

Financial consumption and the Cost of Finance: Measuring Financial Efficiency in Europe (1950-2007)

Data Appendix

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This appendix presents data sources and calculation used in the estimation of the unit cost of financial intermediation. It also adds information about other series used in the study.

Value added and 'corrected' value added

Value added (VA) data is most often available either in statistical yearbooks or EU KLEMS website (<http://www.euklems.net>). EU KLEMS series last from 1970 to 2007. Data before 1970 is from statistical yearbooks. If important differences exist between both sources, yearbooks official data is always preferred¹. EU KLEMS database splits financial value added into 'banking', 'insurance' and 'other financial intermediaries' series. This statistical precision is rarely available in statistical yearbooks.

So as to correct VA series using banking income I first rely on EU KLEMS to split financial VA into banking and non-banking components of financial VA. Then, I use OECD database about banking income to replace banking VA by banking income. Because OECD data does not go further than 1979 I do the hypothesis that the ratio of corrected VA to financial VA grows at the same annual rate as the nearest 10 years of available data. This hypothesis helps extend the data till 1970. Because financial decomposition of VA is no longer available before 1970, I assume the ratio of 'corrected' VA to 'plain' VA constant and equal to the 1970's value. The series is finally controlled to account for trade balance of financial industry.

For the US I use BEA's data to split financial VA into banking and non-banking components (http://www.bea.gov/industry/gdpbyind_data.htm). Thereafter I follow the same methodology as for European countries to correct financial VA value from 1950 to 2007.

Although VA data is available before 1970 for Germany, France and the UK, it is difficult to extend VA series for Italy, Spain and the Netherlands. In fact, data is not available before 1970 for Spain while Italian and the Netherland series are either poor or incongruous. For the sake of robustness and simplicity financial VA is not extended till 1950 in those countries.

Banking income data is not homogenous across countries. While Germany and France series account for national banks income – including foreign banks subsidiaries inside but excluding national banks subsidiaries outside – Italy, Spain and the Netherlands accounts for within-country income whatever the nationality of the institutions. The UK series is made up of the seven largest UK banks incomes including their subsidiaries outside the UK.

Germany

Value added data is available in *Statistische jahrbuch* all over the covered period. Banking income data is available from 1979 to 2007 from OECD database. To extend the data till 1970 I do the hypothesis that the ratio of corrected VA to financial VA grow at the same rate as the annual growth rate of this ratio from 1979 to 1989. Because trade balance tends to be close to 0 all over the covered period, series are let unchanged before that date. Foreign banking income is assumed similar to trade balance.

¹ This is particularly the case for the UK.

France

Value added is from INSEE website and the *annuaire statistique de la France*. Banking income data is available from 1988 to 2007 from OECD database. To extend the data till 1970 I do the hypothesis that the ratio of corrected VA to financial VA grow at the same rate as the annual growth rate of this ratio from 1988 to 1998. The series is finally controlled to account for trade balance using trade balance series of financial industry available in French balance of payments yearbook. Because trade balance tends to be close to 0 after 1995, series are let unchanged all over the covered period.

The UK

Statistical yearbooks and the ONS website (reference is: FC: FC: Prod acc: Uses: B.1g: Gross value added) provide financial VA from 1987 to 2007. EU Klems series is used from 1970 to 1987. I finally use compensations share of financial industry available on the ONS website (http://www.econstats.com/uk/uk_bb_134a.htm²) to extend the data till 1963. This hypothesis refers to national accountant techniques used to assess financial VA before the 1970s. Before 1963 I use Feinstein (1965) data.

Banking income data is available from 1980 to 2007 from OECD database. To extend the data till 1970 I do the hypothesis that the ratio of corrected VA to financial VA grow before 1980 at the same rate as the annual growth rate of this ratio from 1980 to 1990. The series is finally corrected to account for trade balance using trade balance series of financial industry available in balance of payments yearbook (pink book). Since data is not available before 1960 I do the hypothesis that financial industry trade balance is equal to the mean of 1960-1970 values, that is, 10% of financial VA. Foreign banking income is assumed similar to trade balance. Banking income series is thus corrected using trade balance values.

Italy, Spain and the Netherlands

Value added is available in EU KLEMS from 1970 to 2007. Banking income data is available from 1979 to 2007 in the case of Spain and the Netherlands and from 1984 to 2007 for Italy. To extend the data till 1970 I proceed the same way as for Germany. Trade balance of financial industry is assumed close to zero in Italy and Spain. The Netherlands probably has non-zero trade balance; however, this country is only used in the estimation of the European unit cost of financial intermediation.

Financial output

The financial output is estimated using four different series, namely: private credit, broad money, market capitalization and public debt. Private credit data is available on the BIS website (<http://www.bis.org/statistics/credtopriv.htm>) from 1970 to 2007 except for the UK where it is available from 1960 to 2007. Before 1970 I therefore used Schularick and Taylor (2012) data set on banking credit, which proves to be very close to credit series, using the ratio of loan to credit over the last five years of available data to adjust the series. Public debt data is from Reinhart and Rogoff website (<http://www.reinhartandrogoff.com/data/>).

Broad Money for Germany is M2 before 1970 then M3 from 1970 to 2007. M3 data for Germany is available on the Bundesbank website, M2 is from Schularick and Taylor (2012). Broad money for France is M2 from 1950 to 1970 and M3 after 2007. Data is from the *annuaire statistique*. For the UK broad money is M3 from 1950 to 1962 and M4 after 1962. Sources is Capie and Webber (1985) and Bank of England/ONS. Data is also available

² Reference is: FC: FC: Gen inc: Uses: D.11: Comp of employ Wages & salaries

from Thomas et al. (2010). For Italy, Spain and the Netherlands I took up M3 data from Schularick and Taylor (2012).

Market capitalization is available from 1988 to 2007 from World Bank database. Before 1987 I use different sources and make additional assumptions. In the case of France, data is available from Bozio (2002). For the UK I rely on Michie's (1999) evaluation of the London Stock exchange capitalisation for 1950. Insofar as Michie's data accounts for both equity and bonds, I use Goldsmith (1985) to separate market capitalisation from outstanding bonds³. I finally use the growth rate of stock market index available in Global Financial Database and Schularik and Taylor (2012) to extrapolate market capitalization values between 1950 and 1987. The data produced fits well with Michie's series produced for all ten years. For Germany, Italy, Spain and the Netherlands I use the stock market index correlation with market capitalization from 1988 to 2008 to extrapolate the market capitalization. I hence multiply the stock market index with the related correlation coefficient.

So as to give evidence of the accuracy of this calculation Figure Ap 1 compares the assessed market capitalization series with Rajan and Zingales (2003) series for Germany, the UK, Italy and the Netherlands.⁴ Series is close for Germany and Italy. Rajan and Zingales series tends to be more volatile in the case of the UK and the Netherlands. However, trends are similar in both cases.

Other series

Four other series are used in the study: compensations, interest rates, inflation and the deregulation index. European countries compensation series is available in EU-KLEMS from 1970 to 2007. Wages series for the UK is also available on the ONS web site till 1955. Nominal interest rate is from Schularick and Taylor (2012). Deposit interest rate is from World Bank database. Inflation series is available in Reinhart and Rogoff website. The deregulation index is from Abiad et al. (2008).

³ This method is also used by La Porta et al. (2008) to extrapolate market capitalization.

⁴ It is worth noting that Rajan and Zingales do not provide data for Spain before 1980. Comparison for France is not useful as Bozio (2002) proposes a complete market capitalization database.

References

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Market capitalization series

Figure Ap 1a:

Market capitalization to GDP in Germany, comparison with Rajan and Zingales (2003)

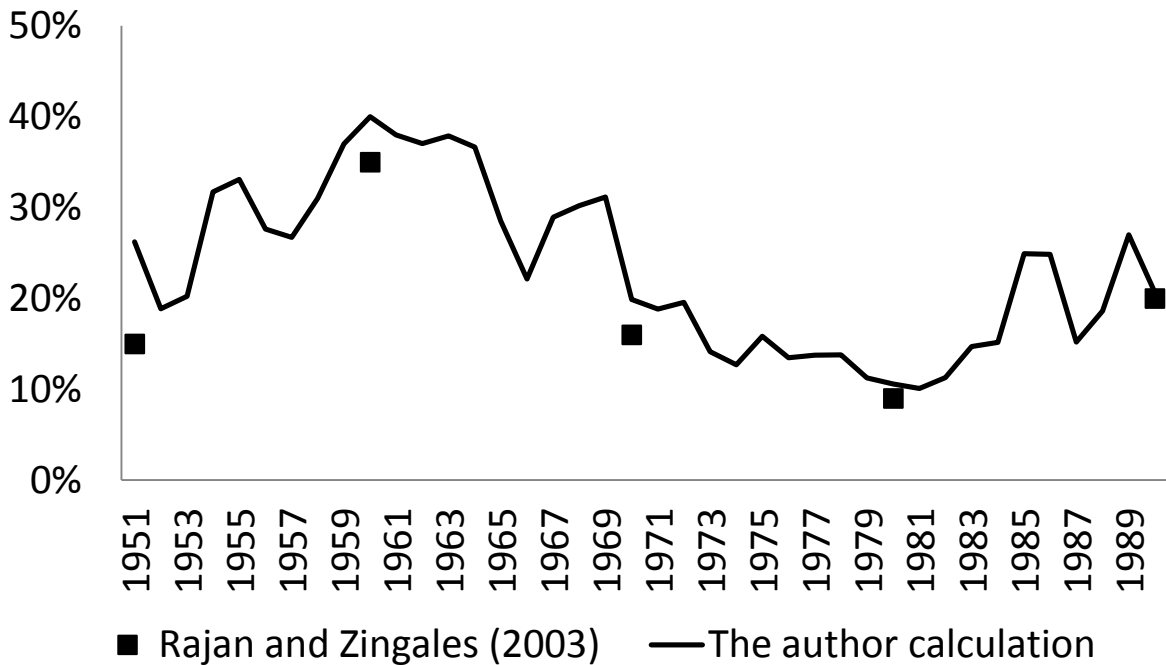


Figure Ap 1b:

Market capitalization to GDP in the UK, comparison with Rajan and Zingales (2003)

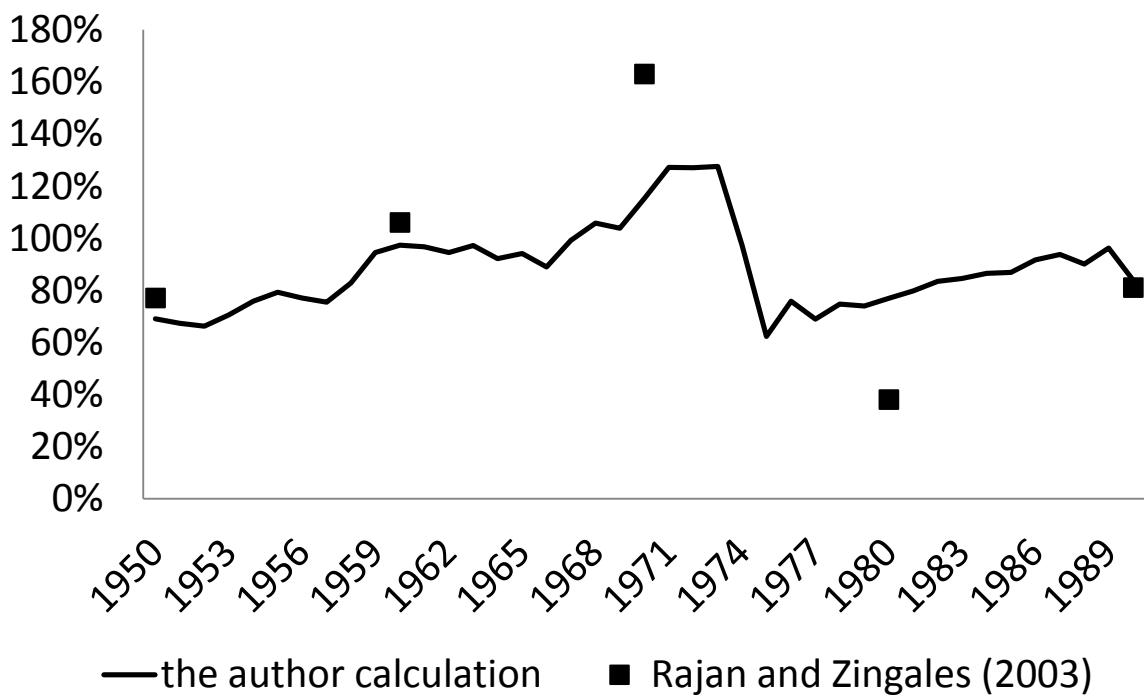


Figure Ap 1c:

Market capitalization to GDP in Italy, comparison with Rajan and Zingales (2003)

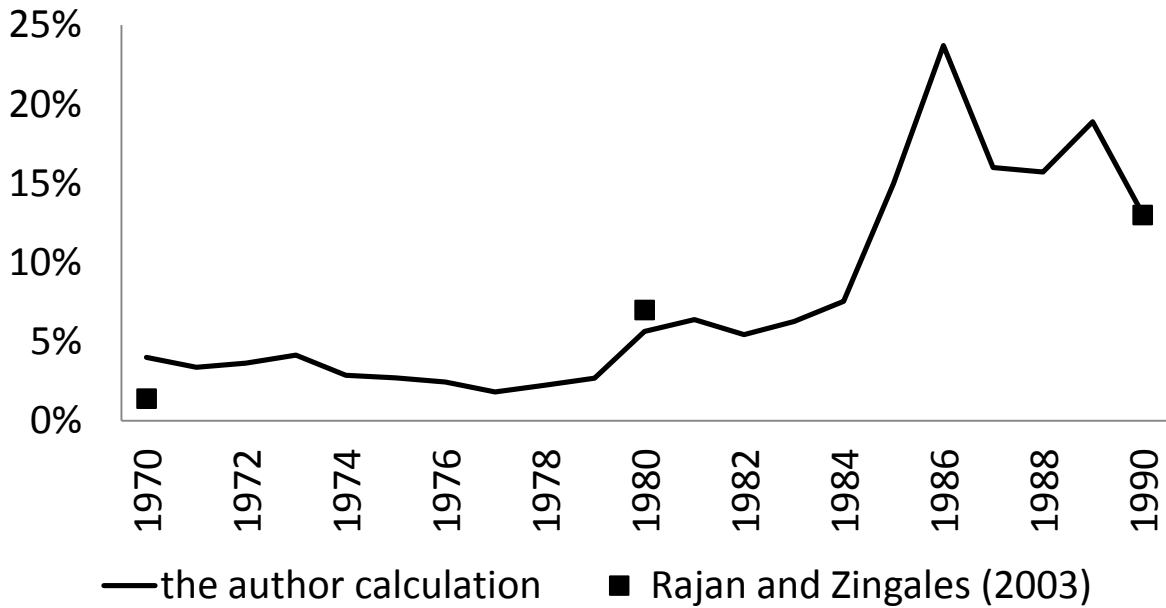


Figure Ap 1d: Market capitalization to GDP in the Netherlands, comparison with Rajan and Zingales (2003)

