

Assets	Liabilities
Loans to firms, households	Liabilities to non-banks (e.g. deposits)
Claims on other banks	Liabilities to other banks
	Equity

**Individual bank**

By “bank” we mean any leveraged institution that could be construed as part of the financial intermediary sector. In the US context, the “banking system” therefore denotes the whole of the leveraged financial sector, which includes the traditional commercial banking sector, but also encompasses leveraged institutions such as investment banks, hedge funds and (in the United States especially) the government sponsored enterprises (GSEs) such as Fannie Mae and Freddie Mac. When we aggregate across banks, all the claims and obligations across banks cancel out. So, the aggregate balance sheet for the banking sector as a whole looks as follows.

Assets	Liabilities
↑ Total lending to Firms and households	<div style="border: 1px solid black; padding: 2px;">           Liabilities to non-banks  <b>(deposits + securitized debt)</b> </div>
	Total equity

**Banking sector**

In other words, aggregate lending to end-user borrowers by the banking system must be financed either by the equity in the banking system or by borrowing from creditors outside the banking system. For any fixed profile of equity and leverage across individual banks, the total supply of credit to ultimate borrowers is larger when the banks borrow more from creditors outside the banking system. Put differently, the leverage of the financial sector is increasing as banks increase the proportion of their funding that comes from creditors outside the banking sector.<sup>3</sup>

Indeed, it is possible to derive a formula based on accounting identities alone (see Shin (2008)) in which the total lending to ultimate borrowers can be written as a function of the profile of equity, leverage and funding source of the individual financial intermediaries. In particular, when we denote:

- $y_i$  : lending of bank  $i$  to ultimate borrowers plus holding of real assets
- $e_i$  : equity of bank  $i$

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<sup>3</sup> See Greenlaw, Hatzius, Kashyap and Shin (2008).