not exceptionally so with respect to previous years. ATM withdrawals did not show the sort of increase one would have found had there really been a surge in the general price level.

Third, the divergence between perceived and measured inflation after the launch of the euro reflects the disproportionate effect on inflation perceptions of factors such as the larger price variations for frequently purchased items, the sharp rises for certain items, and the exceptional occurrence of price changes. These effects may have been compounded by extraordinary media coverage, imprecise price recall, and economic distress from sources other than price changes.

Finally, consumers' inflation perceptions, though mainly studied in connection with the introduction of the euro, deserve more general analysis. A survey of 1,000 households, reported in the book, has shown that even at the end of 2006, a fairly standard year for price developments, Italian consumers' assessments of inflation were much higher than official statistics. In fact, the same survey indicates that when consumers express opinions on "inflation" they actually incorporate a complex combination of factors going well beyond the phenomena measured by inflation statistics. A particularly large role is played by socio-demographic aspects and other factors that help determine households' economic conditions.

The book points to a number of lessons. Some are specific to the changeover and so potentially helpful for the countries that plan to adopt the euro. Others relate to the mechanisms that drive the formation of inflation perceptions in general and to the public's understanding of inflation. A first significant point is the bunching of price revisions during the changeover period, and the especially sharp increases in sectors where competition is less intense. This suggests the need both to dilute price rises over time and to strengthen competition and transparency.

Second, the public's lack of familiarity with price statistics and consequent difficulty in understanding and interpreting them – an aspect that the book highlights but that was probably overlooked in 2002 – emphasizes the need for greater transparency and more accurate communication on statistics, and for a greater investment in the promotion of statistical literacy.

Finally, we should not forget that the euro's launch coincided with radical changes (globalization, the ICT revolution, population ageing, international migration) that generated far-reaching effects and great uncertainty. In this context, the book's findings suggest that a historic event like the cash changeover may have led many people to blame their perceived impoverishment and more precarious standard of living on the euro.

Latest working papers

No. 670: **Credit risk and business cycle over different regimes**

Juri Marcucci and Mario Quagliariello

In the recent banking literature on the relationship between credit risk and the business cycle, the presence of asymmetric effects both across credit risk regimes and through the business cycle has been generally neglected. Employing threshold regression models both at the aggregate and the bank level and exploiting a unique dataset on Italian bank borrowers' default rates, this paper analyzes whether this relationship is characterized by regime switches and thus by asymmetries, determining the thresholds endogenously. Our results show that not only are the effects of the business cycle on credit risk more pronounced during downturns but also when credit risk conditions are poor. (full pdf text)

No. 671: **Cyclical asymmetry in fiscal variables**

Fabrizio Balassone, Maura Francese and Stefania Zotteri

In a stylised framework of fiscal policy determination that considers both structural targets and cyclical factors, we find significant cyclical asymmetry in the behaviour of fiscal variables in a sample of fourteen EU countries from 1970 to 2004, with budgetary balances (both overall and primary) deteriorating in contractions but not improving correspondingly in expansions. Analysis of budget components reveals that the asymmetry is due to expenditure, in particular transfers in cash. We find no evidence that the fiscal rules introduced in 1992 with the Treaty of Maastricht affected the cyclical behaviour of the variables examined. Numerical simulations show that cyclical asymmetry inflated average deficit levels, contributing significantly to the accumulation of debt. (full pdf text)

No. 672: **Labour market for teachers: Demographic characteristics and allocative mechanisms**

Gianna Barbieri, Piero Cipollone and Paolo Sestito

The paper considers the teachers' labour market in Italy. The quality and motivation of teachers are certainly among the determinants of pupils' achievement, but they are difficult to measure, so we examine the composition of the pool of teachers and their behaviour to infer information about them. We look also at the institutional features that motivate the implicit contract that drives Italian teachers' behaviour, which essentially involves low salary and correspondingly low commitment and effort. In particular we examine the mechanism that allocates teachers to schools. For each school we construct three indicators; one indicating the level of turnover, which we interpret as a source of turmoil; one that refers to the mismatch between tenured teachers and their school; and a "revealed preferences indicator" that measures the schools' quality as evaluated by the population of tenured teachers. We measure the association at the school level of our indicators with achievement as gauged by PISA 2003. Students scores are correlated negatively to the turnover and the mismatch indicators, positively to revealed preferences.
(full pdf text)

No. 673: **Output growth volatility and remittances**

Matteo Bugamelli and Francesco Paternò

Since output growth volatility has negative effects on growth, poverty and welfare, especially in poorer countries, it is crucial to identify the country-specific factors that affect it. The empirical literature has focused mostly on financial development, policy distortions and globalization variables. Among the latter, attention has been directed in particular to trade and financial openness. We contribute to this literature by adding what we see as the missing globalization variable, the one related to the increasingly important phenomenon of international migrations, namely emigrants' remittances. Remittances can help reduce output growth volatility thanks to their considerable magnitude, stability and low pro-cyclicality. Applying an empirical framework taken from the existing literature to a sample of about 60 emerging and developing economies over the period 1980-2003, we provide robust evidence that remittances are negatively correlated to output growth volatility. Instrumental variable estimation supports our intuition about the direction of causality.
(full pdf text)

No. 674: **Agglomeration within and between regions: Two econometric based indicators**

Valter Di Giacinto and Marcello Pagnini

We propose two indexes to measure the agglomeration forces acting within and between different regions. Unlike the existing measures of agglomeration, our model-based indexes allow for simultaneous treatment of both aspects. Local plant diffusion in a given industry is modelled as a spatial error components process (SEC). Maximum likelihood inference on model parameters is dealt with, including the problem of data censoring. The statistical properties of standard agglomeration indexes in the data environment provided by our SEC model are then treated. Finally, our methodology is applied to Italian census data for both manufacturing and service industries.
(full pdf text)

No. 675: **Service regulation and growth: Evidence from OECD countries**

Guglielmo Barone and Federico Cingano

We study the effects of anti-competitive service regulation by examining whether OECD countries with less anti-competitive regulation see a better economic performance of manufacturing industries using less-regulated services more intensively. Our results indicate that lower service regulation translates into faster value added, productivity, and export growth of downstream service-intensive industries. The negative growth-effect of anti-competitive regulation is particularly relevant in the case of professional services and energy provision. Our estimates prove robust to accounting for alternative forms of regulation (such as product and labor market regulation), for the degree of financial development and also to a number of other specification checks.
(full pdf text)

No. 676: **Has globalisation changed the Phillips curve? Firm-level evidence on the effect of activity on prices**

Eugenio Gaiotti

The flattening of the Phillips curve observed in the industrial countries has been attributed to globalisation, while the traditional explanation centres on monetary policy credibility. The empirical literature is not conclusive, since macroeconomic data are affected by substantial

identification problems. This paper argues that recourse to micro data is needed to identify structural changes in the slope of the Phillips curve. Taking advantage of a unique dataset including about 2,000 Italian firms, the paper tests whether a change in the link between capacity utilisation and prices is confirmed at company level, after controlling for inflation expectations, and whether it is concentrated among those firms that are more exposed to globalisation on either the product or the labour market. The answer is negative in all cases. The results do not support the view that the flattening of the Phillips curve is due to globalisation.
(full pdf text)

No. 677: **Forecasting inflation and tracking monetary policy in the euro area: Does national information help?**

Riccardo Cristadoro, Fabrizio Venditti and Giuseppe Saporito

The ECB objective of price stability is given a quantitative content as a year-on-year growth rate in the euro area HICP close but below 2% over the medium term. While this objective is referred to area-wide price developments, in anticipating monetary policy moves, market analysts pay considerable attention to national data. In this paper we use the Generalized Dynamic Factor Model to derive a set of core inflation indicators that, combining national with area-wide data, allow us to answer two related questions: whether country-specific data are actually relevant to the future path of area-wide inflation once the information contained in area-wide data has been exploited, and whether it is useful, in order to track ECB monetary policy decisions, to factor in national and not only area-wide statistics. In both cases, our findings suggest that, when area-wide information is properly taken into account, there is little to be gained by considering national idiosyncratic developments.
(full pdf text)

No. 678: **Monetary policy effects: New evidence from the Italian flow of funds**

Riccardo Bonci and Francesco Columba

We obtain new evidence on the transmission of monetary policy to the economy by analyzing the effects of restrictive monetary policy shocks on Italian flows of funds over the period 1980-2002. Firms reduce their issuance of debt and their acquisitions of financial assets, so there is no evidence of strong financial frictions. Households increase short-term liabilities and diminish purchases of liquid assets and shares in the first quarter following a shock. The public sector increases net borrowing during the first two years. Financial corporations decrease their borrowing for three quarters, while the foreign sector increases borrowed funds. The results shed new light on the role played by the financial decisions of the various economic sectors in the transmission of monetary policy.
(full pdf text)

No. 679: **Does the expansion of higher education increase the equality of educational opportunities? Evidence from Italy**

Massimiliano Bratti, Daniele Checchi and Guido de Blasio

This paper studies the role of the expansion of higher education supply in increasing the equality of post-secondary education opportunities. It examines Italy's experience during the 1990s, when policy changes prompted universities to offer a wider range of degree courses and to open new campuses. Our analysis focuses on full-time students (not older than 31); the

results suggest that the expansion had only limited effects in terms of reducing individual inequality in higher education achievement. That is, the greater availability of courses had a significant positive impact only on the probability of enrolment, not on that of obtaining a university degree, while the opening of new campuses had no effect.
(full pdf text)

No. 680: **Family succession and firm performance: Evidence from Italian family firms**
Marco Cucculelli and Giacinto Micucci

This article contributes to the growing empirical literature on family firms by studying the impact of the founder–chief executive officer (CEO) succession in a sample of Italian firms. We contrast firms that continue to be managed within the family by the heirs to the founders with firms in which the management is passed on to outsiders. Family successions, that is, successions by the founder's heirs, are further analyzed by assessing the impact of the sectoral intensity of competition on the post-succession performance. This analysis also addresses the endogeneity in the timing of the CEO succession by controlling for a pure mean-reversion effect in the firm's performance. We find that the maintenance of management within the family has a negative impact on the firm's performance, and this effect is largely borne by the good performers, especially in the more competitive sectors. These results indicate that there is no inherent superiority of the family-firm structure and emphasize the importance of conducting an analysis of governance in a variety of institutional settings.(full pdf text)

No. 681: **Short-term interest rate futures as monetary policy forecasts**
Giuseppe Ferrero and Andrea Nobili

The prices of futures contracts on short-term interest rates are commonly used by central banks to gauge market expectations concerning monetary policy decisions. Excess returns - the difference between futures rates and the realized rates - are positive, on average, and statistically significant, both in the euro area and in the United States. We find that these biases are significantly related to the business cycle only in the United States. Moreover, the sign and the significance of the estimated relationships with business cycle indicators are unstable over time. Breaking the excess returns down into risk premium and forecast error components, we find that risk premia are counter-cyclical in both areas. On the contrary, ex-post prediction errors, which represent the greater part of excess returns at longer horizons in both areas, are correlated with the business cycle (negatively) only in the United States.
(full pdf text)

Forthcoming working papers

Accetturo A., *Agglomeration and growth: The effects of commuting costs*

Arciero L., C. Biancotti, L. D'Aurizio and C. Impenna, Exploring *agent-based methods for the analisys of payment systems: A crisis model for StarLogo TNG*

Bianchi M., P. Buonanno and P. Pinotti, *On immigrants and crime: An empirical investigation*

Breda F., R. Cappariello and R. Zizza,

Vertical specialisation in Europe: Evidence from the import content of exports

Casadio P., M. Lo Conte and A. Neri, *Balancing work and family in Italy: The new mothers' employment decisions around childbearing*

D'Amuri F., Ottaviano G. I.P., Peri. G., *The labor market impact of immigration in Western Germany in the 1990's*

Lippi F. and A. Secchi, *On financial development and the demand for currency: An analysis with household data*

Mercatanti A., *A likelihood-based analysis for relaxing the exclusion restriction in randomized experiments with imperfect compliance*

Nobili S. and G. Palazzo, *A Beta-based framework for (lower) bond risk premia*

Pinotti P., *Financial development and the demand for Pay-As-You-Go social security*

Sette E., *Competing for influence*

Sette E., *Competition and opportunistic advice of financial analysts: Theory and evidence*

Silvestrini A. and D. Veredas, *Temporal aggregation of univariate and multivariate time series models: A survey*

Recently published working papers

No. 660: Riccardo Cristadoro, Andrea Gerali, Stefano Neri and Massimiliano Pisani, *Real exchange rate volatility and disconnect: An empirical investigation* (April 2008)

No. 661: Raffaello Bronzini, Guido de Blasio, Guido Pellegrini and Alessandro Scognamiglio, *The effect of investment tax credit: Evidence from an atypical programme in Italy* (April 2008)

No. 662: Ivan Faiella, *Accounting for sampling design in the SHIW* (April 2008)

No. 663: Bernardo Bortolotti and Paolo Pinotti, *Delayed privatization* (April 2008)

No. 664: Fabio Maccheroni, Massimo Marinacci, Aldo Rustichini and Marco Taboga, *Portfolio selection with monotone mean-variance preferences* (April 2008)

No. 665: Emanuela Ciapanna, *Directed matching with endogenous Markov probability: Clients or competitors?* (April 2008)

No. 666: Massimiliano Affinito and Matteo Piazza, *What are borders made of? An analysis of barriers to European banking integration* (April 2008)

No. 667: Andrea R. Lamorgese, *Innovation driven sectoral shocks and aggregate city cycles* (April 2008)

No. 668: Andrea Brandolini, *On applying synthetic indices of multidimensional well-being: Health and income inequalities in selected EU countries* (April 2008)

No. 669: Claudia Biancotti and Giovanni D'Alessio, *Values, inequality and happiness* (April 2008)

Recently published occasional papers

No. 12: Giorgio Albareto, Michele Benvenuti, Sauro Mocetti, Marcello Pagnini and Paola Rossi, *Lending organizational structure and the use of* *credit scoring: Evidence from a survey on Italian banks* (April 2008; in Italian)

No. 13: Paola Rossi *The Italian mortgage market: Characteristics, evolution and regional differences: Evidence from a bank survey* (June 2008; in Italian)

No. 14: Pasqualino Montanaro, *Learning divides across the Italian regions: Some evidence from national and international surveys* (June 2008)

Selection of recent journal articles and books by Bank of Italy's staff

(full list since 1990)

Angelini P., P. Del Giovane, S. Siviero and **D. Terlizzese**, *Monetary policy in a monetary union: What role for regional information?*, Forthcoming, International Journal of Central Banking (WP No. 457)

Angelini P. and **A. Generale**, *Firm size distribution: Do financial constraints explain it all? Evidence from survey data*, Forthcoming, American Economic Review (WP No. 549)

Busetti F., **L. Forni**, A. Harvey and **F. Venditti**, *Inflation convergence and divergence within the European monetary union*, Forthcoming, International Journal of Central Banking

Paiella, M., *The forgone gains of incomplete portfolios*, Forthcoming, Review of Financial Studies (WP No. 625)

Pericoli M. and **M. Taboga**, *Canonical term-structure models with observable factors and the dynamics of bond risk premia*, Forthcoming, Journal of Money, Credit and Banking (WP No. 580)

Casolaro L., D. Focarelli and A. Pozzolo, *The pricing effect of certification on syndicated loans*, Journal of Monetary Economics, 55, 2, 335-349 (2008)

De Bonis R., *La Banca*, Carocci, Roma (2008)

Del Giovane P. and **R. Sabbatini** (eds.), *The euro, inflation and consumers' perceptions. Lessons from Italy*, Springer, Berlin-Heidelberg (2008)

2007

Angelini P. and F. Lippi, *Did prices really soar after the euro cash changeover? Evidence from ATM withdrawals*, International Journal of Central Banking, 3, 4, 1-22 (WP No. 581)

Ascari G. and **T. Ropele**, *Optimal monetary policy under low trend inflation*, Journal of Monetary Economics, 54, 8, 2568-2583 (WP No. 647)

Bonaccorsi di Patti E. and **G. Gobbi**, *Winners or losers? The effects of banking consolidation on corporate borrowers*, Journal of Finance, 62, 669-695 (WP No. 479)

Cesarano F., *Monetary theory in retrospect: The selected essays of Filippo Cesarano*, Routledge, Abington

Devicienti F., A. Maida and **P. Sestito**, *Downward wage rigidity in Italy: Micro based measures and implications*, Economic Journal, 117, 524, F530-F552

Fabiani S., C. Loupias, F. Martins and **R. Sabbatini** (eds.), *Pricing decisions in the euro area: How firms set prices and why*, Oxford University Press, New York

Lippi F. and **S. Neri**, *Information variables for monetary policy in a small structural model of the euro area*, Journal of Monetary Economics, 54, 4, 1256-1270 (WP No. 511)

Locarno A., *Imperfect knowledge, adaptive learning, and the bias against activist monetary policies*, International Journal of Central Banking, 3, 3, 47-85 (WP No. 590)

Magnoli Bocchi A. and **M. Piazza**, *La Banca mondiale*, Il Mulino Editore, Bologna

Marchetti D.J. and F. Nucci, *Pricing behavior and the response of hours to productivity shocks*, Journal of Money, Credit and Banking, 39, 7, 1587-1611 (WP No. 524)
Rossi S., *La politica economica italiana 1968-2007*, Laterza, Bari-Roma

2006

Álvarez, L. J., E. Dhyne, M. Hoeberichts, C. Kwapil, H. Le Bihan, P. Lünnemann, F. Martins, **R. Sabbatini**, H. Stahl, P. Vermeulen, J. Vilmunen, *Sticky prices in the euro area: A summary of new micro evidence*, Journal of the European Economic Association, 4, 575-584
Bianco M. and G. Nicodano, *Pyramidal groups and debt*, European Economic Review, 50, 937-961
Brandolini A., **P. Cipollone** and **E. Viviano**, *Does the ILO definition capture all unemployment*?, Journal of the European Economic Association, 4, 153-179 (WP No. 529)
Busetti, F., *Tests of seasonal integration and cointegration in multivariate unobserved component models*, Journal of Applied Econometrics, 21, 419-438
Cipollone P. and **A. Rosolia**, *Social interactions in high school: Lessons from an earthquake*, American Economic Review, 97, 3, 948-965 (WP No. 596)
Dhyne, E., E. Vilmunen, L.J. Ãlvarez, H. Le Bihan, **G. Veronese**, D. Dias, J. Hoffmann, N. Jonker, P. Lannemann and F. Rumler, *Price changes in the euro area and the United States: Some facts from individual consumer price data*, Journal of Economic Perspectives, 20, 171-192
Dedola L. and **S. Neri**, *What does a technology shock do? A VAR analysis with model-based sign restrictions*, Journal of Monetary Economics, 54, 2, 512-549 (WP No. 607)
Druant, M., **S. Fabiani,** I. Hernando, C. Kwapil, B. Landau, C. Loupias, F. Martins, T. Mathä, **R. Sabbatini,** H. Stahl and A. Stokman, *What firms' surveys tell us about price-setting behaviour in the euro area*, International Journal of Central Banking, 2, 3-47
Engle R.F. and **J. Marcucci**, *A long-run pure variance common features model for the common volatilities of the Dow Jones*, Journal of Econometrics, 132, 7-42
Fuchs W. and **F. Lippi**, *Monetary union with voluntary participation*, Review of Economic Studies, 73, 437-457 (WP No. 512)
Gaiotti E. and **A. Secchi,** *Is there a cost channel of monetary transmission? An investigation into the pricing behaviour of 2000 firms*, Journal of Money, Credit and Banking, 38, 8, 2013-2038 (WP No. 525)
Rossi S., *La Regina e il Cavallo. Quattro mosse contro il declino*, Laterza, Bari-Roma

Useful links

Working papers of the other euro-area central banks:

Banque Nationale de Belgique
Deutsche Bundesbank
Bank of Greece
Banco de España
Banque de France
Central Bank of Ireland
Banque Centrale du Luxembourg
De Nederlandsche Bank
Oesterreichische Nationalbank
Banco de Portugal
Bank of Slovenia
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