

## BANCA D'ITALIA EUROSISTEMA New Research at the Bank of Italy

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# Highlights

On 16 September 2008 the Bank of Italy hosted a workshop on "Factor models, high-frequency data and short-term forecasting" at its headquarters in Rome.

The meeting invited experts from central banks, academia and research centres to discuss recent developments in the field of statistical models used for "nowcasting" and short-term forecasting, that is, to extract information on the economic outlook from the vast array of data that central bankers and professional forecasters are presented with on a daily basis. It was also an opportunity to present ongoing research on these topics carried out at the Bank of Italy.

Opening the workshop, Eugenio Gaiotti, Deputy Head of the Economic Outlook and Monetary Policy Department, emphasized how over the last few years there has been a growing interest in tools – like factor models – that offer a robust and efficient way of synthesizing information on the economy, helping to make sense of the increasing amount of available data and indicators. Research departments in central banks are investing more and more resources in these models, which are becoming a key part of the process of monetary policy assessment and a key input to decisions (*see the article on page 2 of this newsletter*).

On November 27-28, the Bank of Italy will host a conference on "Trends in the Italian productive system".

The conference will mark the end of a two-year project launched at the beginning of 2007 by the Bank of Italy's Research Department. The goal of the project was to understand the reasons behind the structural difficulties experienced by the Italian economy for more than a decade. With this aim in mind, the conference will host papers presented by both Italian academic experts and Bank of Italy researchers and will be concluded by the presentation and the discussion of a report on the Italian economy summarizing the results of the research. The conference program will be available on the Bank of Italy website in due course.

On December 11, the Bank of Italy will host a conference on "Corporate governance in Italy: ten years after the Consolidated Law on Finance (Testo Unico della Finanza)".

The introduction of the Testo Unico della Finanza in 1998 marked the beginning of an intense reform program aimed at increasing the efficiency and competitiveness of Italian companies: reforms included the introduction of a corporate governance code, a new company law and a law on savings. Ten years on, the conference will analyse developments in the Italian institutional framework, evaluate its effects on the ownership and control structure of Italian companies and banks, and discuss what remains to be done in the field of investor protection. The conference program will be available on the Bank of Italy website in due course.

On December 19-20 the Bank of Italy will host the 19th EC-squared Conference on "Recent Advances in Microeconometrics" (see the conference website).

November 12, 2008 is the application deadline for 4 Research Fellowships offered by the Bank of Italy to young economists (see <u>http://www.bancaditalia.it/bancaditalia/lavorare/fellowships/bando\_4\_borse/Notice\_competition.pdf</u> for more information)

(continued from page one) It follows that an exchange of views on future directions of research in this area is of great importance for the conduct of modern monetary policy. The Bank of Italy's long tradition in this field was recently given new impetus by the production of €coin, the coincident index of euro-area GDP growth, which is now published monthly and plays a central role in the debate on the euro-area economic outlook, both inside and outside the Eurosystem. The first session focused on ways to profit from the availability of high-frequency data (monthly, weekly and daily series) to obtain an assessment of current inflationary The first paper (*Forecasting* trends. inflation and tracking monetary policy in the euro area: does national information *help?* by Riccardo Cristadoro, Fabrizio Venditti and Giuseppe Saporito) proposes new core inflation indexes based on factor models for the euro area and for its main economies. Unlike traditional measures of core inflation, which exclude items like food and energy from the CPI, these indexes estimate and exploit the underlying factors to "clean away" temporary and fluctuations noisy that provide no information on current inflationary trends, and therefore on future developments. The main conclusions reached in this paper are: (a) a euro area core inflation index, estimated using a large amount of aggregate information, produces good inflation forecasts at horizons relevant for monetary policy; there is no significant improvement by considering countryspecific variables or by constructing core inflation indexes for the individual member states and aggregating them; (b) the euroarea inflation forecasts obtained in this way help to explain policy decisions ex post (while, again, country-specific information is not important). These findings support the use of factors extracted from a large data set to construct an inflation measure that has good forecasting properties for future inflation. The second paper (Real time forecasts of inflation: the role of

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financial variables by Libero Monteforte and Gianluca Moretti) proposes a mixedfrequency data model, which uses both a monthly index of core inflation (taken from the first paper) and a number of daily data from the financial markets to update the forecasts for euro-area inflation at a daily frequency. The real-time forecasting performance is assessed both against standard VARs and the inflation forecasts obtained from daily quotes of economic derivatives (Chicago Mercantile Exchange future contracts on euro-area inflation). The paper concludes that. when daily information is considered in addition to indicators only available at a monthly frequency, there are less forecast errors. The mixed-frequency model also performs better than forecasts based solely on economic derivatives.

The first presentation of the second session (Forecasting monthly industrial production in real-time: from single equations to factor-based models by Guido Bulligan, Roberto Golinelli and Giuseppe Parigi) applies factor models to the "nowcasting" of Italian industrial production, comparing the outcomes with those from the traditional approach used at the Bank of Italy, which exploits the information from electricity consumption to gauge as yet production activity. unobserved Both forecasts methods produce that outperform significantly benchmark autoregressive models; however, while traditional models rely heavily on the analyst's experience and judgment (in selecting a small subset of indicators and specifying the forecasting models), factor models automatically extract and select information from a broad set of indicators using statistical techniques. The empirical evidence shows that, while the performance of the traditional approach is normally superior to factor models, the latter are robust structural more to breaks. misspecification and to the choice of the width of the estimation window. All in all, this suggests a strategy based on the

combination of the relative strengths of the two approaches, which should be considered for future research. The second paper submitted to this session (Introducing the euro-sting: short term *indicator of euro area growth* by Maximo Camacho and Gabriel Perez-Quiros) was a presentation of *euro-sting*, an indicator of euro-area growth, recently introduced by the Bank of Spain, which produces forecasts for the growth rate of euro-area GDP (for the current, next and second next quarters) using a state-space model. One of the proposed method's strengths is the consistency with which it tackles a problem that is pervasive in short-term forecasting: that of dealing with data with different frequencies and timeliness in the updates. A comparison with the coincident indicator of euro-area growth, *€-coin*, produced by the Bank of Italy and published monthly since 2001, suggests that the two measures complement each other in the analysis of the economic outlook: euro-sting is a forecast of quarterly GDP growth, while €coin is concerned with the underlying medium-term trend growth, filtering out statistical vagaries from quarterly growth.

In the concluding session of the workshop, the representatives of the Bank of France, Bundesbank and the Bank of Italy presented their ongoing research program on short-term forecasting and Notwithstanding analysis. national specificities, a common interest has emerged for the development of new shortterm forecasting tools along the lines of the papers presented during the conference. Coincident indicators, the both for domestic economy and the euro area, are being developed in two main directions: simple tools (bridge models) to produce forecasts of GDP growth both from the demand and the supply side; and factor techniques, to deal with the huge amount of available short-term information and obtain more robust results. Research on procedures to combine bridge models and factor techniques are also being pursued. In

this regard, further collaboration among national central banks can improve the overall ability of the Eurosystem to produce a timely and reliable assessment of current economic developments.

## Latest working papers

#### *No. 682:* Vertical specialisation in Europe: evidence from the import content of exports

Emanuele Breda, Rita Cappariello and Roberta Zizza

We use input-output tables to estimate the import content (IC) of exports for several European countries, interpreting this as a measure of internationalisation. Between 1995 and 2000 the IC grew everywhere but in France; the transport equipment sector emerged as the most internationalised one. The change we detect for a set of EMU countries is remarkable when compared with previous estimates over the 20-year period between 1970 and 1990. Italy and Germany showed very different patterns, although both started from a very low level of IC. Italy experienced the weakest growth and Germany the most sizeable rise. We argue that Italian firms might have felt less pressured to transform their organisation due to the delayed effects of the 1992 and 1995 Lira crises. (full pdf text)

#### No. 683: A likelihood-based analysis for relaxing the exclusion restriction in randomized experiments with imperfect compliance

Andrea Mercatanti

This paper examines the problem of relaxing the exclusion restriction for the evaluation of causal effects in randomized experiments with imperfect compliance. Exclusion restriction is a relevant assumption for identifying causal effects by the nonparametric instrumental variables technique, in which the template of a randomized experiment with imperfect compliance represents a natural parametric extension. However, the full relaxation of the exclusion restriction yields likelihood functions characterized by the presence of mixtures of distributions. This complicates a likelihood-based analysis because it implies partially identified models and more than one maximum likelihood point. We consider the model identifiability when the outcome distributions of various compliance states are in the same parametric class. A two-step estimation procedure based on detecting the root closest to the method of moments estimate of the parameter vector is proposed and analyzed in detail under normally distributed outcomes. An economic example with real data on return to schooling concludes the paper. (full pdf text)

#### No. 684: Balancing work and family in Italy: new mothers' employment decisions after childbirth

#### Piero Casadio and Martina Lo Conte

Compared with other European countries, the Italian labour market stands out for the low level of both female participation and fertility. In this paper we focus on the employment patterns of Italian mothers around the time of childbirth. Our hypothesis is that the difficulties involved in reconciling work and family when there are children are among the leading causes of the low female employment rate in Italy. Data from the 2002 Italian Birth Sample Survey show that about 20 per cent of mothers who were working before childbirth, stop working one and a half years after delivery and that about 14 per cent voluntarily decide to resign. The paper analyses the factors that

most influence new mothers' unemployment risk after childbirth. (full pdf text)

#### *No. 685:* Temporal aggregation of univariate and multivariate time series models: a survey

Andrea Silvestrini and David Veredas

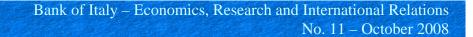
We present a unified and up-to-date overview of temporal aggregation techniques for univariate and multivariate time series models explaining in detail how these techniques are employed. Some empirical applications illustrate the main issues.

#### (full pdf text)

#### No. 686: Exploring agent-based methods for the analysis of payment systems: a crisis model for StarLogo TNG

Luca Arciero, Claudia Biancotti, Leandro D'Aurizio and Claudio Impenna

The paper presents an exploratory agentbased model of a real time gross settlement (RTGS) payment system, with banks represented as agents exchanging payment requests, to be settled according to some simple rules. The model also features a central bank acting as liquidity provider and a simplified money market. A simulation predicts the impact of a disruptive event that blocks a single participant on the flow of interbank payments. Our stylized system dynamically evolves and we can see three phases emerging: 1) a liquidity sink effect is generated, with inflated liquidity expectations for participants; 2) tensions in the money market follow and payment delays increase; 3) defaulted obligations rise. The losses accruing on defaults shoot up and it might be necessary for the central bank to step in as liquidity provider. (full pdf text)





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# *No. 687:* The labor market impact of immigration in western Germany in the 1990's

Francesco D'Amuri, Gianmarco I. P. Ottaviano and Giovanni Peri

We adopt a general equilibrium approach in order to measure the effects of recent immigration on the Western German labor market, looking at both wage and employment effects. Using the Regional File of the IAB Employment Subsample for the period 1987-2001, we find that the substantial immigration of the 1990's had no adverse effects on native wages and employment levels. It had instead adverse employment and wage effects on previous waves of immigrants. This stems from the fact that, after controlling for education and experience levels, native and migrant workers appear to be imperfect substitutes whereas new and old immigrants exhibit perfect substitutability. Our analysis suggests that if the German labor market were as "flexible" as the UK labor market, it would be more efficient in dealing with the effects of immigration. (full pdf text)

## No. 688: Agglomeration and growth: the effects of commuting costs

Antonio Accetturo

We present a model of industrial location and endogenous growth with congestion costs. According to the interplay between knowledge spillovers and commuting costs, we are able to obtain both a Krugman-type and a bell-shaped agglomeration outcome. In the first case, the economy experiences a permanent income inequality in the steady state and income divergence in the transitional dynamics. In the second case, we observe an enlargement of the industrial core of the economy with a strong catching up by the periphery. Welfare analysis shows that congestion creates (in the bell-shaped agglomeration case) a negative welfare effect on peripheral unskilled workers and

renders the agglomerated equilibrium Pareto inferior to dispersion. (full pdf text)

#### No. 689: A beta based framework for (lower) bond risk premia

Stefano Nobili and Gerardo Palazzo

We use a no-arbitrage essentially affine three-factor model to estimate term premia in US and German ten-year government bond yields. In line with the existing literature, we find that estimated premia have followed a downward trend since the 1980s: from 4.9 per cent in 1981 to 0.7 per cent in 2006 for the US bond and from 3.3 to 0.5 per cent for the German one. Subsequently, using an Error Correction Model (ECM) we prove that the decline is explained by a decrease in global output variability and an increase in the power of ten-year government bonds to diversify the investors' portfolios. In addition, the ECM also forecasts both the US and the German term premia converging to around one percentage point over a five year horizon. Long-term return expectations for ten-year government bonds will have to incorporate bond risk premia that - while in line with average excess returns during the twentieth century - are significantly lower than average excess returns over the last two decades.

#### (full pdf text)

# *No. 690*: Nonlinearities in the dynamics of the euro area demand for M1

Alessandro Calza and Andrea Zaghini

The paper finds evidence of non-linearities in the dynamics of the euro-area demand for the narrow aggregate M1. A long-run money demand relationship is first estimated over a sample period covering the last three decades. While the parameters of the relationship are jointly stable, there are indications of non-linearity in the residuals of the error-correction model. This nonlinearity is explicitly modelled using a fairly



general Markov switching error-correction model with satisfactory results. The empirical findings of the paper are consistent with theoretical predictions of non-linearities in the dynamics of adjustment to equilibrium stemming from "buffer stock" and "target-threshold" models and with analogous empirical evidence for European countries and the US. (full pdf text)

### *No. 691*: Educational choices and the selection process before and after compulsory schooling

Sauro Mocetti

The aim of this paper is to analyze the selection process at work before and after compulsory schooling by assessing the determinants of school failures, dropouts and upper secondary school decisions of young Italians. The dataset is built combining individual data by the Labor Force Survey and aggregate data on local labor markets and school supply by the Italian National Statistic Institute and the Minister of Public Education, respectively. Our results show that school failure (i.e., repetition of a year) is highly correlated with the family background, and it strongly affects later choices. Early school leaving and the upper secondary school choice are mainly a reflection of the parents' socioeconomic status. The effectiveness of the educational system when narrowing the failure risk and the scholastic outflow relies on the widespread adoption of full-time attendance in compulsory school, the quality of the school infrastructures and the fewer teachers with temporary contracts. (full pdf text)

#### *No. 692:* Investors' risk attitude and risky behavior: a Bayesian approach with imperfect information

Stefano Iezzi

In a choice model of risky assets the role of risk aversion is analyzed. The measure of

risk preference comes from a direct subjective survey question and it is considered as an imperfect information about the true risk attitude of investors. Misclassification between the true and the observed risk aversion is explicitly taken into account in the empirical model. A Data Augmentation approach, a Bayesian procedure for incomplete-data problems, is applied on data from the 2006 Survey of Household Income and Wealth by the Bank of Italy. Results indicate that when misclassification of investors is taken into account model estimates show the good performance of the subjective question when used as a control in a portfolio choice models. Moreover risk aversion emerges as a strong predictor of the probability to hold risky assets. The analysis also shows that probability of misclassification decreases as latent risk aversion increases, that means that more risk tolerant investors tend to be classified erroneously more often than less risk tolerant investors. (full pdf text)

## *No. 693:* **Competing influence** *Enrico Sette*

This paper investigates the incentives of experts competing to influence decision making. Competition for influence is shown to have an ambiguous effect on truthtelling incentives and a decision maker might be better off relying on one source of information only. This result has important implications for organizational design: the paper shows that delegation and favoritism can arise as a way to promote the correct flow of information within an organization. Delegation can lead to stronger truthtelling incentives than communication and it can be optimal when the importance of the decision is intermediate or high. Favoritism, consisting in biasing the competition for influence in favour of one expert, can further increase truthtelling incentives. (full pdf text)



# **H**orthcoming working

### papers

- Accetturo A. and L. Infante, *Immigrant earnings in the Italian labor* market
- Ascari G. and T. Ropele, Trend inflation, Taylor principle and indeterminacy
- Giordano R. and P. Tommasino. What determines debt intolerance? The role of financial and monetary institutions
- Lippi F. and A. Nobili, Oil and the macroeconomy: a structural VAR analysis with sign restrictions
- Lippi F. and A. Secchi, On financial development and the demand for currency: an analysis with household data
- Locarno A. and A. Staderini, Tax revenue in Italy in the period 1978-2006
- Pericoli M. and M. Taboga, Bond risk premia, macroeconomic fundamentals and the exchange rate
- Pinotti P..
  - Financial development and the demand for Pay-As-You-Go social security
- Sestito P. and E. Viviano,
  - Selection into unemployment and reservation wages in Italy: explaining the north-south differential

#### Sette E..

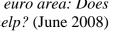
Competition and opportunistic advice of financial analysts: theory and evidence

# Recently published

## working papers

No. 670: Juri Marcucci and Mario Quagliariello, Credit risk and business cycle over different regimes (June 2008)

- No. 671: Fabrizio Balassone, Maura Francese and Stefania Zotteri, Cyclical asymmetry in fiscal variables (June 2008)
- No. 672: Gianna Barbieri, Piero Cipollone and Paolo Sestito, Labour market for teachers: Demographic characteristics and allocative mechanisms (June 2008)
- No. 673: Matteo Bugamelli and Francesco Paternò, Output growth volatility and remittances (June 2008)
- No. 674: Valter Di Giacinto and Marcello Pagnini, Agglomeration within and between regions: Two econometric based indicators (June 2008)
- No. 675: Guglielmo Barone and Federico Cingano, Service regulation and growth: Evidence from OECD countries (June 2008)
- No. 676: Eugenio Gaiotti, Has globalisation changed the Phillips curve? Firm-level evidence on the effect of activity on prices (June 2008)
- No. 677: Riccardo Cristadoro, Fabrizio Venditti and Giuseppe Saporito, Forecasting inflation and tracking monetary policy in the euro area: Does *national information help?* (June 2008)
- No. 678: Riccardo Bonci and Francesco Columba, Monetary policy effects: New evidence from the Italian flow of funds (June 2008)
- No. 679: Massimiliano Bratti, Daniele Checchi and Guido de Blasio, Does the



expansion of higher education increase the equality of educational opportunities? Evidence from Italy (June 2008)

- No. 680: Marco Cucculelli and Giacinto Micucci, Family succession and firm performance: Evidence from Italian family firms (June 2008)
- No. 681: Giuseppe Ferrero and Andrea Nobili, *Short-term interest rate futures as monetary policy forecasts* (June 2008)

## Latest occasional papers

No. 15: The Italian public finances in the period 1998-2007: temporary factors, mediumterm trends and discretionary measures

Maria Rosaria Marino, Sandro Momigliano and Pietro Rizza

The paper examines the development of Italy's public finances after the consolidation period 1992-97, which secured participation in the European Monetary Union from the outset. The "structural" developments in the main budgetary components are assessed, excluding the effects of the economic cycle and of temporary measures. The analysis shows a rapid deterioration in the years 1998-2003, whose roots can be traced back to the consolidation of the early 1990s, achieved primarily by means of tax increases and cuts in capital expenditure. Since 2004 there has been a structural improvement, initially modest but substantial in 2006 and 2007. Sustaining this adjustment and making further progress may again prove difficult, as the fiscal correction is similar in nature to the previous consolidation effort. Looking at the whole period 1998-2007, the deterioration of the

public finances seems attributable to the difficulty to restrain the growth of current primary expenditure. (full pdf text – in Italian)

*No. 16*: How to interpret the CPIS data on the distribution of foreign portfolio assets in the presence of sizeable crossborder positions in mutual funds. Evidence for Italy and the main euro-area countries

Alberto Felettigh and Paola Monti

The data collected by the IMF in the Coordinated Portfolio Investment Survey (CPIS) provide a unique source for foreign portfolio asset holdings, with details on the breakdown by instrument and counterpart country. In the presence of sizeable crossborder positions in mutual funds, which are indistinctly classified as equity assets, the economic interpretation of the instrument and geographic composition of a country's foreign assets might be distorted. The instrument composition tends to be skewed towards equity assets; the geographical one tends to be biased towards the countries hosting the mutual funds. This is the case of Italy, whose position in Irish and Luxembourgian mutual funds represents more than half of its entire foreign portfolio equity assets. France, Germany and Spain are in a similar, yet less disproportionate, situation. The paper proposes a correction method in order to 'pierce the veils' introduced by positions in foreign mutual funds. (full pdf text)

#### *No. 17:* **Prices of residential property in Italy: constructing a new indicator**

#### Salvatore Muzzicato, Roberto Sabbatini and Francesco Zollino

We present a new indicator of house prices in Italy, with more extensive geographical and time coverage. The new indicator now makes it possible to analyze medium- and

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long-term trends with satisfactory representation of the Italian housing market. It also allows for timely updating, for prompt assessment of housing input both to the business cycle and to inflationary pressures. We offer a preliminary identification, based solely on graphical inspection, of four different property price cycles since the late 1960s; the latest began at the end of the 1990s and signaled a slowdown since 2006. Finally, we tentatively assess the effect of including transactions in dwellings in the Italian HICP basket according to the net acquisition approach, which apparently results in about a quarter point of additional inflation each year since 2000. (full pdf text)

#### *No. 18:* The regulatory reforms in Italian local public services: an overview and some lessons for the future

#### Magda Bianco and Paolo Sestito

The paper summarizes the framework used in a research project on local public services carried out by Bank of Italy researchers. It discusses motivations, characteristics, results and general lessons of the project, whose sector-specific results are detailed in individual papers. The project was set up to analyze the effectiveness and outcomes of a set of reforms initiated approximately 15 years ago (but still unfinished in many respects). Studies of specific economically important and socially sensitive sectors were performed, to obtain an updated picture of the current framework (ownership structure, role of local authorities) and evaluate performance (market structure, costs and quality, profitability, environmental results). A set of horizontal studies (on the evolution of regulation, the spread of project financing, the growth of some large players) complemented the sectoral analyses. As a whole the project confirmed that the results of the reforms have been unsatisfactory. The paper also discusses some characteristics of the regulatory framework and market structures that could explain the

reforms' poor results: a) insufficient attention to sectoral peculiarities in the regulatory design; b) the approach used in determining tariffs that should have covered full costs; c) excessively fragmented regulatory authorities, which were set up at too local a level; d) insufficient separation between the different roles played by local authorities as regulators, majority shareholders of service providers and representatives of consumers' interests. (full pdf text – in Italian)

#### No. 19: Regulation and competition on local public utilities Daniele Sabbatini

This paper outlines the evolution of the regulatory framework for the supply of local public utilities, social and health services since the early nineties. That framework is rendered complex by frequent legislative reforms, the overlap of general rules and specific rules for some services, and the division of legislative powers among the European Community, the central government and regional governments. The various reform acts, both horizontal and sector-specific, have not always pursued homogenous goals, seeking in some cases to foster and in others to restrain competition. The rules for local public utilities have recently changed again: competitive tendering is now the standard mechanism for awarding contracts to supply services, but local authorities may still supply services through in-house providers or use other contract award procedures where they deem it impossible to introduce competitive mechanisms. (full pdf text - in Italian)

#### *No. 20:* Regulation and efficiency in Italian local public transport: the regional differences

Chiara Bentivogli, Roberto Cullino and Diana Marina Del Colle

This paper studies the effects on local public transport of the reform begun in the late nineties, using data from a recent Bank of Italy survey. There are still substantial differences across Italy's regions, and the level of efficiency is far from the original aims of the reform. Although almost all Italian regional councils formally aligned the local legislation to the new national rules, actual compliance with the deeper logic of the reform has been limited so far. Competitive tendering for the selection of local service providers have seldom been used, while auctions have usually been won by local public incumbents. Albeit limited. efficiency gains are larger wherever the reform has been implemented more thoroughly and the variables influencing public transport demand more carefully taken into account. The share of the population that uses public transport has not increased even in major cities, and the low share of users (by international standards) has gone hand in hand with a negative overall evaluation of service quality. Fares are still much lower than unit costs. (full pdf text – in Italian)

## *No. 21*: Natural gas distribution in Italy: the implementation of the reform and its effects

Silvia Giacomelli

This paper analyzes the evolution of the natural gas distribution sector in Italy from the 2000 reform with the aim of evaluating the regulatory framework, its implementation and its effects on firms and consumers. Market fragmentation has diminished significantly over the years; however, the number of very small firms in the market is still high. In the competitive tender procedures held so far, the number of bidders and the concession fees awarded have been high; however, regulatory loopholes and concerns over the ability of municipalities to organize and carry out competitive procedures have emerged. Tariff regulation has led to a reduction of distribution prices, but firms are highly profitable, which might indicate that they still enjoy significant rents. The uncertainty and variability of the tariff system and the

delays in the implementation of third-party access regulation has hindered the development of competition in the residential gas market. The new rules on the size of local markets and on bidding criteria should significantly improve the regulatory framework of tenders. (full pdf text – in Italian)

### No. 22: The urban waste sector 11 years after the Ronchi decree

Paolo Chiades and Roberto Torrini

The modernization of the solid waste management sector prompted by the Ronchi decree of 1997 has proceeded slowly and is far from being completed. Regional differentials in the effectiveness of local policies and in the efficiency of waste collection and disposal firms are still large. Southern regions are lagging behind while northern regions on the whole have achieved the environmental objectives and modernized the waste management system. Local differences in service methods and quality have affected operating costs, which are higher on average in the South. Significant problems of economic regulation have yet to be solved. The self-sufficiency principle for the treatment and disposal phases and their high level of integration with the collection phase hamper competition and make it desirable for there to be regulation of the terms and condition for access to disposal facilities. Moreover, should the Government decide to adopt a vertically integrated legal monopoly model, with compulsory competitive tendering, some doubts could arise concerning the ability of local authorities to perform this task, given the complexity of the underlying contracts. Assigning responsibility for the economic regulation of the sector to a national authority could prove to be helpful. (full pdf text – in Italian)

### *No. 23*: Water services in Italy: implementation of the reform and efficiency of providers

Michele Benvenuti and Elena Gennari



The paper investigates the organization of the Italian water sector in the light of the reforms of public utilities. The aim is to examine the degree of implementation of the water sector reform (the so-called Galli Law of 1994) and assess the performance of operators through a study of their financial indicators and a non-parametric efficiency analysis. The information sources include two Bank of Italy surveys carried out in 2007 on local public water authorities and local water service providers. Financial indicators point to a low return on equity: for more than half of the firms it is lower than the risk-free interest rate. The nonparametric efficiency analysis does not reveal significant economies of scope and highlights a certain degree of variability of technical efficiency scores. This suggests that there is room for efficiency gains through the introduction of comparative competitive mechanisms such as the yardstick competition. (full pdf text – in Italian)

#### *No. 24:* Taxi and limousine services after the Bersani reform: an investigation on main Italian cities

#### Chiara Bentivogli

Using data from a Bank of Italy survey, this paper analyzes the Italian taxi market and its recent changes. Local regulations are rather homogeneous, while there is a widespread disproportion, within municipal advisory committees, between the number of representatives of taxi drivers and that of consumers' advocates. Indicators of service adequacy are seldom used. The average service costs are rather homogeneous across Italian provinces, while there is great variance of supply and fare structures. The instruments made available to municipalities by the Bersani Law 2006 have been used mainly in large cities. In many cases, the expansion of service, achieved mainly through additional shifts rather than through the issue of (free) additional licenses, has

been the result of a trade-off for fare increases (in part to protect drivers' income). Virtually no use has been made of municipal traffic rules. All in all it is difficult to evaluate the suitability of the decisions of municipalities with respect to market characteristics, given the lack of non-occasional information on market structure. (full pdf text – in Italian)

#### *No. 25:* **Project finance in local public services: little finance and little project?**

## Chiara Bentivogli, Eugenia Panicara and Alfredo Tidu

This paper analyzes the potential and the limits of project finance for the provision of local public services and compares them with alternative instruments in the light of current regulation. The main requirements for project finance, even in non "pure" forms, to justify its complex network of contracts, appear to be the presence of synergies between construction and service provision, the allocation of a substantial part of market risk to the private partner, and infrastructure that is large in scale. The available data and a survey carried out in the Emilia-Romagna region show that instruments similar to project finance are widespread in local public services. Yet the actual features of public finance in Italy seem to be far from those that would normally justify its use. The main reason for using project financing has often been to avoid an immediate and direct financial burden to the public administration or to bypass overly rigid rules in the public management of some services. (full pdf text – in Italian)

# *No. 26*: The big players in Italian local public services. Constraints, opportunities and growth strategies

Magda Bianco, Daniela Mele and Paolo Sestito



One of the objectives of the reforms and liberalization of the last 15 years in local public services was to reduce the traditional fragmentation of production. This was to be achieved through restructuring that reduced inefficiencies and made it more possible to exploit economies of scale, thereby stimulating the emergence of national "big players". In this paper we analyze the evolution and current position of the largest operators that have emerged in the different sectors of local public services. The aim is to identify factors that have helped or hindered the growth process. Through an analysis of twelve among the largest businesses we identify four evolutionary paths. In our view the main drivers have been: a) a presence in the energy sector (mainly due to its high profitability); b) a favourable local political framework; and c) a tradition of efficient internal organization and independence of local politics. (full pdf text – in Italian)

# *No. 27:* Demand and supply of hospital services. International trends

#### Giovanni Iuzzolino

This paper describes the main international trends in the demand for and supply and cost of hospital services in the last decades. In almost all countries, including Italy, there has been a substantial reduction in the total length of hospitalizations, a steady rise in the use of day-hospitals and a widespread reduction in the number and capacity of hospitals. These trends have been reinforced by reforms in payment systems and in particular by the use of case payments for reimbursing hospitals. By international standards, the Italian hospital system is characterized by relatively high fragmentation, a situation partly related to the weakness of nursing and residential care facilities in Italy, with an unbalanced "division of labour" between in-patient and out-patient care. This has consequences both for the unit costs of hospitalization and for the hospital component's share of total

health expenditure (in Italy above the OECD average). The higher cost of hospital services is also a reflection of the composition of hospital staff, which is strongly biased towards the medical component, especially in small hospitals. (full pdf text – in Italian)

#### *No. 28: The Italian hospital system Maurizio Lozzi*

Over the last decade two reforms have affected the Italian hospital system, one introducing market mechanisms, the other concerning the tools of planning and expense control assigned to the regional governments. The paper summarizes these institutional changes and describes the evolution of the structure and the activity of the hospital system, with a focus on the differences between regions. It highlights the following: (1) the reduction in the number of hospitals and hospital beds and the gap between regions in terms of hospital beds per capita; (2) the growth in personnel compared with the number of hospital beds; (3) the stationarity of admissions since the end of the nineties and the growth in the share of those in day hospital; (4) the greater number of admissions in southern regions, especially for inappropriate or less complex treatment, and the high level of migration towards northern hospitals; (5) with reference to costs, increasing returns to scale up to a given hospital size, which is larger, the more complex the courses of treatment provided; (6) the differences between regions in costs which are affected by the size of facilities and their type of specialization. (full pdf text – in Italian)

# *No. 29*: Technical efficiency of Italian public hospitals

Alessandro Schiavone

Since the late eighties the Italian National Health System, in particular hospital care, has undergone deep reforms. This paper evaluates the technical efficiency of Italian public hospitals in light of the main features of the hospital system at a regional level.



The evaluation was carried out using data on endowments and admissions of all Italian public hospitals over the period 2000-2004 and applying DEA, a non-parametric method. Individual efficiency is partly explained by the composition of input endowment and the case-mix of hospital services provided. However, a significant portion of variance is related to differences in regional averages. A second stage of analysis was performed to detect determinants of technical efficiency. including supply side structural features at the regional level. It demonstrates that some features of local markets, such as the existence of hospital networks and competitiveness between providers, lead to higher levels of efficiency. Another source of variance between regions consists in pressures on the demand for in-patient care. (full pdf text – in Italian)

#### *No. 30:* The difficult access to childcare in Italy: the determinants from the supply and the demand side

#### Francesco Zollino

Assembling information from several sources and drawing on a specially designed new survey, this paper finds that the shortfall in the supply of child care facilities remains large with respect to potential demand but is less severe with respect to the effective demand by households in Italy. Controlling for individual characteristics and local external environment, empirical evidence points to the key role played by the cost-quality schedule in supporting formal care. Local governments exert a significant influence on this factor through multiple channels, such as the intensity of regulation on quality standards, the degree of flexibility in the service provision, and the financing and tariff policies. These channels differ widely across geographical areas. The local set-up can give rise to contrasting effects on both the profitability of private childcare providers, who hardly fill the potential gap in the public network, and on

household demand, which could benefit to a limited extent from a greater availability of facilities in case these are of unsatisfactory quality. (full pdf text - in Italian)

# Forthcoming occasional papers

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