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**MICRO DATA NEEDS FOR FINANCIAL STABILITY ANALYSIS  
PANEL INTERVENTION AT  
WORKSHOP ON  
THE USE OF CORPORATE BALANCE SHEET DATA**

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First of all, I would like to thank the organisers for inviting me to speak on this panel today. I was asked to say something on how we use corporate balance sheet data in financial stability analysis at the ECB. Before describing the practice, a few words on why we analyse the condition of the non-financial corporate sector from a financial stability perspective seem pertinent. Our ultimate objective in financial stability work is to assess the ability of the financial system to withstand adverse disturbances – such as the sudden unravelling of imbalances - and shocks. In this vein, a large part of our work involves attempting to detect vulnerabilities and imbalances that could underpin plausible stress-scenarios in the future.<sup>1</sup> These stress scenarios are not central expectations but they have positive probabilities attached to them. In other words, in financial stability work, we complement the more standard analysis of the central scenario with assessments of the size and shape of the tails of the frequency distribution of future outcomes, all with the objective of determining whether banks and other parts of the financial system are sufficiently prepared for bad outcomes. In a way, the framework we follow is

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<sup>1</sup> See Fell, J. and G. Schinasi (2005), “Assessing Financial Stability: Exploring the Boundaries of Analysis”, National Institute Economic Review, No. 192, April, pp. 102-117.

analogous to the principles that determine the setting of regulatory capital requirements of banks, albeit at a macro level.

Banks who grant loans to firms, corporate bond and equity investors all have exposures of various kinds to vulnerabilities in the corporate sector. The case of banks can give an idea on the kind of data needs we have in this area in, what I would call, an ideal world. A typical bank will have a loan portfolio and it may also have taken on credit risk exposures through holdings of corporate bonds and credit derivatives. These exposures will cut across different industries and often different countries as well, and each one of them will have different sensitivities to disturbances and shocks to macro variables such as interest rates, exchange rates and GDP. In managing a credit portfolio, a bank is basically interested in two things: the likelihood of default of its borrowers and the loss it would incur in the event of default. To quantify either of these figures, it needs – and usually has – high quality data to allow it to assess the creditworthiness of each of its borrowers, good enough to determine how much capital it needs to set aside to manage the risk.

In financial system stability assessment, the interest is not only in aggregating up this information to a macro level but in also examining the entire distribution in order to assess whether the financial system would be capable of absorbing losses following the crystallisation of a plausible adverse disturbance. Because banks typically do not have identical credit portfolios, adverse shocks and disturbances to any of the variables I just mentioned or to, for instance, an individual industrial sector will have different implications for different banks. In other words, typically each bank in the system will not be affected in the same way as the others and different banks will lose different amounts under different stress-scenarios. We are especially interested in pinpointing where the weak links are. For instance, there might be one or two

banks who are excessively exposed to a particular risk factor. If this risk were to materialise and the over-exposed banks were large and systemically important, then this could ultimately have adverse implications for the functioning of the entire financial system.

With those conceptual remarks out of the way, I would like to split the rest of my remarks into three broad areas. First, I will say a few words on the way in which corporate balance sheet data is used in the financial stability work of the ECB which regularly features in the Financial Stability Review we are publishing semi-annually. This leads naturally into the areas where we see limitations and where analysis is hindered because of the unavailability of data and/or because of shortcomings in the existing data. Finally, I will say something about the priority areas where we think data improvements need to be made.

Beginning with our use of corporate balance sheet data, our regular analysis is based predominantly on macro data. Now, because macro data can only tell if there are risks or vulnerabilities at a macro level - and by the way, it is hardly plausible that the entire non-financial corporate sector would default on its debt simultaneously - this is complemented with analysis of publicly available balance sheet data on large listed firms as well as market data. For instance, an important indicator here is the expected default frequency produced by Moody's KMV.

Generally speaking, any micro balance sheet data work that we have done has been based on data collected at an annual frequency which is obviously of limited use for assessing risks to financial stability in a timely fashion. We did publish a Special Feature article in the June 2005 issue of the Financial Stability Review which examined the ability of micro data collected at an annual frequency to provide timely forewarnings of impending financial

distress.<sup>2</sup> On account of the fact that the necessary data was often not comparable or even did not exist in some countries, the analysis was necessarily focused on a restricted sub-set of euro area corporate sectors, covering only French, Italian and Spanish data. Nevertheless, it did reveal some important findings. First, micro data was found to be useful for quantifying the likelihood of firms defaulting. Second, there were significant differences in the drivers of default probabilities across these three countries. Both of these findings make clear the potential for micro data to enhance our ability to design early-warning indicators of financial distress and the potential usefulness in stress-testing.

Apart from this kind of work, occasionally we are faced with a question that the macro data simply cannot answer. For instance, recently we were confronted with a question on why leverage in the euro area corporate sector had picked up dramatically in the past couple of years. By comparing the debt ratios of euro area non-financial corporations when using national/financial accounts (all firms) and an aggregate measure using micro data from Datastream covering only listed firms, it appeared that the source of the rising leverage was among unlisted firms. This was congruent with anecdotal evidence that the boom in private equity – especially in the leverage buyout segment of the market – was an important driver of rising corporate sector indebtedness. The findings of this work were published in the June 2007 issue of the FSR.<sup>3</sup> That said, this type of analysis “by inference” is not really satisfactory. It would have been better had we had the micro data for unlisted firms to corroborate our findings.

This dove-tails nicely into the second issue I want to address, namely the areas where important analysis cannot be conducted because of the unavailability of

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<sup>2</sup> See ECB (2005), *Assessing the Determinants of Financial Distress in French, Italian and Spanish firms*, Financial Stability Review, pp. 132-140, June.

data and/or because of shortcomings in the existing data. First, we do not have sufficient data to adequately account for the heterogeneity among firms in their sensitivity to different risks factors. Second, the data that we do have is often collected at too low a frequency. Third, the micro data that is available is often insufficiently timely for periodic and up-to-date vulnerability detection.

As I said, not all banks have the same credit exposures and not all industry sectors have the same credit risk profiles. For instance, shocks to euro area GDP are likely to impact very differently on the utilities, telecommunications and construction sectors. In addition, not all firms - even when they are in the same sectors - have the same risk profile and national factors still tend to play a more important role in shaping credit risk profiles than do industry factors. There are also shortcomings in the information we have on the size profiles of firms. The financial performances of large firms tend, on average, to be more correlated with the business cycle than is the case for small firms. Now, if we are concerned about the impact an adverse GDP shock might have, we can glean information from public sources on listed firms and make an assumption that data for listed firms provides a good proxy for larger firms but, again, this is analysis by inference and it is hardly robust.

Finally, I will say something on where I think the priority areas are, from a financial stability perspective, for making improvements in the data which is collected on corporate balance sheets. First, various measures of corporate sector risk and, consequently, the risk posed for the financial sector could be constructed if timely micro data were available that covered the whole universe of both listed and unlisted firms. For example, a size weighted distribution of corporate profitability - by economic sector – could be constructed with such data to determine where banks credit exposures are

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<sup>3</sup> See Box 7 in ECB (2007), Financial Stability Review, June.

most vulnerable. With timely data, such indicators could be constructed over a timeframe relevant for conjunctural financial stability analysis. In other words, we would then be in a position to provide better precision on where vulnerabilities lie.

So, what would be needed for this? Ideally, firm-level information would be available which could then be aggregated. A minimum improvement would require greater granularity across all dimensions of the data - including sector, size and type of financing i.e. whether firms raise their external funds from markets or from banks. I admit that such needs are significantly greater than for other areas such as conjunctural macroeconomic analysis but this reflects the different nature of financial stability work.