

New Research at the Bank of Italy

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Highlights: Externalities in multiple contexts

The concept of externality, fundamental in modern economics, figures prominently in several of our latest working papers. Piero Cipollone and Alfonso Rosolia (No. 596) exploit a natural disaster – an earthquake – to study whether a student's probability of graduating from high school is influenced by the analogous probabilities among her peers. The young men in the towns hit by the earthquake were temporarily exempted from performing military service, which was compulsory at the time for all young males. As a result, the share of males with a high school diploma in these towns increased significantly relative to otherwise similar neighboring towns. The authors detect a smaller but significant increase among female students, suggesting a strong social interaction effect – in its absence, the group of females

should in principle have been unaffected by the rules change. The policy implications for the design of the schooling system are discussed.

A somewhat similar externality is detected by Federico Cingano and Alfonso Rosolia in their study of the labour market (No. 600). A key finding is that, for an individual worker, the length of the unemployment period is inversely related to the share of employed people within her contact network available when she lost her job. Employed contacts are more effective if they experienced a recent job change and when geographically and technologically closer to the displaced worker.

Productivity externalities are centrestage in the analysis of Raffaello Bronzini and Paolo Piselli (No. 597), who exploit the heterogeneity among Italian regions to identify externalities of this kind. R&D activity and public capital accumulation in one region is found to have beneficial effects on productivity not only in that region, but also in neighbouring ones. Human capital is found to have the strongest impact on productivity.

Other themes analyzed in this batch of working papers include: the behaviour of banks riskiness (No. 599) and profitability (No. 601) over the business cycle, with a focus on stress test exercises aimed at gauging the resilience of the banking system to macro shocks; a VAR-based assessment of banks' exposure to interest rate risk (No. 602); the consumer credit market and the optimality of joint lender-seller liability (No. 598); and a general definition of poverty set in the context of utility theory (No. 603).

Abstracts of the latest working papers

No. 596: Social Interactions in High School:
Lessons from an Earthquake.

Piero Cipollone and Alfonso Rosolia

We provide new evidence on the impact of peer effects on the schooling decisions of teenagers. In November 1980 a major earthquake hit Southern Italy. In the aftermath, young men from certain towns were exempted from compulsory military service. We show that the exemption raised high school graduation rates of boys by more than 2 percentage points by comparing high school graduation rates of young exempt men and older not exempt men from the least damaged areas and men of the same age groups from nearby towns that were not hit by the quake. Similar comparisons show that graduation rates of young women in the affected areas rose by about 2 percentage points. Since in Italy women are not subject to drafting, we interpret these findings as evidence of social effects of the decision of teenage boys of staying longer in school on that of teenage girls. Our estimates suggest that an increase of 1 percentage point of male graduation rates raises female probability of completing high school by about 0.7-0.8 percentage points. A series of robustness checks, including comparisons across different age groups and with different

definitions of the comparison areas, suggest that the rise was due to the earthquake-related exemption, rather than other factors.

(full pdf text)

No. 597: Determinants of Long-Run Regional Productivity: The Role of R&D, Human Capital and Public Infrastructure

Raffaello Bronzini and Paolo Piselli

In this paper we estimate the long-run relationship between regional total factor productivity, R&D, human capital and public infrastructure between 1980 and 2001. We take advantage of recent developments panel cointegration techniques that control for endogeneity of regressors to estimate cointegration vectors. Empirical evidence shows that there exists a long-run equilibrium between productivity level and the three kinds of capital; among them, human capital turns out to have the strongest impact on productivity. Regional productivity is found also to be positively affected by R&D activity and public infrastructure of neighbouring regions. Finally, results of the Granger causality tests support the hypothesis that human capital and infrastructure Granger cause productivity in the long-run while the opposite is not true; only for R&D stock is the bi-directional causality found. (full pdf text)

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No. 598: Overoptimism and Lender Liability in the Consumer Credit Market

Elisabetta Iossa and Giuliana Palumbo

Credit purchases of consumer goods are commonly made upon terms governed by an agreement between the lender and the seller. This type of purchase is generally subject to a legal principle of joint responsibility under which the lender and the seller are jointly liable to the consumer for breach of the sale contract by the seller. We study the rationale for this principle in situations where market failure arises because consumers underestimate the risk of product failure – for example due to seller misrepresentation – and it is difficult to enforce seller responsibility. We show that joint responsibility increases welfare and reduces the incentives of sellers to misrepresent the quality of their products. (full pdf text)

No. 599: Banks' Riskiness Over the Business Cycle: A Panel Analysis on Italian Intermediaries

Mario Quagliariello

Supervisors and policy makers pay increasing attention to the possible procyclical nature of banks' behaviour. Indeed, to guarantee macro and financial stability, it is important to understand whether, and to what extent, banks are affected by the macroeconomy and second round effects occur. This paper provides a comprehensive investigation of these issues using a large dataset of Italian intermediaries over the period 1985-2002. In particular, estimating both static and dynamic models, it investigates whether loan loss provisions and non-performing loans show a cyclical pattern. The

estimated relations may be employed to carry out stress tests to assess the effects of macroeconomic shocks on banks' balance sheets.

(full pdf text)

No. 600: People I Know: Workplace Networks and Job Search Outcomes

Federico Cingano and Alfonso Rosolia

We examine the role of information networks in job-search outcomes of displaced individuals. We draw on longitudinal Social Security records covering the universe of worker-firm matches in a tight labor market in Northern Italy. Unlike previous research, we focus on workplace networks whose labor market attributes we are able to describe extensively. A workplace network is defined as all coworkers a displaced individual worked with prior to displacement. Estimates of network effects are thus affected by omitted variable bias if the labor market sorts workers across firms along relevant determinants of search outcomes and network characteristics or if past coworkers are exposed to the same shocks. The empirical strategy accounts for these possibilities by comparing subsequent outcomes of workers displaced by the same firm; in addition, we exploit the longitudinal dimension to develop controls for potential residual within-firm heterogeneity. In particular, we control for pre-displacement wages and employment status as well as descriptions of pre-displacement firms and their workforce. Contacts' labor market attributes have a significant effect on a variety of job search outcomes. Employed contacts significantly increase the probability of re-employment. They are more effective if they experienced a recent job change and when geographically and

technologically closer to the displaced. Stronger ties and lower competition for the available information also speed up reemployment. While largely irrelevant for unemployment duration, contacts' quality is a significant determinant of entry wages and subsequent job stability. (full pdf text)

No. 601: Bank Profitability and the Business Cycle

Ugo Albertazzi and Leonardo Gambacorta

An important element of the macroprudential analysis is the study of the link between business cycle fluctuations and banking sector profitability and how this link is affected by institutional and structural characteristics. This work estimates a set of equations for net interest income, non-interest income, operating costs, provisions, and profit before taxes, for banks in the main industrialized countries and evaluates the effects on banking profitability of shocks to both macroeconomic and financial factors. Distinguishing mainly the euro area from Anglo-Saxon countries, the analysis also identifies differences in the resilience of the respective banking systems and relates them to the characteristics of their financial structure. (full pdf text)

No. 602: Scenario Based Principal Component Value-at-Risk: An Application to Italian Banks' Interest Rate Risk Exposure

Roberta Fiori and Simonetta Iannotti

The paper develops a Value-at-Risk methodology to assess Italian banks' interest rate risk exposure. By using five years of daily data, the exposure is evaluated through a principal component

VaR based on Monte Carlo simulation according to two different approaches (parametric and non-parametric). The main contribution of the paper is a methodology for modelling interest rate changes when underlying risk factors are skewed and heavy-tailed. The methodology is then implemented on a one-year holding period in order to compare the results from those resulting from the Basel II standardized approach. We find that the risk measure proposed by Basel II gives an adequate description of risk, provided that duration parameters are changed to reflect market conditions. Finally, the methodology is used to perform a stress testing analysis. (full pdf text)

No. 603: A Dual-Regime Utility Model for Poverty Analysis

Claudia Biancotti

This paper offers a micro-founded general definition of poverty set in the context of utility theory. Poverty and non-poverty are described as two structurally different types of local non-satiation: the former entails a strong need for further consumption and social marginalization, the latter is characterized by a weak need for further consumption and satisfactory adjustment to social expectations. Each of the states can be fully described by a separate technology of utility production. The model is tested on data from the Bank of Italy's Survey of Household Income and Wealth; an indicator of self-reported economic satisfaction is regressed on yearly consumption of food and non-food commodities. The predictions of the model are confirmed in the case of food consumption, signalling the existence of physiological minima that are uniformly perceived by individuals. For non-food commodities, no significant change of regimes is found: welfare appears to be

connected with needs that are less exposed to structural variation, possibly because they are not as urgent or objective as food-related ones.

(full pdf text)

Miscellanea

In September the Bank of Italy began publishing a new series, Occasional Papers, presenting studies on issues pertaining to the institutional tasks of the Bank of Italy and the Eurosystem. The papers appear alongside the Economic Research Department's Working Papers series, specifically aimed at providing original contributions to economic research.

The new series includes studies conducted within the Bank of Italy, sometimes in cooperation with the Eurosystem or other institutions. The views expressed in the studies are those of the authors and do not involve the responsibility of the institutions to which they belong.

The first occasional paper in English is titled "The recent behaviour of financial market volatility" (also published as BIS Paper No. 29). The study focuses on the volatility decline experienced worldwide in most financial markets, including equities, corporate spreads and short and long-term interest rates. After reviewing the phenomenon, the paper surveys the potential explanations, discussing their temporary vs. permanent nature and their policy implications.

Forthcoming working papers

- Pietro Tommasino, *The political economy of investor protection*.
- Sabrina Di Addario, *Job search in thick markets: Evidence from Italy*.
- Stefano Neri and Andrea Nobili, *The* transmission of monetary policy shocks from the U.S. to the euro area.
- Marco Protopapa, Managerial Incentives, Uncertainty and Ownership Concentration.
- Luca Dedola and Stefano Neri, What does a technology shock do? A VAR analysis with model-based sign restrictions.

Recently published working papers

- No. 589 Massimiliano Affinito and Fabio Farabullini, *An empirical analysis of national differences in the retail bank interest rates of the euro area* (May 2006).
- No. 590 Alberto Locarno, *Imperfect* knowledge, adaptive learning and the bias against activist monetary policies (May 2006).
- No. 591 Guido de Blasio and Giorgio Nuzzo, *The legacy of history for economic development: the case of Putnam's social capital* (May 2006).
- No. 592 Stefano Federico, L'internazionalizzazione produttiva italiana e i distretti industriali: un'analisi degli investimenti diretti all'estero (May 2006).

- No. 593 Antonio Di Cesare, *Do market-based indicators anticipate rating agencies? Evidence for international banks* (May 2006).
- No. 594 Eliana Viviano, Entry regulations and labor market outcomes: Evidence from the Italian retail trade sector (May 2006).
- No. 595 Francesca Lotti and Juri Marcucci, *Revisiting the empirical evidence on firms' money demand* (May 2006).

Selection of recent articles published by the Bank of Italy's staff

(full list since 1990)

- Bonaccorsi di Patti E. and G. Gobbi (2006), Winners or losers? The effects of banking consolidation on corporate borrowers. Forthcoming, Journal of Finance.
- Cipollone P. and A. Rosolia (2006), Social Interactions in High School: Lessons from an Earthquake. Forthcoming, American Economic Review. (WP No. 596)
- **Dedola L.** and **S. Neri** (2006), What does a technology shock do? A VAR analysis with model-based sign restrictions. Forthcoming, Journal of Monetary Economics.
- Gaiotti E. and A. Secchi (2006), Is there a cost channel of monetary transmission? An investigation into the pricing behaviour of 2000 firms. Forthcoming, Journal of Money, Credit, and Banking (WP No. 525).

- **Lippi F.** and **S. Neri** (2006), *Information* variables for monetary policy in a small structural model of the euro area. Forthcoming, Journal of Monetary Economics (WP No. 511).
- **Brandolini A., P. Cipollone** and **E. Viviano** (2006), "*Does the ILO Definition Capture All Unemployment?*", Journal of the European Economic Association, 4, 153-179. (WP No. 529)
- **Lippi F**. and W. Fuchs (2006), *Monetary union with voluntary participation*. Review of Economic Studies, 73, 437-457 (WP No. 512).
- **Busetti F.** and R. Taylor (2005), Stationarity tests for irregularly spaced observations and the effects of sampling frequency on power. Econometric Theory, 21, 757-794.
- **Cristadoro R.**, M. Forni, L. Reichlin and **G. Veronese** (2005), *A core inflation indicator for the euro area*. Journal of Money, Credit, and Banking, 37, 539-560.
- **Dedola L.** and **F. Lippi** (2005), *The monetary transmission mechanism: Evidence from the industries of five OECD countries*. European Economic Review, 2005, 49, 1543-69 (WP No. 389).
- Guiso L., L. Pistaferri and **F. Schivardi** (2005), *Insurance within the firm*. Journal of Political Economy, 113, 1054-1087, (WP No. 414).
- Adalid R., G. Coenen, P. McAdam and S. Siviero (2005), The performance and robustness of interest-rate rules in models of the euro area. International Journal of Central Banking, 1, 95-132.
- **Gambacorta L.** (2005), *Inside the bank lending channel*. European Economic Review, 49, 1737-1759.

- Nucci F. and **D.J. Marchetti**, (2005), Price stickiness and the contractionary effects of technology shocks. European Economic Review, 49, 1137-1164 (WP No. 392).
- Angeloni I., A.K. Kashyap, B. Mojon, and **D. Terlizzese** (2004), *The output composition puzzle: A difference in the monetary transmission mechanism in the euro area and the United States.*Journal of Money, Credit, and Banking, 35, 1265-1306.
- **Busetti F.** and R. Taylor (2004) *Tests of stationarity against a change in persistence*, Journal of Econometrics, 123, 33-66.
- Cingano F. and F. Schivardi (2004), Identifying the sources of local productivity growth. Journal of the European Economic Association, 2, 720-742 (WP No. 474).
- Angelini P. and N. Cetorelli (2003), *The* effect of regulatory reform on competition in the banking industry. Journal of Money, Credit, and Banking, 35, 663-684 (WP No. 380)
- Bernheim B.D., J. Gokhale, **L. Forni** and L.J. Kotlikoff (2003), *The mismatch between life insurance holdings and financial vulnerabilities*. American Economic Review, 1, 354-365.
- **Busetti F.** and A. Harvey (2003), *Seasonality tests*. Journal of Business and Economic Statistics, 21, 420-436.
- **Busetti F.** and R. Taylor (2003), *Variance* shifts, structural breaks and stationarity tests. Journal of Business and Economic Statistics, 21, 510-531.
- **Busetti F.** and R. Taylor (2003), *Testing* against stochastic trend and seasonality in the presence of unattended breaks and unit roots.

- Journal of Econometrics, 117, 21-53 (WP No. 470).
- Focarelli D. and F. Panetta (2003), Are mergers beneficial to consumers? Evidence from the market for bank deposits. American Economic Review, 93, 1152-1172 (WP No. 448).
- **Lippi F.** (2003), Strategic monetary policy with non-atomistic wage-setters.

 Review of Economic Studies, 70, 909-919 (WP No. 374).
- Schivardi F. (2003), Reallocation and learning over the business cycle. European Economic Review, 47, 95-111 (WP No. 345).
- van Els P., A. **Locarno**, B. Mojon and Julian Morgan (2003), *New macroeconomic evidence on monetary policy transmission in the euro area*. Journal of the European Economic Association, 1, 720-730.

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 Finland
European Central Bank

Other

BIS Central Bank Research Hub International Journal of Central Banking