José Manuel González-Páramo: National Accounts for monetary policy making – reflections on the use of the Euro Area Accounts in the light of the financial crisis

Contribution by Mr José Manuel González-Páramo, Member of the Executive Board of the European Central Bank, to the Eurostat conference national account 2009 "Reading the present to prepare the future", Session 2: Awakening from the financial and economic crisis Brussels, 16 September 2009.

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Ladies and Gentlemen,[1]

It is just over two years ago that Commissioner Almunia and I spoke at the launch of the joint compilation of the integrated euro area accounts by Eurostat and the ECB. Only a couple of months later financial turmoil broke and turned into arguably the biggest financial and economic crisis since the Great Depression.

In my remarks, let me first share a few thoughts on why I believe the Euro Area Accounts are planted on particularly fertile grounds in the aftermath of the crisis. In my view, this has to do with new challenges arising after the crisis, as well as a noticeable shift in the intellectual climate. Indeed, the Euro Area Accounts underwent a baptism of fire, but they are now growing up at a time, when fewer and fewer people need convincing that they provide critical information and a useful framework to underpin policy-making.

Second, I will briefly provide some examples where the accounts have already played a useful role in our policy making during the financial crisis. Perhaps unsurprisingly, I will mainly focus on the financial side of the accounts.

Third, I will argue how an expanded use of the accounts over time fits in well within the ECB's broad-based approach to monetary policy, in the context of enhancing our monetary analysis and enriching our economic analysis. No doubt, in the future we shall also explore the role that a flow-of-funds approach and the interaction of sectoral balance sheets can play in helping us think about systemic risk and macro-prudential issues as the ECB assumes responsibility in these fields.

Finally, I will close with a few remarks on statistical challenges ahead for further improvement of the accounts.

The EAA and the crisis fallout

The last two years have been a gruelling time for policy-makers. They have also been a humbling experience for the economics profession as a whole, and, no doubt, also a challenge for statisticians and national accountants.

Why has no-one seen this coming? This is a pertinent question.

It needs to be recalled that central bankers have time and again raised their voices to warn on fragilities and underpricing of risks, but they could not turn a tide of opinion. And some of us have pointed to excessive growth in money and credit, which others considered quite out of step with the tune of the time.

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[1] I am very grateful to Bernhard Winkler and Andreas Hertkorn for their valuable contributions.

In addition, there have been a few economists, who spent their time looking deeply into the intricacies of the national accounts, before pronouncing themselves on the future course of events. Their simple message was: what cannot go on forever has to reverse.

How is it that these economists-accountants appear to have managed to read the writing on the wall? It has been recently argued that they got there by looking at the flow-of-funds and balance sheets.[2] Accounting identities are very useful reminders that things have to add up. Assets have to be matched by liabilities, expanding debt on balance sheets leads to rising payment flows, in a closed system any one sector will only make outsized profits at the expense of other sectors, the relationship between finance and the real economy cannot remain out of kilter for long … and so on and so forth.

I don't think the accounts by themselves give us a superior crystal ball to gauge the future. However, I do believe that the accounts – even if they cannot give all the answers – will be increasingly useful in helping economists to address the right questions, which will be no mean achievement.

Some economists, like Paul Krugman and Barry Eichengreen, have argued that the crisis has shown that the last 30 years of macroeconomics have, at best, been useless and, at worst, harmful. I don't quite agree with such a harsh verdict. It is certainly the case, though, that key elements for understanding the financial crisis, such as the role of financial intermediaries, the impact of balance sheets and leverage, the possibility of default and the disruption of markets, have hardly been on the map in the prevailing class of mainstream models. Against this background the euro area accounts can be useful as a comprehensive data source and by shaping "systemic" thinking in three dimensions:

First, the accounts provide a detailed articulation of the economy in terms of institutional sectors and, importantly, the interaction across sectors. Over the last 30 years the prevailing macroeconomic paradigm has conceived of macroeconomics as tracing out the implications of the optimizing intertemporal behaviour of a rational representative agent. Much like in the 1930s, the crisis has powerfully driven home the point that macroeconomic outcomes are the result of the behaviour and interaction of heterogeneous agents in the economy, with scope for co-ordination failure, multiple equilibria or – disequilibria.

Second, the integrated sector accounts bring together data on the financial and non-financial side within a unified framework, which provides an enhanced basis for the analysis of interaction between financial and real variables as well as interrelations across institutional sectors. Looking at the flow-of-funds and the evolution of financial balance sheets in conjunction with savings, investment and consumption decisions more closely can help to better understand feedback loops between financial quantities and the real economy.

Third, the accounts are already immensely valuable as an organizing device and consistent framework which co-determines what we see and shapes how we see things.

At a deep level one can invoke Heisenberg's uncertainty principle (Unschärfe-Relation") of particle physics, which establishes that there is no reality independent of measurement. This underscores the responsibility of the integrity and independence of statisticians and national accountants – although they will never be independent of prior theory – in furnishing the lens through which reality is perceived. Indeed, we know from history that the development of national accounts is inextricably linked to advances in economic and monetary theory. This applies to the compilation of National Income and Production Accounts in the US to give expression to the new-born discipline of macroeconomics after the Keynesian revolution. This also applies to the first flow-of-funds tables, initially referred to as "money flows", compiled by Copeland at the Federal Reserve in the immediate post-war period. It is also no

[2] See the recent survey by Bezemer (2009).

co-incidence that Irving Fisher, the father of the debt deflation hypothesis, was both an eminent economist and a first-rate statistician.

More prosaically, the accounts provide a comprehensive map of what we know, and – even more importantly – what we don't know. To give one example, as the financial crisis broke, the ECB was in the very fortunate position to have excellent and timely data on bank balance sheets at its disposal, regularly analysed as part of the ECB's ongoing monetary analysis. Much less was known about other financial intermediaries (OFI), which have remained at a smaller scale in the European context, and insurance corporations and pension funds (ICPF). However, within the financial accounts both the OFI and ICPF subsectors were firmly part of the picture in the context of our monetary analysis even in the absence of more detailed primary sources.[3]

Following the identification of important gaps, improved primary statistics will indeed soon be coming on stream in the context of ECB regulations on financial vehicle corporations, investment funds and enhanced information on securitisation activities by banks. I should stress that these gaps were identified as important priorities well before the outbreak of the financial crisis.

Some of the most insightful work on the origins and evolution of the financial crisis has been based on flow-of-funds data. For example, back in November 2006 at the ECB's Central Banking Conference on the role of money, H.S. Shin pointed to the leverage targeting behaviour by U.S. broker dealers (investment banks) as a crucial pro-cyclical element in the credit and asset boom at the time. Subsequently, in a string of papers he has highlighted the interaction of sectoral flows and balance sheets, as available from the flow-of-funds, in the propagation of the subprime crisis through financial intermediaries and feedback loops to the wider economy (see Adrian and Shin, 2008a, 2008b, and Shin, 2009), with important implications also for the design of financial regulation as suggested in this year's Geneva report (Brunnermeier et al., 2009).

It is now widely argued that the Japanese experience of deflation during the 1990s, was driven by protracted balance sheet adjustment by firms and the financial sector in the wake of the prior bubble in asset markets (Koo, 2008, Hattori et al., 2009), much reminding us of Irving Fisher's debt deflation analysis of the Great Depression. In today's situation again, the health of non-financial and financial sector balance sheets is at the centre of attention as a possible constraint on borrowing and lending as well as agents' capacity to spend.

Looking at the flow-of-funds in conjunction with the international investment positions light can also be shed on the international dimension of the crisis. Brender and Pisani (2009) have argued that the appetite for borrowing by U.S. households had its counterpart in excess savings elsewhere, which resulted in a concomitant rise in the supply of and demand for securitised products globally. In the case of Asia excess savings was mainly channelled into US government bonds and agency debt as a result of exchange rate interventions with the public sector acting as intermediary in the presence of less developed and less open domestic financial markets. Securitised products were quite eagerly snapped up elsewhere, as we know, mainly remaining on the balance sheets of financial intermediaries, at least until the public sector had to step in as this episode of international risk sharing – or rather risk concentration – ended in tears.

[3] See e.g. Moutot et al. (2007).

The use of EAA during the financial crisis

As I have argued at the beginning of my talk, the euro area accounts may have seen the light of day at the best possible moment, as the financial crisis broke, which boosted the demand for this kind of data.

At the same time, in other respects it might have been the worst possible moment. In a crisis, attention is naturally focused on the latest data. By the time the EAA arrive, with a lag currently of around four months, the situation may have already changed dramatically. Thus the headline "news" content is limited in relation to complementing the monetary data, which comes out within a month, and with respect to euro area GDP and national account data available at national level.

Moreover, as a relatively new dataset, it is not "tried and tested" and, for now, the comparability with other data remains limited in some dimensions. The accounts are presented in nominal terms and as four-quarter-sums, in the absence of a split into prices and volumes and lacking seasonal adjustment for the time being. Other issues relate to the degree to which the principle of market valuation (rather than book values) can be applied across the accounts and the degree to which sectoral information consolidates intra-sectoral flows and balance sheets in practice.

Finally, the balancing of the accounts between the financial side and the non-financial side under the joint responsibility of Eurostat and the ECB truly represents a challenge of historic dimension. The remaining discrepancies for the household and non-financial corporations sectors provide a measure of additional efforts needed in reconciling the accounts. As I have stressed before, the national accounts are useful not only as a framework for putting together what we know, but also for identifying what we do not yet know and for pointing to gaps and inconsistencies in the primary data. Much of this is work in progress.

With these caveats in mind let me nevertheless give you just a few examples where the Euro Area Accounts have already come into play at the ECB during the crisis complementing and enriching our monetary and economic analysis.[4]

First and foremost, the euro area's financial structure was a key element in shaping the ECB's choice of non-standard measures. Our pre-dominantly bank-based system of financial intermediation in the euro area made it natural to concentrate efforts on easing the strains in the banking sector via the provision of liquidity and adapting our collateral requirements in our refinancing operations and to target an instrument, as is the case for covered bonds, that plays a significant role in securing longer-term funding for the banking sector. Information on financial structure was based, inter alia, on the Euro Area Accounts, such as the observation that banks accounted for around 70% of financing provided to non-financial corporations in the euro area over the period 2004-2008, while the figure was only around 20% in the case of the United States (see ECB Monthly Bulletin, April 2009).

Second, information on financial investment of the money holding sectors complements the analysis of portfolio behaviour in the context of our monetary analysis. Of particular interest has been to look into possible portfolio shifts from risky assets into money holdings by households, as had been the case in the wake of the bursting of the equity bubble and period of heightened uncertainty after 9/11.

Third, on the part of non-financial corporations the monetary data showed a decline in deposits, as companies drew down their liquidity buffers initially in the wake of the collapse of Lehman, while more recently deposit growth has picked up again. On the basis of the data

[4] For an overview of flow-of-funds analysis at the ECB prior to the introduction of the integrated accounts and prior to the financial crisis see Be Duc and Le Breton, 2009; for an introduction to the EAA see ECB Monthly Bulletin, 2007, and since May 2009 a regular Box on EAA releases at quarterly frequency in the ECB Monthly Bulletin.

available from the EAA until Q1 2009 the broad picture of a drawing down of liquid assets can be confirmed, when including debt securities and mutual fund shares in the picture. At the same time on the financing side, the broader perspective of the EAA suggests that corporations may have been partly able to buffer the impact of the financial crisis in the form of reduced cash flow (and thus less internal financing) and more difficult access to bank lending by greater recourse to market based funding, as corporate bond issuance picked up markedly, as well as recourse to inter-company loans (estimated on the basis of the EAA). In addition, trade credit extended between non-financial corporations suffered but still appeared to decline less than GDP.

Fourth, the regular macro-economic projection exercises include financial projections, which trace out the evolution of transactions and sectoral balance sheets consistent with the assumptions and growth and inflation profile provided by the real projections. Typically most attention is focused on the household and non-financial corporations sectors and the outlook for loan developments, indebtedness and debt service burden. Financial asset flows are also included (making use of accounting identities to enforce consistency within the system) and, in particular, developments in household net worth can have a bearing on macroeconomic developments via wealth effects on consumption. While derived to be consistent with the baseline, the financial projections can be used to assess potential risks to the projection of real variables stemming from financial developments.

Fifth, various balance sheet indicators / leverage ratios and estimates of debt service burden based on the EAA are also regularly analysed in the ECB's Financial Stability Reviews and more recently a risk-adjusted flow-of-funds model has been introduced as a tool to assess interlinkages between sectoral balance sheets and default risks (see Financial Stability Review, June 2009).

The potential use of EAA for cross-checking

Much of what I have said, including the examples on the emerging use of the accounts at the ECB, point to the accounts as a suitable platform to link – some may say: bridge – analysis conducted under the two pillars of the ECB's approach. Indeed developing tools for cross-checking on the basis of the flow-of-funds and the encompassing and comprehensive framework of the EAA has been included as a means of enhancing monetary analysis, alongside cross-checking based on dynamic structural general equilibrium models that include financial frictions for scenario analysis.[5]

Analysis based on the financial accounts can, on the one hand, complement and enrich monetary analysis based on MFI balance sheets in the context of considering portfolio behaviour and financing decisions across a broader set of financial instruments and across a wider spectrum of financial intermediation channels. On the other hand, analysing the interaction of financial transactions and balance sheets with the behaviour of real variables and asset prices can contribute to economic analysis, drawing on the consistent sectoral framework of the integrated Euro Area Accounts.

The challenge remains to underpin and exploit the richness of the accounts by corresponding efforts in terms of modelling. There have been previous attempts at modelling the flow-of-funds. On the theoretical side, the sectoral balance sheet approach by Tobin (1969), Brainard and Tobin (1968) and others in the late 1960s remains the natural conceptual framework for examining portfolio choice and the interaction with savings behaviour and the real economy. However, attempts to incorporate asset demands and balance sheets into fully-fledged large scale econometric models have faced recurrent set-backs over recent

[5] See J. Stark "Enhancing the monetary analysis", speech at the conference "The ECB and its watchers IX", Frankfurt 7 September 2007 (http://www.ecb.europa.eu/press/key/date/2007/html/sp070907_1.en.html).

decades. At the same time, a new generation of DSGE models could, in principle, also be extended to incorporate the interaction of multiple sectors and portfolio behaviour.

On the empirical side, VAR approaches can be a suitable way to establish stylized facts on how flow-of-funds variables interact with macroeconomic variables in the monetary policy transmission. Obviously, diverse financial structures and the impact of financial innovation are likely to affect relationships over time.

In terms of the practical use of the accounts, I do see a promising future ahead after the tsunami of the financial crisis. Among the broader lesson that we have learned: Two pillars are better than one pillar in underpinning a broad-based approach to monetary policy-making. This leaves ample scope for looking at facts and figures, digging deeper into the data jungle. National accounts remind us that a map is needed to put all the data together.

Further enhancements to the Euro Area Accounts

These insights show the wisdom of past efforts to build up Monetary Union Financial Accounts (MUFA) for the euro area and to pursue, jointly with Eurostat, the goal of fully fledged integrated Euro Area Accounts. I may also add that this major progress facilitated the comparison of financial and economic developments between the euro area and other economic areas. In particular comparisons with the US and UK, where companies and households have relied more on financing from outside the banking sector, benefited from the availability of complete financial accounts encompassing all financial instruments and institutional sectors. The joint work of Eurostat and the ECB on the integration of financial and non-financial accounts by institutional sector has become an important benchmark in the global statistical community.

At the same time, the current financial crisis and economic recession has made some shortcomings in the availability of euro area macro data for monetary and economic analysis even more evident. In order to better monitor the transfer of risks, the Eurosystem is already compiling a complete counterpart sector breakdown for deposits and loans within the EAA and this will be enhanced in the future by counterpart sector information for security holdings.

It is essential that the accounts become available with a time lag of 90 days and that they can be linked to the main macro aggregates in a consistent and transparent manner. This would allow a more detailed economic analysis as well as a more thorough cross-checking with the financial transactions and balance sheets. To this aim, by mid 2010 the central banks of the Eurosystem will start reducing the transmission time lag of their input for financial accounts by one month, from 110 days to 80 days. Moreover, the transmission of the national non-financial sector accounts to Eurostat, which has currently a time lag of 90 days, needs to be further reduced by about 10 days, in order to enable the compilation of fully consistent Euro Area Accounts at t+90 days. In this context, I also look forward to the elimination of the last statistical discrepancies in these accounts, concerning the households' and non-financial corporations sector.

I would also like to outline two additional important areas for further improvements: (1) the timely availability of seasonal adjusted, price and volume change data; and (2) the integration of non-financial assets' balance sheets into the Euro Area Accounts.

In order to properly assess the latest quarterly developments the EAA need to be seasonally adjusted and price and volume data, starting with consumption and capital formation by institutional sector, needs to be made available. In addition, real income and saving estimates should be made available.

Furthermore, the links between households' wealth and consumption discussed earlier can only be properly understood if all household wealth components are covered. According to the estimates published separately by the ECB since 2006, around 2/3 of euro area households' wealth is held in housing, while net financial wealth comprises around 1/3. For that reason, I am happy to announce that the EAA will incorporate non-financial estimates from 2010 onwards. To achieve an even more complete picture, these accounts may in the future also provide information on the distribution of income and wealth items across euro area household groups based on the Eurosystem household surveys conducted, under the auspices of the ECB.

While I have focused so far on the use of Euro Area Accounts for monetary and economic analysis, they are also key to financial stability analysis, in particular when aiming to identify the risks and vulnerabilities in the various sectors of the economy and in the markets and infrastructures that link these sectors together. A new European Systemic Risk Board will be set up and will be in charge of identifying macro-prudential risks in the European Union. The euro area accounts with the improvements foreseen and extended to cover the European Union as a whole, will undoubtedly also be of great relevance to the work of the Board.

To conclude, a lot has happened in the two years ago since Commissioner Almunia and I spoke at the launch of the regular simultaneous compilation of euro area accounts by Eurostat and the ECB, which is still a unique cooperation world-wide. I would like to thank him for this invaluable support and trust that we will both witness the further elaboration and intensified usage of this crucial tool for European economic, financial and monetary policy-making.

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