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*Research Summaries*

# Measuring Inflation

Mick Silver

*Price indices serve as measures of inflation, deflators for national accounts aggregates, and the basis for escalation payments. Good economic analysis requires a proper understanding of deficiencies in the practice of compiling these measures. Research by IMF economists has contributed to our understanding of what is good practice and to the price index manuals (ILO and others, 2004a and 2004b). These manuals set out internationally accepted standards for measuring inflation that are promulgated in the IMF Statistics Department's training, technical assistance, and report on standards and codes (ROSC) data missions.*

Sources of bias in consumer price indices (CPIs) are well researched. Most recently, IMF staff economists have focused on the accounting for changes in product quality and on the aggregation formula—areas found by Boskin and others (1996) to be the most important sources of bias in the U.S. CPI.

A *first issue* of CPI measurement is the accounting for changes in product quality. National statistical offices measure price changes using the matched-models method. The offices collect details and prices of a representative selection of items in a price reference period and collect their matched prices in *(continued on page 2)*

# Strengthening PRGF Programs Through PSIA

David Coady

*The introduction of the Poverty Reduction and Growth Facility (PRGF) in 1999 reflected a desire to make pro-poor growth considerations central to the design of IMF-supported programs in low-income countries. Since the introduction of the PRGF, empirical research on the impact of these programs on poverty and growth has accelerated. In addition, the Poverty and Social Impact Analysis (PSIA) Group was created in the IMF's Fiscal Affairs Department in July 2004 to facilitate the absorption of policy insights from PSIAs into the design of PRGFs on a more systematic basis. This article provides a brief summary of recent IMF research on this topic.*

As is obvious from its name, the Poverty Reduction and Growth Facility pursues two goals. The underlying premise is that growth without poverty reduction—one might say growth without equity—is simply not acceptable. The importance of growth as a means to reduce poverty is widely recognized. What is less well understood is what policies can best promote *(continued on page 4)*



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## Measuring Inflation

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successive periods, to compare the prices of like with like. But a potential quality adjustment bias arises when old models are replaced by new models of different quality.

Barcode-scanner data from retail outlets provide an alternative source of data to measure price movements for comparison with CPI indices. Such data include details on the quality of the models of items sold and allow researchers to measure price changes that properly adjust, using hedonic regressions, for quality changes. Silver and Heravi (2001, 2003, 2004) provide detailed studies on the quality-adjusted price movements of consumer durables across time. Heravi, Heston, and Silver (2003) and Silver and Heravi (2005a) focus on parity estimates across countries. These studies demonstrate the results from the use of alternative formulas and, as a result, provide estimates of substitution bias.

A particular problem with the matched-models method arises if there is a rapid turnover in differentiated models, as typically occurs for products such as personal computers (PCs). The sample of models used to measure price changes becomes unrepresentative when, for example, new models are introduced (but not included in the sample) and old models are retired (and dropped out of the sample). Scanner data have information on the universe of transactions and are thus ideal for identifying any selectivity bias owing to matching. Silver and Heravi (2005b) developed a hedonic analytical model for identifying and estimating such bias and, for consumer durables, found that price indices for matched quality-adjusted prices fell faster than price indices for the universe of transactions. Silver (2003) argues that the conceptual basis for a CPI in a dynamic market environment must be a cost-of-living index (COLI), as opposed to a cost-of-goods index (COGI).

The two principal methods for dealing with product groups with a high turnover of differentiated models are the hedonic imputation indices and the dummy time hedonic indices. Both methods not only correct price changes for changes in the quality of items purchased but also allow the indices to incorporate matched and unmatched models. They can yield quite different results, however. Silver and Heravi (2006a) derived an expression for the difference between the two methods, which enables national offices to consider the factors governing, and implications for, the choice of method. Further, many methods to operationalize such hedonic indices exist, including the period(s) of weights used, arithmetic or geometric aggregator, and chained or fixed base. Silver and Heravi (2006b) examine and discuss the results of 36 such methods for consumer durables, finding that the choice of method matters.

A *second issue* for CPI measurement is the choice of aggregation formulas. National statistical office staff compile CPIs at two main levels. At the lower level, elementary aggregation formulas use unweighted averages of prices and are typically applied to prices of finely defined goods, such as varieties of apples, sampled from outlets. Such finely defined goods are the building blocks of a CPI (Silver and Webb, 2002). At the higher level, the resulting elementary indices are weighted by (base-period) expenditure shares.

The two principal formulas used to calculate elementary indices are the unweighted ratio of arithmetic means (Dutot) and geometric means (Jevons). The differences between the formulas can be shown to be related to changes in the variance of prices, which, itself, has welfare implications—see Silver and Ioannidis (2001). Silver and Heravi (2006c) provide an improved analytical framework, based on sample estimators, to establish the difference between the Dutot and Jevons indices. The difference between the two formulas is decomposed into a difference owing to product heterogeneity and a difference owing to essentially different types of averages in the index formula. Silver and Heravi show the choice between the Jevons index and a heterogeneity-corrected Dutot index to depend on sampling/estimation considerations and expected elasticities. In their empirical example, they find that about half the difference between the formulas is due to product heterogeneity—an important consideration, given that the Dutot index is biased if applied to heterogeneous items.

At the higher level of aggregation, national office staff apply expenditure-share weights to elementary price indices. CPIs can be fixed base or chain weighted, and Shelley Winston (2006) shows how high-frequency chaining applied to seasonal goods can lead to significant bias. A Laspeyres index requires the weights and price reference period to be the same. Yet, in practice, it takes time for statistical office staff to compile expenditure data from the household budget survey to use in compiling the index. The *Consumer Price Index Manual* (ILO and others, 2004b), hereinafter referred to as the *CPI Manual,* advises updating the out-of-date weights by the price change between the weight and price reference periods. Ruiz-Castillo, Ley, and Izquierdo (2002a) show, using Spanish CPI data, that following the practice of not price-updating weights can considerably understate an appropriate cost-of-living index. They further show that much of the bias from this practice can be explained by the gap between plutocratic and democratic CPIs—a related area of their research.

Invariably CPIs are *plutocratic*—that is, the weights for each household's price changes are their relative expenditure shares, in contrast to an equally weighted *democratic* CPI. Analysts of the plutocratic-democratic (P-D) CPI gap



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have considered who suffers the most from the use of a plutocratic CPI for escalation payments—the rich or the poor? Izquierdo, Ley, and Ruiz-Castillo (2003) and Ley (2005) found, using Spanish CPI data, that plutocratic inflation has, on average over time, been anti-rich. The extent of this effect varied significantly, however, according to the time period selected. In a few of the periods studied, the reverse was true—plutocratic inflation was anti-poor. Ley (2005) stressed the difficulties involved in generalizing findings across countries and even within countries over time. He also provided a formal decomposition of the P-D CPI gap (see also Ley, 2002). Ruiz-Castillo, Ley, and Izquierdo (2002b) applied estimates of U.S. quality-change bias (QCB) to Spanish CPI data. They showed how some of the P-D CPI gap could be explained because the QCB was more pronounced for richer households. Izquierdo, Ley, and Ruiz-Castillo (2003) show that much of the P-D CPI gap could simply be explained by the different price changes for goods and services classified as "luxuries" and "necessities."

The *CPI*, *Producer Price Index* (*PPI*), and (draft) *Export and Import Price Index (XMPI) Manuals* have been essential to developing and implementing international standards on price index numbers. Erwin Diewert's contribution to the *CPI* and *PPI Manuals* was recognized by his receipt in Canada of the Purvis Award, 2005 and in the United States of the Julius Shiskin Award, 2005. IMF staff economists—notably Paul Armknecht (editor of the *PPI Manual*), Mick Silver, and Kim Zieschang—also contributed chapters to the manuals. They drew on papers by, among others, Armknecht and Maitland-Smith (1999) on seasonal goods, Zieschang (2000) on integrating price indices into the *1993 System of National Accounts* (*1993 SNA*), and Dridi and Zieschang (2004) on the theory and practice of import and export price indices. These latter two papers clearly show how the *1993 SNA* analytical framework and economic theory provide guidance on practical measurement issues.

Research on price index number methodology extends to statistical issues in core inflation measurement. Core inflation indices are derived statistics, invariably based on CPIs. See, however, Bloem, Armknecht, and Zieschang (2002) for proposed alternatives to the CPI. IMF staff research on core inflation measurement issues also includes a survey paper (Silver, 2006) and a methodological study (Roger, 2000) that advocates a robust measure of core inflation, given the prevalence of nonnormal price change distributions.

Research by IMF economists should continue to contribute to our understanding of what is good practice, while the manuals and work of the IMF's Statistics Department should contribute to its implementation.

## References


Armknecht, Paul, and Fenella Maitland-Smith, 1999, "Price Imputation and Other Techniques for Dealing with Missing Observations, Seasonality and Quality Change in Price Indices," IMF Working Paper 99/78.

Bloem, Adriaan, Paul Armknecht, and Kimberley Zieschang, 2002, "Price Indices for Inflation Targeting," in *Statistical Implications of Inflation Targeting*, ed. by Carol Carson, Charles Enoch, and Claudia Dziobek (Washington: International Monetary Fund), pp. 172–200.

Boskin, Michael S. (Chair), and others, 1996, Advisory Commission to Study the Consumer Price Index, "Towards a More Accurate Measure of the Cost of Living," Interim Report to the [U.S.] Senate Finance Committee (Washington: Government Printing Office).

Commission of the European Communities—Eurostat, International Monetary Fund, Organization for Economic Cooperation and Development, United Nations, and World Bank (Inter-Secretariat Working Group on National Accounts), 1993, *System of National Accounts 1993* (Brussels/Luxembourg, New York, Paris, and Washington).

Dridi, Jemma, and Kimberly Zieschang, 2004, "Export and Import Price Indices," *Staff Papers*, International Monetary Fund, Vol. 51, No. 1, pp. 157–94.

Heravi, Saeed, Alan Heston, and Mick Silver, 2003, "Using Scanner Data to Estimate Country Price Parities: An Exploratory Study," *Review of Income and Wealth*, Vol. 49 (March), pp. 1–22.

International Labor Organization (ILO), International Monetary Fund, Organization for Economic Cooperation and Development, United Nations Economic Commission for Europe, and World Bank, 2004a, *Producer Price Index Manual: Theory and Practice* (Washington: International Monetary Fund).

———, 2004b, *Consumer Price Index Manual: Theory and Practice* (Geneva: International Labor Organization).

———, 2006, draft of "Export and Import Price Index Manual: Theory and Practice" (Washington: International Monetary Fund), available on the Web at *http://www.imf.org/external/np/sta/tegeipi/index.htm*.

Izquierdo, Mario, Eduardo Ley, and Javier Ruiz-Castillo, 2003, "The Plutocratic Gap in the CPI: Evidence from Spain," *Staff Papers*, International Monetary Fund, Vol. 50, No. 1, pp. 136–55.

Ley, Eduardo, 2002, "On Plutocratic and Democratic CPIs," *Economics Bulletin*, Vol. 4, No. 3, pp. 1–5.

———, 2005, "Whose Inflation? A Characterization of the CPI Plutocratic Gap," *Oxford Economic Papers*, Vol. 57 (October), pp. 634–46.

Roger, Scott, 2000, "Relative Prices, Inflation and Core Inflation," IMF Working Paper 00/58.

Ruiz-Castillo, Javier, Eduardo Ley, and Mario Izquierdo, 2002a, "The Laspeyres Bias in the Spanish Consumer Price Index," *Applied Economics*, Vol. 34 (December), pp. 2267–76.

———, 2002b, "Distributional Aspects of the Quality Change Bias in the CPI: Evidence from Spain," *Economic Letters*, Vol. 76, pp. 137–44.




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Silver, Mick, 2003, "Some Proposed Methodological Developments for the U.K. Retail Prices Index," *World Economics,* Vol. 4 (January–March), pp. 153–75.

———, 2006, "Core Inflation: Measures and Statistical Issues in Choosing Among Them," IMF Working Paper 06/97.

———, and Saeed Heravi, 2001, "Scanner Data and the Measurement of Inflation," *Economic Journal*, Vol. 111 (June), pp. 383–404.

———, 2003, "The Measurement of Quality-Adjusted Price Changes," in *Scanner Data and Price Indexes*, ed. by Robert C. Feenstra and Matthew D. Shapiro, National Bureau of Economic Research, Studies in Income and Wealth, Vol. 61 (University of Chicago Press), pp. 277–317.

———, 2004, "Hedonic Price Indexes and the Matched Models Approach: A Comparison of Different Methods of Adjusting for Quality When Measuring the Price Changes of Durables," *Manchester School*, Vol. 72 (January), pp. 24–49.

———, 2005a, "Purchasing Power Parity Measurement and Bias from Inappropriate Item Selection and Quality Comparisons: Principles and an Empirical Study," *Journal of Official Statistics*, Vol. 21, No. 3, pp. 436–87.

———, 2005b, "A Failure in the Measurement of Inflation: Results from a Hedonic and Matched Experiment Using Scanner Data," *Journal of Business and Economic Statistics*, Vol. 23 (July), pp. 269–81.

———, 2006a, "The Difference Between Hedonic Imputation Indexes and Time Dummy Hedonic Indexes," forthcoming as an IMF Working Paper; also forthcoming in the *Journal of Business and Economic Statistics*.

———, 2006b, "Hedonic Indexes: A Study of Alternative Methods," forthcoming in *Hard-to-Measure Goods and Services: Essays in Honor of Zvi Griliches*, ed. by Ernst R. Berndt and Charles M. Hulten, National Bureau of Economic Research/Congress on Research in Income and Wealth (University of Chicago Press), available in draft form on the Web at *http://www.nber.org/books/CRIW03-BH/index.html*.

———, 2006c, "Why Price Index Number Formulas Differ: Economic Theory and Evidence on Price Dispersion," forthcoming as an IMF Working Paper; also forthcoming in the *Journal of Econometrics*.

Silver, Mick, and Christos Ioannidis, 2001, "Inter-Country Differences in the Relationship Between Relative Price Variability and Average Prices," *Journal of Political Economy*, Vol. 109 (April), pp. 355–74.

Silver, Mick, and Bruce Webb, 2002, "The Measurement of Inflation: Aggregation at the Basic Level," *Journal of Economic and Social Measurement*, Vol. 28, Nos. 1–2, pp. 21–36.

Winston, Shelley, 2006, "The Treatment of Seasonal Goods and Services in Compiling a CPI" (unpublished; Washington: International Monetary Fund).

Zieschang, Kimberly, 2000, "A Framework for Price Statistics," IMF Working Paper 00/24.




## PRGF Programs

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not only growth, but equitable growth. The IMF has been working to better understand the complex interrelationships between growth and poverty reduction.

Much of recent research has focused on the relationship among growth, inequality, and poverty using a cross-country regression approach. A key result of this research has been that growth-enhancing macroeconomic and fiscal policies have not had a direct negative effect on income inequality. To the contrary, growth itself can reduce poverty. Moser and Ichida (2001) verified the beneficial impact of growth on poverty reduction in countries in sub-Saharan Africa and on non-income measures of poverty, such as life expectancy, infant mortality, and gross primary school enrollment. Subsequent research by Ghura, Leite, and Tsangarides (2002) using data for 137 developed, transition, and developing countries expanded the set of policy variables that had been considered in the literature and identified what were labeled "super pro-poor" policies. Policies that lowered inflation, reduced public expenditures, promoted financial development, and improved educational outcomes were all found to directly reduce poverty; in addition, they indirectly reduced poverty by increasing growth. Other variables typically found to encourage growth (e.g., trade openness, investment levels, and fiscal stability) did not appear to have any direct adverse effect on poverty, reinforcing the absence of a trade-off between growth and poverty reduction. For further extensions of this cross-country regression approach using different samples and specifications, see Epaulard (2003) and Iradian (2005).

Over and above the effect of growth on poverty, policies that shape the *distribution* of income have a separate and important impact. Kraay (2004) used household surveys for 80 developing countries to examine the relative importance of changes in mean income and changes in the distribution of incomes in explaining changes in absolute poverty. Although change in mean income accounted for 66–90 percent of the change in poverty over the long run, it accounted for only 50 percent over the short run. Growth in mean incomes also explained less of the poverty reduction when poverty was measured by indices that were more sensitive to changes in extreme poverty, suggesting that growth may be substantially less effective than more direct redistributive policy instruments in reducing extreme poverty.

Cross-country analysis has also examined the relationship between poverty and foreign currency inflows (i.e., external indebtedness and foreign aid). The conventional wisdom has been that external indebtedness has an adverse effect on growth, especially at very high levels of debt. Moreover, debt can also have a more direct effect on poverty if it crowds out

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social expenditures. Loco and others (2003) find that the impact of external indebtedness on poverty comes mainly through its indirect effect, via lower growth, rather than its direct effect. Masud and Yontcheva (2005) examine the differential impact of two types of foreign aid (bilateral aid and aid provided by nongovernmental organizations (NGOs)) on infant mortality and illiteracy in low-income countries. NGO aid was found to decrease infant mortality through increased total health spending (i.e., the sum of such spending by the government and NGOs), whereas bilateral aid did not have an effect, since it largely crowded out domestically financed government spending.

Cross-country analyses have also looked at how the composition and efficiency (e.g., the proportion allocated to health and education expenditures or, within these expenditures, to primary health care or lower levels of education) as well as the level of government spending affect poverty. For instance, Gupta, Verhoeven, and Tiongson (2004) found that per capita health expenditures had a consistently statistically significant impact in reducing infant and child mortalities for poor households. The likely explanation is that poor households cannot afford high levels of private health care, so that if they have access to more public health services, there is likely to be less crowding out of private health care.

Case studies for Nigeria and Tanzania show the value of detailed analysis of particular country experiences in improving our knowledge of specific policies that are likely to make growth more pro-poor. Thomas and Canagarajah (2002) used household data for Nigeria for 1985–92 to examine the relative contribution of growth and redistribution to poverty reduction and to identify the likely determinants. They find that the incidence of poverty decreased by 9 percentage points over this period, from 43 percent to 34 percent. Growth led to a 14 percentage point decrease in poverty, but a rise in inequality resulted in a 5 percentage point increase. The increase in inequality was attributed to the bias of government policies toward the urban sector and capital-intensive industries. This experience contrasts with that of Tanzania examined in Treichel (2005). It implemented wide-ranging structural reforms in the early 1990s, including trade liberalization and the withdrawal of extensive state control in agriculture. The country achieved significant macroeconomic stabilization, with inflation falling from nearly 30 percent in the early 1990s to just over 9 percent during 1996–2003. Per capita income, which had been falling, increased at an annual rate of 4.2 percent between 1996 and 2000. Concomitantly, the incidence of poverty decreased from 43 percent in 1994 to 36 percent in 2000. A recent review of growth and poverty trends in sub-Saharan Africa by Pattillo, Gupta, and Carey (2005) confirmed the variation in response of inequality to pro-poor growth policies exemplified by these case studies.

Large increases in foreign aid have also raised the specter of Dutch disease, whereby currency appreciation leads to increased demand for nontraded goods, possible inflationary expectations, and a decline in production in the higher-productivity traded goods sector. Nkusu (2004) examines the experience of Uganda, which experienced large financial inflows (including grants and concessional loans) in the late 1990s. The results suggest that such inflows are less problematic in an environment where structural reforms result in a more efficient resource allocation and increase factor productivity. In Uganda, current account deterioration reflected a surge in investment and higher public expenditures on education, health, and public infrastructure rather than a decrease in savings to finance higher consumption.

A common feature of fiscal reforms in PRGF programs is the replacement of sales taxes with the value-added tax (VAT). A number of recent case studies (see Coady, 2006, for a review) have found that replacing sales taxes with a comprehensive VAT typically makes indirect taxes less progressive, so that lower-income households are likely to be net losers from revenue-neutral reforms. This reflects the fact that although a VAT is typically progressive, it has been found to be less progressive than the sales taxes it replaces. Studies also show, however, that the progressiveness of the VAT can be improved by zero rating certain categories, such as basic foods.



Case studies have also investigated the distributional effects of recent increases in the world price of petroleum products. A commonly expressed concern of governments is the likely adverse effect of higher fuel prices on poor households. Coady and others (2006) have estimated the likely magnitude and distribution of the real income burden of eliminating subsidies in six developing countries and found, not surprisingly, that most of the subsidy implicit in low domestic fuel prices accrues to higher-income groups. Although the elimination of subsidies can still lead to a sizable adverse impact on poor households, better-targeted direct transfers provide a more cost-effective approach to social protection and budgetary savings can be used to finance higher-priority poverty-reducing public expenditures.

Finally, case studies are also addressing the challenges arising from proposals to massively scale up aid to meet the Millennium Development Goals (MDGs). For instance, Mattina (2006) describes an MDG scenario for Ethiopia that addresses both microeconomic and macroeconomic constraints and argues that a carefully sequenced MDG strategy is essential so that the scaled-up aid and public spending will remain in line with Ethiopia's absorptive capacity.

Although the research already discussed in this article has provided important insights into the relationship between policies commonly promoted by PRGF programs and poverty reduction, much remains (continued on page 10)

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*Country Study*
# Spain

Mario Catalán

*Spain's economic performance since the 1990s has been remarkable: growth has consistently outpaced that of the euro area; employment creation has been brisk; fiscal consolidation has reduced public indebtedness; and EMU participation has brought a number of benefits, anchoring expectations and deepening financial intermediation. Economic imbalances, however, have accumulated. Short- and medium-term challenges include a persistent inflation differential with the euro area, a wide current account deficit, low productivity growth, and loss of competitiveness. Also, aging-related costs pose long-term risks to fiscal sustainability. How to address these challenges has been the major focus of recent IMF research. Staff papers have studied the causes of poor productivity performance, the competitive challenges associated with European Union (EU) enlargement, Spain's fiscal framework and the effects of fiscal policy on the external balance, the effects of pension reforms, and the costs of internal regulations and trade barriers. Also, recent Financial Sector Assessment Program (FSAP) papers have investigated financial sector issues, including the nonfinancial equity investments of credit institutions, the governance and oversight of savings banks, and the housing and credit booms.*

Escolano (2006) accounts for the sources of income growth and shows the increasing role that labor utilization has played over the last decade in Spain's per capita income convergence to the EU-25 average. It also uncovers, in a cross-country context, a pronounced productivity slowdown beginning in the 1990s that reflects exceptionally low growth in total factor productivity rather than a paucity of capital.

From the demand side, growth has become unbalanced in recent years, with domestic demand outstripping output and net exports exerting a drag on growth. Domestic demand has been supported by the lower interest rates and financial deepening brought about by Spain's entry into the European Economic and Monetary Union (EMU), which enhanced households' access to credit and attracted capital inflows. This process, coupled with domestic market rigidities, has, however, also brought about persistent inflation differentials with the euro area—real exchange rate appreciation—and current account deficits.

Spain's poor productivity performance, persistent cost differentials with trade partners, widening current account deficits, and other indicators point to losses of competitiveness. Allard and others (2005) shows evidence that not only cyclical but also structural factors account for the worsening of the external accounts in recent years.

To improve competitiveness, the Spanish government has launched broad productivity-enhancing reforms. These are, however, likely to take time to bear fruit; and Catalán and Lama (2006) thus asks whether fiscal policies could help to contain domestic demand and price pressures in the short run, as structural reforms take hold. Using econometrics, it finds that reductions in government spending are effective in containing demand, moderating cost differentials, and improving the current account balance. Tax changes, however, appear less effective in their impact on activity, the real exchange rate, and the external balance owing to offsetting spending moves, which, over the sample period, have tended to follow tax changes. A related study, Céspedes and Hoffmaister (2003), assesses empirically whether and to what extent fiscal stabilizers actually stabilize aggregate demand. It shows that allowing full play of the automatic stabilizers on the revenue side (without offsetting spending moves) provides an appreciable stabilizing effect.

The evolution of prices and the inflation differential have also been studied by IMF staff members. Hoffmaister (2006) observes that regional price indices do not share a common trend and finds evidence that regional trade barriers increase prices and hinder convergence. Izquierdo, Ley, and Ruiz-Castillo (2003) evaluates how price behavior hurts rich or poor households using the plutocratic gap—the difference between the consumer price index (CPI) inflation measure and inflation measured by an index in which all households are weighted equally. It finds that the gap's behavior was rather unstable—characterized by recurrent periods of anti-poor and pro-poor bias.

Competitive challenges have become more pressing for Spain since EU enlargement in 2004. Hoffmaister (2004) and Dabán, García-Escribano, and Hoffmaister (2004) use a gravity framework to examine Spain's opportunities and challenges in the new EU. They identify substantial opportunities for increased trade with the 10 new member states but also find that enlargement will likely change the composition of Spain's exports. Distances to main markets, however, will favor new members. Overall, potential benefits will likely outweigh losses, but Spain's economy will need to be sufficiently flexible to adapt to the new circumstances.

Along with monetary stability, fiscal discipline has been a keystone of Spain's success over the last decade. Sustained consolidation efforts turned a budget deficit of 5 percent of



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GDP in 1996 into a surplus of more than 1 percent of GDP in 2005, while public indebtedness declined from 67 percent to 43 percent of GDP. Maintaining fiscal discipline in Spain's highly decentralized fiscal system poses particular challenges. Spilimbergo (2005) examines this topic and argues that subnational fiscal discipline could be strengthened through various means: enhancing subnational fiscal transparency, containing subnational borrowing, extending expenditure limits to the subnational level, promoting greater reliance on local taxes to finance discretionary expenditure, and providing incentives to reward regions that save during good times.

Long-term sustainability of a sound public finance position will require addressing the fiscal implications of population aging. Catalán, Guajardo, and Hoffmaister (2005) uses an overlapping-generations model to quantify the macroeconomic effects of the demographic shock and of pension reforms, as well as their interactions with fiscal policies. Although prefunding the demographic shock by running down debt helps, it does not obviate the need for pension reform. The paper argues for incentives to prolong effective working life and an extension of the base period to compute pensions. These reforms can improve efficiency by reducing labor market distortions, and can deliver significant macroeconomic and welfare gains.

Over the last three decades, the Spanish financial system has gone through significant transformations, in tandem with the international convergence and increased openness of the economy. Catalán and Moretti (2006) examines the success of savings banks (*cajas*) since the deregulation of the 1970s. *Cajas* consistently gained market shares in lending and deposit-taking markets—their shares are now close to or above those of banks—while suffering no systemic crises and building a strong capital base. Looking forward, their paper argues that the governance of *cajas* and market-based discipline can be strengthened by promoting the issuance of *cuotas participativas* (marketable capital participations without voting rights) to the market, by allowing *cajas* to merge freely within and across Autonomous Communities, and by reducing the public representation ceiling in their governing bodies. These actions seek to preserve the peculiar legal and institutional nature of *cajas*—credit institutions with foundational origins and social objectives.

Spanish credit institutions are significant shareholders of firms operating in the main sectors of the economy. Cayazzo and Avesani (2006) assesses the risk of nonfinancial shareholdings through a value-at-risk approach and estimates the capital absorption that these investments require. It argues that although a severe adverse shock to the current portfolio of nonfinancial equity may not have systemically important consequences, the impact on economic capital and profitability of individual institutions could be quite significant. García Pascual (2006) examines the determinants of rapid growth in housing markets and mortgage debt and presents market-based indicators of mortgage debt quality. It finds that Spanish credit institutions appear resilient to a downturn in the housing market owing to prudent loan-to-value ratios, good capitalization, very high provisioning, a moderate debt-to-income ratio for the average household, and a low proportion of households with debt-to-income ratios exceeding 50 percent.

## References


Allard, Céline, Mario Catalán, Luc Everaert, and Silvia Sgherri, 2005, "France, Germany, Italy, and Spain: Explaining Differences in External Sector Performance Among Large Euro Area Countries," in *Spain: Selected Issues*, IMF Country Report No. 05/401.

Catalán, Mario, Jaime Guajardo, and Alexander Hoffmaister, 2005, "Pension Reform in Spain: Macroeconomic Impact," in *Spain: Selected Issues*, IMF Country Report No. 05/57, pp. 27–75.

Catalán, Mario, and Ruy Lama, 2006, "Fiscal Policy and the External Balance in Spain," in *Spain: Selected Issues*, IMF Country Report No. 06/213.

Catalán, Mario, and Marina Moretti, 2006, "Regulation, Supervision, and Governance of the Spanish *Cajas*," in *Spain: FSAP Technical Note*, IMF Country Report No. 06/215.

Cayazzo, Jorge, and Renzo Avesani, 2006, "Nonfinancial Equity Investments of Spanish Credit Institutions," in *Spain: FSAP Technical Note*, IMF Country Report No. 06/214.

Céspedes, Luis, and Alexander Hoffmaister, 2003, "Fiscal Policy and Macroeconomic Volatility in Spain: An Empirical Assessment," in *Spain: Selected Issues*, IMF Country Report No. 03/41.

Dabán, Teresa, Mercedes García-Escribano, and Alexander Hoffmaister, 2004, "EU Enlargement and Spain: More Opportunities Than Challenges," in *Spain: Selected Issues*, IMF Country Report No. 04/90.

Escolano, Julio, 2006, "Spain's Productivity: A Cross-Country Perspective," in *Spain: Selected Issues*, IMF Country Report No. 06/213.

García Pascual, Antonio, 2006, "Housing Prices, Household Debt, and Financial Stability," in *Spain: FSAP Technical Note*, IMF Country Report No. 06/210.

Hoffmaister, Alexander, 2004, "How Will Spain Fare in a European Union of 25 Member States?" *IMF Survey*, Vol. 33 (July 12), pp. 206–207.

———, 2006, "Prices and Barriers to Retail Competition: Evidence from Spain," forthcoming as an IMF Working Paper.

Izquierdo, Mario, Eduardo Ley, and Javier Ruiz-Castillo, 2003, "The Plutocratic Gap in the CPI: Evidence from Spain," *Staff Papers*, International Monetary Fund, Vol. 50, No. 1, pp. 136–55.

Spilimbergo, Antonio, 2005, "Fiscal Discipline at Lower Levels of Government: The Case of Spain," in *Spain: Selected Issues*, IMF Country Report No. 05/57.




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## *IMF Staff Papers*

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**"Outcomes-Based Conditionality: Its Role and Optimal Design"**
Anna Ivanova

**"Political Constraints and Public Support for Market Reform"**
Raj M. Desai and Anders Olofsgård

*Other Articles*

**"Remoteness and Real Exchange Rate Volatility"**
Claudio Bravo-Ortega and Julian di Giovanni

**"Local Currency Bond Markets"**
John D. Burger and Francis E. Warnock

**"Asymmetric Effects of Government Spending: Does the Level of Real Interest Rates Matter?"**
Woon Gyu Choi and Michael B. Devereux

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*Book Summary*

# IMF-Supported Programs: Recent Staff Research

### Edited by Ashoka Mody and Alessandro Rebucci

International Monetary Fund, April 2006, 292 pp., $37.50 (paperbound)

What are the effects of IMF-supported programs? This volume includes recent IMF staff research that moves beyond the characterization of programs as one-zero events to ask new, more nuanced questions. In particular, the circumstances under which the program is designed, the limitations on program implementation, and the specific national and international economic conditions when the program is in effect all influence its ultimate outcome. Thus, the book seeks to answer the following questions:

- How—and how much—does success depend upon the design of the program?
- Why does the quality of implementation vary, and how is it related, in particular, to program "ownership"?
- Do differing economic conditions influence the willingness and ability of countries, private markets, and the IMF to coordinate to achieve success?

The key achievement of the research reported here is to deal with this complexity while also providing practical insights. *On program design,* the value of fiscal adjustment is underscored, as is the effort to increase the accuracy of program projections. In turn, the quality of program projection is identified with more accurate and comprehensive information, especially on initial conditions. Authors call for more refined theoretical analytical frameworks to deal, for example, with capital account crises and the determinants of long-term growth.

Variations in program-implementation experiences are found to reflect differences in domestic institutions and political constraints. These results are consistent with calls for greater country ownership of IMF-supported programs. The IMF's governance structure may also be an important influence on program design and implementation.

Recent research on program effectiveness has focused on the IMF's role in the context of capital account crises and in catalyzing capital flows, distinguishing among different country economic conditions in evaluating success. Regarding the resolution of capital account crises, it finds that private creditors and the IMF were largely repaid; hence, to protect domestic taxpayers, who bore much of the costs of the crises, it is suggested that IMF lending be conditioned on the quality of pre-crisis policies and institutions. In helping member countries maintain medium-term access to international capital markets, the IMF may be most effective when they are vulnerable to, but not yet in, a crisis.

Much remains to be done, however. Above all, the challenge is to further characterize the relevant quantifiers of design, implementation, and country conditions in the context of different types of programs and countries.

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# External Publications by IMF Staff

## Journal Articles

### 2006

**Adedeji, Olumuyiwa S.; Handa, Jagdish**
"The Size and Sustainability of the Nigerian Current Account Deficits"
*Journal of Developing Areas*

**Aidt, T.S.; Dutta, J.; Loukoianova, E.**
"Democracy Comes to Europe: Franchise Extension and Fiscal Outcomes 1830–1938"
*European Economic Review*

**Cashin, Paul; Edison, Hali; Liang, Hong**
"Foreign Exchange Intervention and the Australian Dollar: Has It Mattered?"
*International Journal of Money and Finance*

**Cashin, Paul; Pattillo, Catherine**
"African Terms of Trade and the Commodity Terms of Trade: Close Cousins or Distant Relatives?"
*Applied Economics*

**Dabla-Norris, Era**
"Challenges of Fiscal Decentralization in Transition Countries"
*Comparative Economic Studies*

**Dell'Ariccia, Giovanni; Marquez, Robert**
"Competition Among Regulators and Credit Market Integration"
*Journal of Financial Economics*

**González-Hermosillo, Brenda; Dungey, M.; Fry, R.; Martin, V.**
"Contagion in International Bond Markets during the Russian and LTCM Crises"
*Journal of Financial Stability*

**Kandil, Magda**
"On the Transmission of Exchange Rate Fluctuations to the Macroeconomy: Contrasting Evidence for Developing and Developed Countries"
*Journal of International Trade and Economic Development*

**Kandil, Magda**
"Wage Flexibility and Economic Performance: Evidence and Implications Across Industrial Countries"
*Bulletin of Economic Research*

**Keen, Michael; Ligthart, Jenny**
"Incentives and Information Exchange in International Taxation"
*International Tax and Public Finance*

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"Statistical Inference as a Bargaining Game"
*Economic Letters*

**Podpiera, Richard; Čihák, Martin**
"Is One Watchdog Better Than Three? International Experience with Integrated Financial Sector Supervision"
*Czech Journal of Economics and Finance*

**Podpiera, Richard; Dvorak, Tomás**
"European Union Enlargement and Equity Markets in Accession Countries"
*Emerging Markets Review*

**Prati, Alessandro; Bartolini, Leonardo**
"Cross-Country Differences in Monetary Policy Execution and Money Market Rates' Volatility"
*European Economic Review*

**Rebucci, Alessandro; Ciccarelli, M.**
"Has the Transmission Mechanism of European Monetary Policy Changed in the Run-Up to EMU?"
*European Economic Review*

**Williams, Oral; Adedeji, Olumuyiwa S.**
"Inflation Dynamics in a Small Emerging Market"
*Journal of Applied Economics*

## Other External Publications (Books, Conference Volumes)

### 2006

**Cashin, Paul; McDermott, C. John**
"Properties of International Commodity Prices: Identifying Permanent Versus Temporary Commodity Price Shocks" in *Symposium on the State of Agricultural Commodity Market Research* (Rome: Food and Agriculture Organization of the United Nations)

**Sahay, Ratna; Cashin, Paul; Mauro, Paolo; Pattillo, Catherine**
"Macroeconomic Policies and Poverty Reduction: Stylized Facts and an Overview of Research" in *Macroeconomic Policies and Poverty Reduction*

**Silver, Mick; Heravi, S.**
"Hedonic Indexes: A Study of Alternative Methods" in *Hard-to-Measure Goods and Services: Essays in Honor of Zvi Griliches*, ed. by E. R. Berndt and C. Hulten (National Bureau of Economic Research/Center for Research in Income and Wealth: University of Chicago Press)

**Vamvakidis, Athanasios**
"The Convergence Experience of the Greek Economy in the EU: Lessons for EU Accession Countries" in *Successes and Failures in Real Convergence*

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## PRGF Programs

*(continued from page 5)*

to be done. It has become clear that the poverty impacts of the broader policy measures are sensitive to the detailed reforms that are adopted. A better understanding of the relationship among these more detailed reforms and poverty is thus crucial to help design programs that are more pro-poor. Country case studies and greater use of micro-level data are very helpful in this regard. Cross-country analysis can also play an important role in providing a broader context for policy analysis, identifying key issues that need to be resolved, and helping to design a more comprehensive and rigorous case-study approach.

## References

Coady, David, 2006, "Indirect Tax and Public Pricing Reforms," in *Analyzing the Distributional Impacts of Reform*, ed. by Aline Coudouel and Stefano Paternostro (Washington: World Bank).

———, Moataz El Said, Robert Gillingham, Kangni Kpodar, Paulo Medas, and David Newhouse, 2006, "The Magnitude and Distribution of Fuel Subsidies: Evidence from Bolivia, Ghana, Jordan, Mali, and Sri Lanka," forthcoming as an IMF Working Paper.

Epaulard, Anne, 2003, "Macroeconomic Performance and Poverty Reduction," IMF Working Paper 03/72.

Ghura, Dhaneshwar, Carlos Leite, and Charalambos Tsangarides, 2002, "Is Growth Enough? Macroeconomic Policy and Poverty Reduction," IMF Working Paper 02/118.

Gupta, Sanjeev, Marijn Verhoeven, and Erwin Tiongson, 2004, "Public Spending on Health Care and the Poor," in *Helping Countries Develop: The Role of Fiscal Policy*, ed. by Sanjeev Gupta, Benedict Clements, and Gabriela Inchauste (Washington: International Monetary Fund).

Iradian, Garbis, 2005, "Inequality, Poverty and Growth: Cross-Country Evidence," IMF Working Paper 05/28.

Kraay, Aart, 2004, "When Is Growth Pro-Poor? Cross-Country Evidence," IMF Working Paper 04/47.

Loco, Boileau, Montfort Mlachila, Raj Nallari, and Kadima Kalonji, 2003, "The Impact of External Indebtedness on Poverty in Low-Income Countries," IMF Working Paper 03/61.

Masud, Nadia, and Boriana Yontcheva, 2005, "Does Foreign Aid Reduce Poverty? Empirical Evidence from Nongovernmental and Bilateral Aid," IMF Working Paper 05/100.

Mattina, Todd, 2006, "Money Isn't Everything: The Challenge of Scaling Up Aid to Achieve the Millennium Development Goals in Ethiopia," forthcoming as an IMF Working Paper.

Moser, Gary, and Toshihiro Ichida, 2001, "Economic Growth and Poverty Reduction in Sub-Saharan Africa," IMF Working Paper 01/112.

Nkusu, Mwanza, 2004, "Financing Uganda's PRS: Is Aid Causing More Pain Than Gain?" IMF Working Paper 04/170.

Pattillo, Catherine, Sanjeev Gupta, and Kevin Carey, 2005, "Sustaining Growth Accelerations and Pro-Poor Growth in Africa," IMF Working Paper 05/195.

Thomas, Saji, and Sudharshan Canagarajah, 2002, "Poverty in a Wealthy Economy: The Case of Nigeria," IMF Working Paper 02/114.

Treichel, Volker, 2005, "Tanzania's Growth Process and Success in Inducing Poverty," IMF Working Paper 05/35.



# IMF Working Papers

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**Philippe Bacchetta;** Study Center Gerzensee, Switzerland; 7/3/06–7/7/06
**William Brafu-Insaidoo;** University of Cape Coast, Ghana; 5/1/06–5/5/06
**Menzie Chinn;** University of California; 8/7/06–8/11/06
**Matteo Ciccarelli;** European Central Bank; 7/17/06–7/28/06
**Pietro Garibaldi;** Universita Commerciale Luigi Bocconi, Italy; 7/24/06–8/4/06
**Christopher Gilbert;** Universita degli Studi di Trento, Italy; 6/19/06–7/31/06
**Giorgio Gobbi;** Bank of Italy; 6/26/06–7/21/06
**Romain Houssa;** Catholic University of Leuven, Belgium; 7/17/06–8/25/06
**Jean Imbs;** University of Lausanne, Switzerland; 5/1/06–5/12/06
**Simon Johnson;** Massachusetts Institute of Technology; 1/30/06–8/31/06
**Ethan Kaplan;** Institute for International Economic Studies, Stockholm University, Sweden; 7/24/06–7/28/06
**Soyoung Kim;** Korea University; 8/7/06–8/25/06
**Ross Levine;** Carlston School of Management, University of Minnesota; 5/30/06–6/9/06
**Xuepeng Liu;** Syracuse University; 5/1/06–6/9/06
**Paolo Manasse;** University of Bologna, Italy; 8/7/06–8/18/06
**Nancy Marion;** Dartmouth College; 5/8/06–5/11/06
**Matthew Ocran;** University of Stellenbosch, South Africa; 5/1/06–5/3/06
**Christopher Otrok;** University of Virginia; 6/12/06–6/14/06
**David Parsley;** Owen Graduate School, Vanderbilt University; 6/5/06–6/9/06
**Mathias Thoenig;** University of Geneva; 7/10/06–7/14/06
**Thierry Verdier;** Delta-Ecole Normale Superieure, France; 7/31/06–8/4/06
**Khuong Vu;** Harvard University; 6/19/06–6/21/06
**Danyang Xie;** University of Science and Technology, Hong Kong SAR; 7/17/06–7/28/06

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