Consolidated and non-consolidated debt measures of non-financial corporations

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Abstract: There is a broad consensus to use comprehensive debt measures for the analysis of non-financial corporations in terms or financial instruments. However, the choice between consolidated and non-consolidated debt measurement is not clear-cut, even from a conceptual point of view. This paper compares the approaches to NFC debt measurement both from a conceptual point of view and in terms of data quality and cross-country comparability in the light of the recent improvements in data availability for EU countries.[3] A theoretical argument that non-consolidated data are more comparable across economies of different sizes is developed and compared with evidence from euro area countries. Statistical measurement issues, including the coverage of institutional units in source data, and their impact on the cross-country comparability of consolidated and non-consolidated data are examined.

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JEL Classification: *G30 - Corporate Finance and Governance: General.*

Introduction

The indebtedness of non-financial corporations (NFCs) can influence economic activity owing to its effect on the corporations' debt servicing burden and its impact on access to external financing as it affects the credit assessments of banks and other creditors. The debt level impacts also NFCs' capacity to withstand shocks, which can have spill over effects to the other parts of the economy.[4] The recent crisis has resulted in increased interest in the monitoring of NFC and household debt in addition to government debt. The G-20 Mutual assessment process (MAP), the IMF Financial soundness indicators (FSI), the EU Macroeconomic imbalance procedure (MIP) and the European systemic risk board (ESRB) analyse NFC debt or "private" debt, the latter defined as the sum of NFC and household debt. There is a broad consensus that debt concepts should be comprehensive in terms of financial instruments and creditor sectors. In order to assess and compare debt it is advisable to

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[3] This paper largely draws from the work done by the Working Group on Euro Area Accounts (WG EAA) a substructure of the European System of Central Bank's Statistics Committee.

[4] See also Task Force of the Monetary Policy Committee of the European System of Central Banks (2013), "Corporate finance and economic activity in the euro area: Structural Issues Report 2013, Occasional Paper Series, No. 151, ECB, Frankfurt am Main, August 2013.

consider not only bank loans, but loans in general and to include also debt securities and, if available, other financial debt instruments. With the exception of equity, all financial instruments may be considered debt. A second question is whether NFC debt should be non-consolidated, i.e. including includes debt financing within the NFC sector or not (see Annex Diagram for a stylised example). [5] In practice the inclusion of financial instruments and the choice between non-consolidated and consolidated data has to consider also data availability and quality issues, and from a European perspective, the effect on the comparability of the data. This paper discusses both conceptual as well as practical aspects concerning the inclusion of financial instruments (Section 1) and the choice between non-consolidated and consolidated data (Section 2).

1 NFC debt – what financial instruments to include

The first decision to be made when defining NFC debt is which instruments among the various components of NFCs' total financial liabilities to include in the calculation. Given the desire to measure the impact of debt on economic activity and in particular on NFCs' capacity to withstand shocks, one may strive for the most comprehensive measure of debt. While equity can absorb shocks, all other liabilities may affect a company's sustainability negatively. Thus, debt may in principle be defined as liabilities minus equity. NFC debt would thus consist of debt securities, loans, pension liabilities, financial derivatives and other accounts payable. While there is general agreement that loans and debt securities must and can be included, there are conceptual and data quality concerns regarding liabilities stemming from financial derivatives, pension entitlements and 'other accounts payable'. These more controversial instruments are discussed in the following part in more detail.

Concerning trade credits and advances (which are a sub-instrument of 'other accounts payable'), there is a considerable interest of users to include them as they are an important financing tool. Trade credit and advances arise from the direct extension of credit by the suppliers of goods and services to their customers, and from prepayments by customers for goods and services not yet provided. In the EU it was agreed to make statistical data on trade

[5] Consolidation in national accounts data differ from the consolidated accounts in business accounting where intra-group positions are consolidated out. Comprehensive 'group-consolidated' data is however not available for the NFC sector in the financial accounts or other internationally comparable data sources.

credit and advances available separately from other 'other accounts payable' even on a quarterly basis. [6]

Concerning the remaining part of '<u>other accounts payable</u>' and <u>financial derivatives</u> data availability and compilation practices seem to vary substantially. For EU countries these financial instruments are thus not included in debt. The varying publication practices of non-EU countries confirm the view that these liabilities are at least currently not comparable across countries.

Concerning NFC liabilities arising from <u>pension entitlements</u> views differ regarding the cross-country comparability and doubts are also based on conceptual considerations. Under the old standards (SNA 93, ESA 95) NFC liabilities from pensions were only explicitly recognised in the case of non-autonomous pension funds. Non-autonomous pension funds i.e. where employers keep the pension reserves on their balance sheet, as they are not outsourced to an autonomous pension fund, only exist in a few countries, likely due to varying legal settings. Although such pension reserves – where they exist – are legally recognised liabilities, the fact that these non-autonomous pension funds exist only in a few countries raised doubts whether their inclusion is appropriate to obtain internationally comparable debt indicators.[7] The new statistical standards (SNA 2008, ESA 2010) explicitly foresee the recording of liabilities of NFCs in addition in the case of underfunded autonomous pension funds. If an employer has outsourced a pension scheme to a pension fund but retains the legal responsibility for a deficit in funding, the new standards require the recording of the funding deficit as liability of the employer (the "pension manager") under the new financial instrument 'Claim of pension funds on pension managers'. With the implementation of the new statistical standards one may argue that the legally recognised liabilities of NFCs are recorded in the financial accounts independently whether pension schemes are outsourced to pension funds or not. This supports the inclusion of NFC liabilities arising from pension entitlements in debt indicators.

2 Consolidated versus non-consolidated measures of NFC debt

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[6] With the implementation of the new European System of Accounts 2010 and as a result of the new ECB Guideline in the field of quarterly financial accounts (ECB/2013/24, Official Journal L 2, 7.1.2014, p. 34) trade credit will become a mandatory separate statistical item from September 2014.[7] In ECB publications the measurement of NFC debt takes into account loans, debt securities and pension reserves. The macroeconomic imbalance procedure (MIP) definition of private debt excludes pension reserves.

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Once the set of instruments has been selected, a decision must be made as regards the consolidation method. With a few exceptions[8], until recently the ECB, the European Systemic Risk Board (ESRB) and the European Commission in its implementation of the macroeconomic imbalance procedure (MIP) have relied on non-consolidated debt measures. The European Commission switched to the consolidated debt concept in its “Alert Mechanism Report 2014”, exploiting the newly available consolidated data for all EU countries on an annual basis. Furthermore, the ECB publishes consolidated NFC debt data in addition to non-consolidated debt data on a quarterly basis for the euro area and for almost all Member States. The quarterly consolidated data is calculated as the non-consolidated debt minus intra-sector NFCs loans.

2.1 Conceptual considerations and empirical evidence

From a conceptual point of view, the choice between consolidated and non-consolidated debt measurement is not clear-cut, and can serve different analytical purposes. Consolidated debt measures the amounts of funds received by a sector from all other (both resident and non-resident) sectors. As such, this approach provides an overview of inter-sectoral flow of funds. Non-consolidated data on NFC debt includes debt financing within the NFC sector. For assessing the debt sustainability, as well as the refinancing or credit risk of NFCs, the debt positions occurring between NFCs should also be taken into account, thus supporting the use of non-consolidated debt measures in such analyses.

Intra-sectoral debt financing consists mainly of loans and trade credit extended by companies to other companies resident in the same country, while according to financial accounts data for EU countries intra-sectoral holdings of debt securities are much less important. Intra-NFC sector loans exhibit by far the largest cross-country differences among the components of NFC debt (see Chart 1). Corporate balance sheets typically show significant amounts of loans extended between resident corporations belonging to the same enterprise group. By contrast there is little evidence for loans between corporations belonging to different groups (i.e. without a significant capital link) although they may be granted for a number of reasons, such as to support a supplier, or for pure investment purposes.

A main criticism of non-consolidated debt is that it includes, indistinguishably both intra-group financing and financing between NFCs belonging to different groups. The two are very

[8] Some proxies for consolidated debt measures have been used especially in comparing the euro area economy with that of the United States. Moreover, a recent analysis by the ECB of corporate indebtedness used both non-consolidated and consolidated data (see the article entitled “Deleveraging patterns in the euro area corporate sector”, *Monthly Bulletin*, ECB, February 2014).

different in nature and pose different issues as regards, for instance, debt sustainability. Intra-group lending can be very significant, with large cross-country heterogeneity. Thus, it should ideally be analysed separately from debt owed to unrelated creditors. A split of intra-group from extra-group financing is however not foreseen in the statistical standards. Internationally comparable and comprehensive data allowing this separation is thus not available.

An argument in support of non-consolidated debt measurement is that derived indicators, such as the leverage ratio, show debt in relation to total equity or assets, which are available in the financial accounts only on a non-consolidated basis. Acknowledging the relative merits of the two concepts, the European Commission, for example, in its implementation of the MIP, continues to use non-consolidated measures of debt as an additional indicator. Similarly the ECB, in a recent analysis of corporate indebtedness, used both non-consolidated and consolidated data.[9]

Cross-country data comparability – comparing countries of different sizes

Non-consolidated data may be – ceteris paribus - more comparable across economies of different sizes. According to the statistical standards the consolidation of intra-NFC debt only refers to the consolidation of debt between NFCs resident in the same country. Therefore, the comparability of consolidated data can be affected by different shares of domestic intra-NFC financing across countries. The theoretical argument can be made that for similar countries (in particular of an integrated economic area) the share of domestic intra-NFC financing to total financing increases with the size of a country. The theoretical extreme would be a world that is economically fully integrated. Full economic integration in extreme could mean companies of different sizes are fairly randomly distributed across countries. Large countries would then tend to have higher shares of domestic intra-NFC financing than smaller countries. Non-consolidated data may therefore be preferable when comparing debt levels across countries (or states) of different sizes.[10]

However this theoretical argument is in contrast to empirical evidence from EU countries. The share of domestic intra-NFC lending (as measured by the intra-NFC debt-to-GDP ratio) is highest for some of the smaller countries. The highest intra-NFC financing ratios are recorded in Belgium, Luxemburg and Malta and are likely related to particular structural

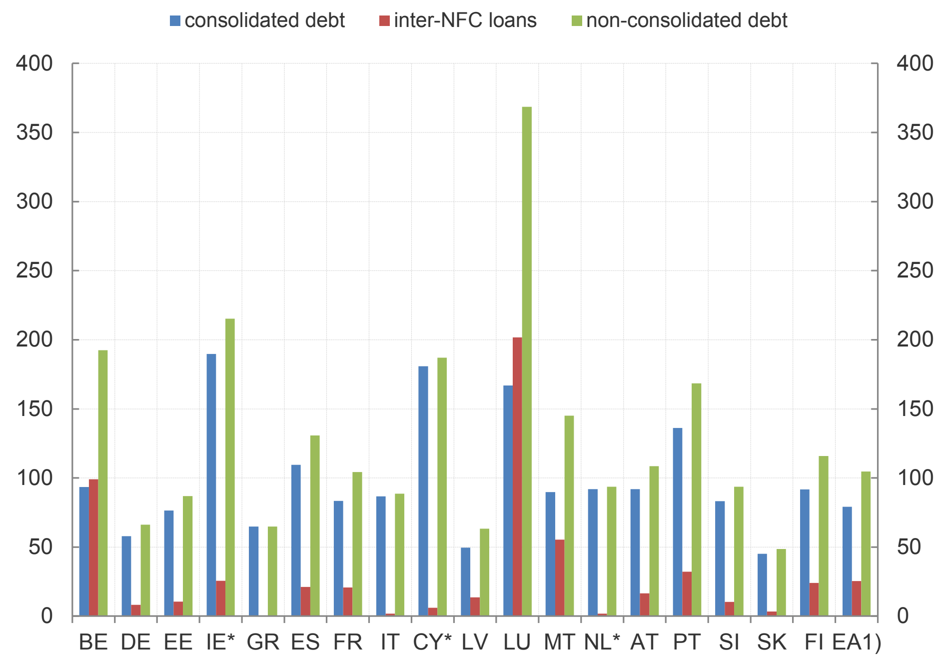
[9] See the article entitled "Deleveraging patterns in the euro area corporate sector", *Monthly Bulletin*, ECB, February 2014.

[10] Note that in the euro area accounts aggregates the euro area is treated as a single economy and intra-NFC loans include all loans between NFC resident in any euro area Member State. Non-consolidated data is thus preferable when comparing debt indicators for the euro area against that of individual countries.

features in these countries[11], while larger countries report relatively low values (see Chart 1). The high variability of intra-NFC financing is also reflected in the higher cross-country variance of non-consolidated debt compared with consolidated debt. Most European countries use an additive approach to compile non-consolidated debt, that is they compile consolidated debt and add intra NFC debt in order to obtain non-consolidated debt. This is because most countries lack comprehensive and timely direct information on NFCs which would allow the direct compilation of non-consolidated debt. While many countries do maintain national balance sheet data, these generally do not achieve full coverage. Compilers thus typically use counterpart sector information (e.g. for bank loans to NFCs) and security issuance statistics which are available with a higher frequency and timeliness, and then add intra-NFC debt.

Some of this cross-country variation of intra-NFC debt, which impacts the cross-country comparability of non-consolidated debt, is likely to reflect statistical measurement issues which are discussed in the Section 2.2.

Chart 1: Measures of NFC debt and intra-NFC debt *(as a percentage of four quarter nominal GDP; the data refers to 2013Q4)*



[11] Structural features such as the attractiveness of these countries for multinational groups related inter alia to favourable tax treatments. See the article entitled "Deleveraging patterns in the euro area corporate sector", *Monthly Bulletin*, ECB, February 2014.

Sources: Eurostat, ECB (quarterly, integrated euro area accounts). Notes: *For Ireland, Cyprus and the Netherlands intra-NFC loans are calculated based on annual financial accounts for 2012, and consolidated debt is calculated as non-consolidated debt minus annual intra-NFC loans (as intra-NFC loans are not available on a quarterly basis) . 1) For the euro area, consolidated debt and intra-NFC loans are not comparable with country data.

2.2 Differences in data availability and compilation practices

There are two statistical factors which may have a considerable impact on intra-sector NFC debt and thus on the level and comparability of non-consolidated debt measures.

(i) Different concepts of statistical units: the level of granularity applied in the statistical definition of an NFC in relation to the enterprise group affects the debt measurement results. The more detail that goes into defining NFC, the higher the number of NFCs that are recorded separately and the higher the potential intra enterprise group financing and the non-consolidated NFC debt. Conversely, countries using higher levels of aggregations of NFCs as statistical building blocks, record significantly lower levels of inra-NFC debt. Countries using enterprise group data do not have the information to cover intra-group lending, thus significantly lowering the level of intra-NFC debt in comparison to countries that use the (solo) enterprise data foreseen by the statistical standards.

(ii) Different coverage of intra-NFC loans: most countries do not have complete coverage of NFC balance sheets in their statistical sources and the necessary estimation of missing data may affect the quality of estimates for intra-NFC debt. The estimation of missing data hinges on the methods to establish the total population – typically based on business registers and on grossing-up methods. Grossing-up requires a reference indicator, i.e. a variable that is available in both the source data and the data source used to establish the total population. The choice of the reference indicator is generally very limited because of the limited availability of variables in the total population data. Countries may use turnover, value-added, data obtained from tax-registers or number of employees depending on data availability. The correlation of any of these referenced indicators with intra-NFC loans is likely to be imperfect. Some countries try to overcome this by using detailed, stratified grossing-up method to improve the estimation of intra-NFC loans for the total population.[12]

2.3 Changes related to the new statistical standards

The relative importance of Intra-NFC loans depends to a large degree on the structure of financing within enterprise groups. Intra-group financing is likely to be somewhat centralised

[12] E.g. the Banco de España uses a grossing-up method that is differentiated by size (number of employees), legal form and branch of activity. The results differ significantly from any one-dimensional grossing-up.

in all countries. Typically one unit in the group has the best access to financial markets and distributes some of the funds obtained to the other units. This central unit may be:

(a) a large NFC in the group (including holding corporations engaged in the managements of the NFCs, i.e. head offices according to SNA 2008),
(b) a holding company in the sense of SNA 2008 (i.e. not engaged in management),
(c) a captive financial institutions such as a special purpose entity (SPE) issuing debt securities.

Depending on the type and residency of the central financing unit, financial position may be recorded as intro-NFC loans or not. In case (a), e.g. a resident head office of a non-financial enterprise group, such positions are to be recorded as part of the intra-NFC loans, both according to the old (SNA 1993, ESA 1995.)
The new statistical standards specify the recording of holding companies (b) and other captive financial institutions (c) as part of the financial sector. This specification has the advantage that the debt financing raised by SPEs or holding companies will be allocated to the debt of the financial sector, and only the direct funding granted by SPEs or holding companies to non-financial corporations will be recorded as debt of the non-financial corporations sector (see Annex diagram for a stylised example). The new classification of holding companies, SPEs and similar units will lower the recorded debt of non-financial corporations and increase the liabilities and assets of financial corporations. The impact of this change can be sizeable in some countries.

Conclusions

Overall, given the relative merits and shortcomings of the consolidated and the non-consolidated debt concepts, the monitoring of both is advisable. The quarterly euro area accounts and the quarterly financial accounts of EU countries are generally presented on a non-consolidated basis. Consolidated, quarterly debt measures can, however, be derived for NFCs by subtracting intra-NFC loans from non-consolidated debt measures.[13] These debt measures are published by the ECB at a quarterly frequency. Further improvements of the data and comparability, in particular as regards the measurement of intra-NFC trade credit and the delineation between debt of the non-financial and financial sector, are expected with implementation of the ESA 2010/SNA08 and the new ECB Guideline on financial accounts.

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[13] Debt securities cannot yet be consolidated as intra-NFC holdings data are not yet available; they are in any case much less important than intra-NFC loans. Based on annual financial accounts NFC debt securities holdings are estimated to account for below 0.5% of GDP in almost all euro area countries.

The first publication of the euro area accounts according to ESA 2010 is scheduled for November 2014.

Annex

Diagram: NFC debt compiled according to SNA 1993 and SNA 2008, stylised example

SNA 1993 (ESA 1995):

Holding Company (HC)
= NFC 0

Loans HC to NFC 1	Debt securities
Equity	Equity

NFC 1

Loans NFC 1 to NFC 2	MFI loans
Other asset	Loans HC to NFC 1
	Equity

NFC 2

Other asset	Loans NFC 1 to NFC 2
	Equity

NFC sector (aggregate)

Equity	Debt securities
	MFI loans
Loans HC to NFC 1	Loans HC to NFC 1
Loans NFC1 to NFC 2	Loans NFC1 to NFC 2
Other assets	Equity

Consolidated debt (Debt securities, MFI loans)

Intra-NFC loans (Loans HC to NFC 1, Loans NFC1 to NFC 2)

Non-consolidated debt

SNA 2008 (ESA 2010):

Holding Company (HC)
= Captive financial institution

Loans HC to NFC 1	*Debt securities*
Equity	*Equity*

NFC 1

Loans NFC 1 to NFC 2	MFI loans
Other asset	Loans HC to NFC 1
	Equity

NFC 2

Other asset	Loans NFC1 to NFC2
	Equity

NFC sector (aggregate)

Loans NFC 1 to NFC 2	MFI loans
Other assets	Loans HC to NFC 1
	Loans NFC 1 to NFC 2
	Equity

Consolidated debt (MFI loans, Loans HC to NFC 1)

Intra-NFC loans (Loans NFC 1 to NFC 2)

Non-consolidated debt