Table 1 Literature on Finance and Development

A. Financial Development Boosts Economic Growth	
King and Levine (1993)[1]	Seminal empirical study that sought to investigate the view of Joseph Schumpeter that financial sector development aided economic growth. Examining eighty countries from 1960 to 1989 the authors found (using a variety of indicators) that the level of financial system development was strongly associated with: real per capita GDP growth; the rate of physical capital accumulation; and improvements in the efficiency with which economies employ physical capital. The study also found that current financial sector development boosts future economic growth.
B. HOW? Finance Drives Growth by Positively Impacting the Productivity, Resource Allocation and Innovative Nature of Firms	
Claessens and Laeven (2003)[2] Demirgüç-Kunt, Love and Maksimovic (2006)[3]	Financial sector development aids the efficiency of firms in choosing a better mix (more efficient and productive) assets and better organizational forms (such as limited liability and publicly listed companies)
Beck, Demirgüç-Kunt, and Maksimovic (2005) [4] Beck, Demirgüç-Kunt, Laeven, and Levine (2008)[5]	A more developed financial system characterized by having a greater share of bank assets or bank credit to GDP or a larger stock market capitalization to GDP has a bigger impact on small and medium-sized than for large companies.
Rajan and Zingales (1998)[6] Beck, Demirgüç-Kunt, and Maksimovic (2005)[7] Beck, Demirgüç-Kunt, Laeven, and Maksimovic (2006)[8]	A more developed financial sector enables existing firms to take advantage of various growth and investment opportunities, and to achieve larger (more optimal) scale.
Beck, Levine and Loayza (2000)[9]	A more developed financial sector has a bigger impact on economic growth by boosting productivity growth and the

	allocation of resources (optimally allocating land, labour and capital) than through pure capital accumulation (developing physical infrastructure).
Klapper, Laeven and Rajan (2004)[10] Aghion, Fally and Scarpetta (2007)[11] Ayyagari, Demirgüç-Kunt and Maksimovic (2011)[12]	Greater availability of external finance is positively linked to: entrepreneurship; greater firm entry; and more innovation.
C. Financial Development Also Reduces the Volatility of Economic Growth & Increases the Effectiveness of Policy	
Aghion, Angeletos, Banerjee, and Manova (2010)[13]	A developed financial system can reduce liquidity constraints on firms and increase long-term investment, ultimately reducing volatility of investment and growth.
Aghion, Bacchetta, Rancière, and Rogoff (2009)[14]	Financial sector development reduces the negative impact that exchange rate volatility can have on firm liquidity and therefore on their investment capacity.
International Monetary Fund, IMF (2012)[15]	A more developed financial system can increase the effectiveness of domestic monetary policy, provides a broader base for fiscal policy and can allow for a bigger choice of exchange rate regimes
D. BUT – The Impact of Financial Sector Development on Economic Growth is Non-Linear - Developed Economies and the Largest Companies Benefit Least	
Rioja and Valev (2004a, 2004b)[16] [17] Aghion, Howitt, and Mayer-Foulkes (2005)[18]	The impact of financial sector development on economic growth is strongest among middle-income countries.
Arcand, Berkes, and Panizza (2011)[19]	Finance has a weaker impact on growth as countries grow richer.
E. Five Reasons Why Developed Economies and Large Firms Benefit Least From Financial Sector Development?	

1) Catch-up is faster the further economies are from best practice	
Aghion, Howitt, and Mayer-Foulkes (2005)[20]	Financial sector development may facilitate catch-up to more efficient levels of productivity, but provides little impetus for growth to those countries already producing at the most productive level
2) Traditional measures of financial sector development are too crude	
Demirgüc-Kunt and Huizinga (2010)[21]	Traditional measures of intermediation are too crude / limited to pick up the subtle impact of non-intermediated finance (shadow banking, other capital markets activity) that tend to be more important in more developed economies. (So this is suggesting it's just a measurement problem)
3) Finance to the corporate sector boosts growth more than household finance (the former is more prevalent in developed economies)	
Beck, Buyukkarabacak, Rioja, and Valev (2012)[22]	Financial development / deepening in emerging markets mainly relates to greater access to credit and finance for the corporate sector and (up until recently at least) less to the consumer /household sector. This may explain why developed economies benefit less from financial sector development
4) Developed financial systems extract talent that has more productive uses elsewhere in the economy	
Philippon (2010)[23] Bolton, Santos, and Scheinkman (2011)[24]	Financial systems may grow too big in relation to the real economy extracting too much young talent and other resources that become increasingly less productive. Or to put simply, mathematicians, engineers and other scientists employed in the financial sector are less productive (in economic growth terms) than if employed in the real sector.
5) *Exploitation of safety net subsidies*	
Carbó, Kane, and Rodriguez (2011)[25]	

	As economies develop financial systems eventually start to grow excessively as banks seek to exploit various so-called safety net subsidies (deposit insurance, lender of last resort facilities, too-big-to-fail subsidies). Banks grow faster and take on excessive risk believing that regulators and the taxpayer will bail them out if they fail. This moral hazard problem creates incentives for senior managers to take on excessive risk to boost returns (from which they benefit in terms of bigger pay and bonuses) whereas the downside is somewhat limited (although it can end in executive job loss in extreme cases). Incentives to grow and take on too much risk are exacerbated by these safety net benefits. Rapid financial sector development and excessive risk-taking is likely to lead to problems that ultimately reduce growth.

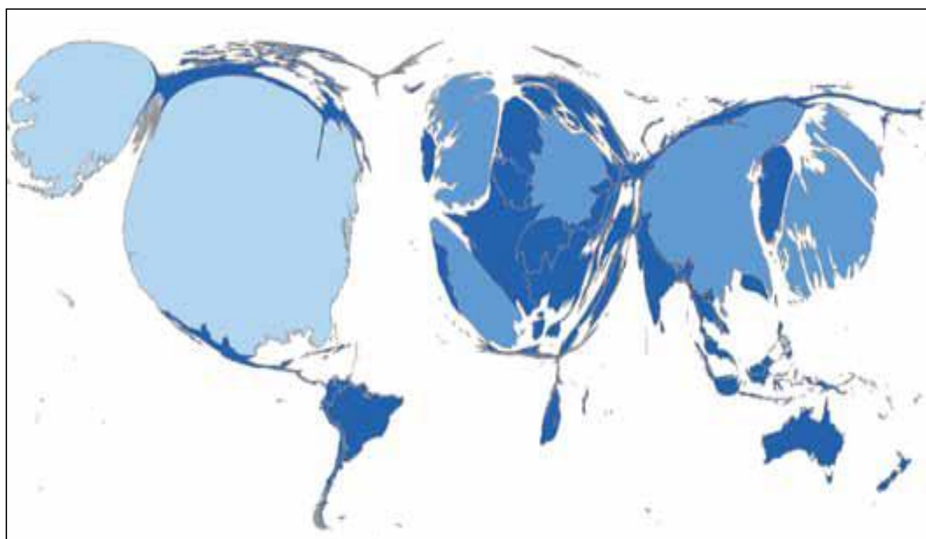
Source: Constructed from information provided in Beck (2012) and authors own updates.

Table 2 Europe's Largest Banks

Bank	Country	Total assets (€ million)	Total assets/ national GDP (%)	Total assets/ EU GDP (%)	FTE employees 2011	No. of European branches	Δ in total assets (% change 2007-11)
Deutsche Bank*	DE	2,164,103	84.8	17.4	100,996	2,735	12.4
HSBC*	UK	1,967,796	119.8	15.8	288,316	1,984	22.2
BNP Paribas*	FR	1,965,283	99.8	15.8	198,423	6,816	16.0
Crédit Agricole Group*	FR	1,879,536	95.4	15.1	162,090	9,924	22.0
Barclays*	UK	1,871,469	113.9	15.0	141,100	2,602	12.0
RBS*	UK	1,803,649	109.8	14.5	146,800	2,477	-28.0
Santander*	ES	1,251,525	118.2	10.1	193,349	7,467	37.1
Société Générale*	FR	1,181,372	60.0	9.5	159,616	6,456	10.2
Lloyds Banking Group*	UK	1,161,698	70.7	9.3	98,538	2,956	141.5

Source: Liikanen Report (2012) High-level Expert Group on reforming the structure of the EU banking sector Chaired by Erkki Liikanen, FINAL REPORT Brussels, 2 October 2012, p.39.

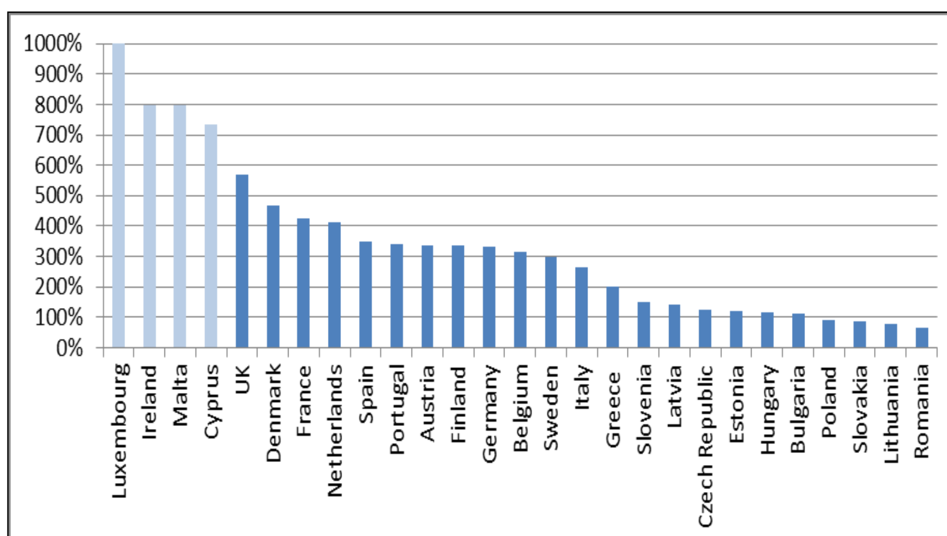
Figure 1 World Drawn According To Size of Country Financial Assets



Notes: Country sizes are adjusted to reflect the volume of financial sector assets in the jurisdiction, measured in U.S. dollars at the end of 2010.

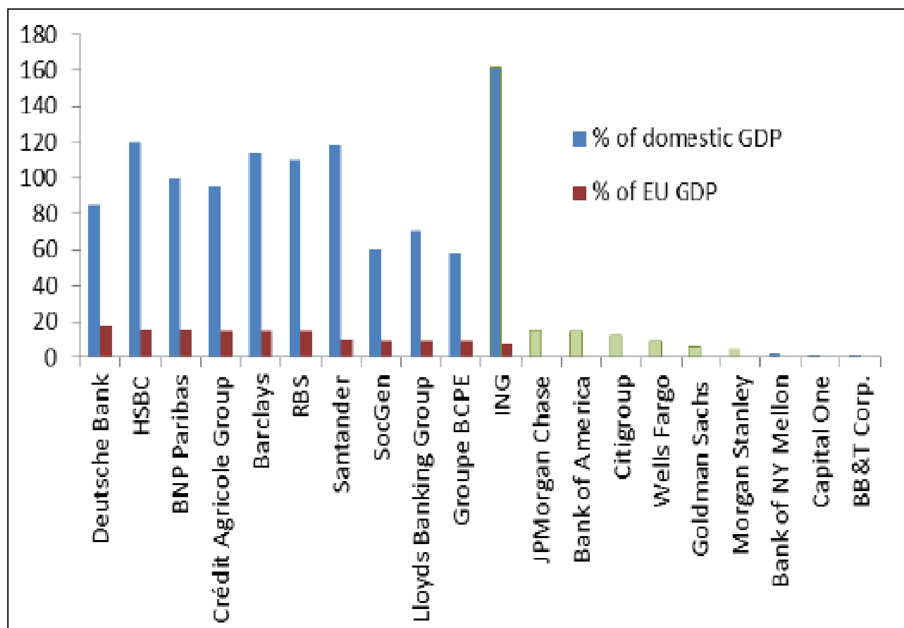
Source: Čihák, M. Demirgüç-Kunt, A. Feyen, E and R. Levine (2012) Benchmarking Financial Systems around the World, World Bank Policy Research Working Paper 6175, August, Figure 6, Washington DC: World Bank.

Figure 2 European Banking Sector Assets / GDP (%)



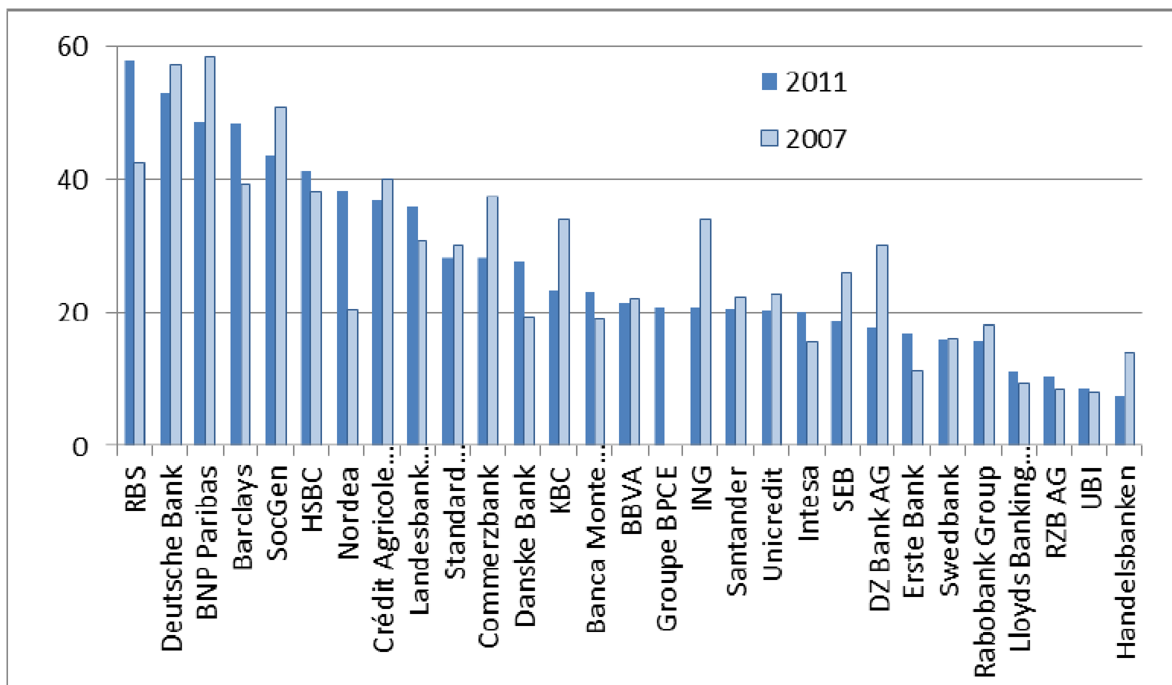
Source: Liikanen Report (2012) High-level Expert Group on reforming the structure of the EU banking sector Chaired by Erkki Liikanen, FINAL REPORT Brussels, 2 October 2012 , p16.

Figure 3 Asset Size of Largest Banks Relative to Domestic GDP (%)



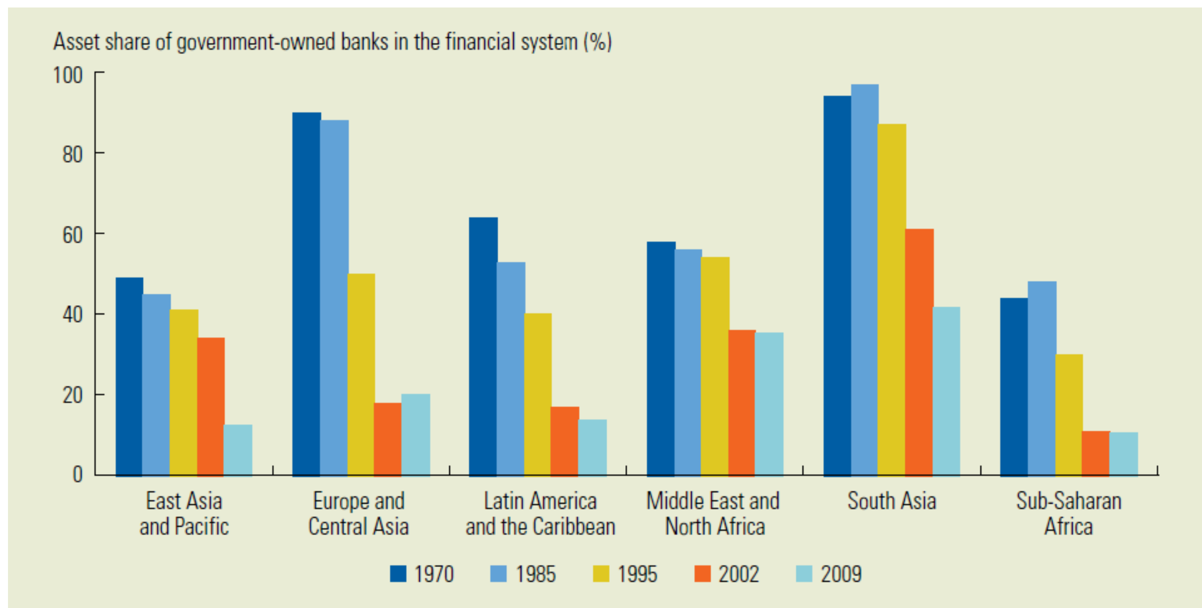
Source: Liikanen Report (2012) High-level Expert Group on reforming the structure of the EU banking sector Chaired by Erkki Liikanen, FINAL REPORT Brussels, 2 October 2012, p41.

Figure 4 Distorted Business Models - Assets Available for Trading + Sale / Total Assets (%)



Source: Liikanen Report (2012) High-level Expert Group on reforming the structure of the EU banking sector Chaired by Erkki Liikanen, FINAL REPORT Brussels, 2 October 2012, p44.

Figure 5 Assets Share of Government Banks / Financial System (%)



Source: World Bank's Global Financial Development Report (2013) Fig 4.2, p104.

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