

The bonsai and the gardener: using flow data to better assess financial sector leverage

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This paper explains the concept of financial leverage and the risks stemming from excessive leverage. It proposes to supplement the traditional measure of leverage with a marginal leverage ratio, which would allow for a better grasp of potential risks.

A bank's balance sheet can be compared to a tree. The capital or equity would be the roots which feed and support the rest of the balance sheet. The debt or liabilities represent the aerial part of the tree (trunk and treetop). The proportion of the overall size of the tree with respect to its roots represent the leverage.

The concept of financial leverage has been borrowed from physics. A lever allows the amplification of an input force in order to provide a greater output force. In a similar way, financial leverage allows the amplification of assets that can be obtained from a given amount of (own) resources.

A certain level of leverage is not only healthy, it is also critical for the well-functioning of an economy. Leverage stems from the fact that some of the assets of a corporation are financed with funds other than equity. The existence of debt (and leverage) enables economic agents to allocate their resources (or consumption) overtime according to their preferences. In other words, debt (and leverage) allows for the channelling of resources from savers with an excess of funds to investment projects in need of financing.

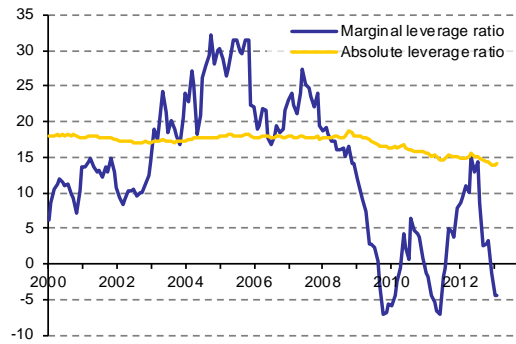
The banking system through its intermediation function constitutes a cornerstone in the process of channelling funds from savers to investors and, therefore, banks traditionally operate with unusually high leverage. The role of prudential regulation and supervision is to avoid extreme leverage positions in the financial sector that can eventually become highly damaging.

The traditional *absolute* leverage ratio is computed as total assets to total equity and therefore, it is embedded with the "legacy" or inertia of the overall balance sheet. The new *marginal* leverage ratio is computed as the ratio of assets to equity for the new activities undertaken by the banking system over the last year.

Chart 01 shows how, in the run-up to the crisis, the absolute leverage ratio for Euro area banks was around 18 to 1 while the new activities had a much higher marginal leverage ratio (up to 30 to 1), which provides a better reflection of the potential risks.

Throughout the crisis, the absolute leverage ratio declined to 14 to 1. This gives an indication of the process of deleveraging being undertaken by the financial sector. On the other hand, the marginal leverage ratio displays values between 5 to 1 and minus 5 to 1. This is a much better reflection of the constraints that new customers applying for loans and banking products may be confronted with. The paper also presents data for all 27 EU Member States.

Chart 01: Absolute vs. marginal leverage ratios
Euro area banks, number of times



Notes: The *absolute* leverage ratio is computed as total assets to total equity. The *marginal* leverage ratio is computed as annual net flows of total assets to annual net flows of equity. Annual flows are computed as the sum of twelve consecutive months in a rolling window. "Net" refers to new transactions minus redemptions. Last available data: February 2013.
Source: ECB Statistical Data Warehouse and own calculations.