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**NATIONAL WEALTH AND FINANCIAL DEVELOPMENT – A SECULAR VIEW  
EXTENDING RAYMOND GOLDSMITH'S LONG TERM FINANCIAL SERIES FOR GERMANY, US  
AND THE UK**

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Tour Europe, Paris la Défense  
Beginning at 9:30 a.m. on the first day**

*This document has been prepared by Daniele Fano, Teresa Sbano and Milena Georgieva,  
Pioneer Investments Economic Research, and, will be presented under item 1 of the draft agenda*

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**NATIONAL WEALTH AND FINANCIAL DEVELOPMENT – A SECULAR VIEW**  
**EXTENDING RAYMOND GOLDSMITH'S LONG TERM FINANCIAL SERIES FOR**  
**GERMANY, US AND THE UK**

Daniele Fano, Teresa Sbano and Milena Georgieva  
Pioneer Investments Economic Research<sup>1</sup>

**Introduction**

In a broad comparative study<sup>2</sup>, Raymond Goldsmith, constructed long term series of national assets. He was especially interested in deriving indicators on financial development and on the role of financial intermediation. Thanks to a joint project between the Bank of Italy, OECD and the Pioneer Investments Economic Research Unit<sup>3</sup>, it has been possible to extend the Goldsmith series and indicators of financial development up to 2007 for Germany, US and the UK. Good progress has also been done for Italy and estimates will be shortly delivered.

Given the current financial turmoil, we believe this represents an excellent example about how financial accounts can be used to provide useful information for economic and financial analysis.

**Methodology**

The introduction of the method of classification based on the SNA93 and on the ESA95 has made it necessary to reconcile past data with the new series. In order to help studying changes in aggregate wealth over time and comparing trends in financial systems across different countries, these series must be as much as possible consistent and cover a reasonably long time horizon.

The OECD, jointly with the Economic Research Unit of Pioneer Global Asset Management and UniCredit and with the active support of a number of Central Banks and National Statistics Offices is working on a project that aims at extending back the currently available time series of the financial accounts for OECD countries. Such long time series have already been constructed for Canada, France, Germany, Italy, Japan, Spain, the UK and the USA.

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<sup>1</sup> This paper describes research in progress. The authors thank Riccaro De Bonis from Bank of Italy, special thanks also to the colleagues from Bank of England and Bundesbank. The views expressed are those of the authors and of the research teams.

<sup>2</sup> Raymond W Goldsmith, Comparative National Balance Sheets : a Study of twenty countries 1688-1979, The University of Chicago Press, 1985

<sup>3</sup> R. De Bonis\*, D. Fano\*\* and T. Sbano The Household Aggregate Financial Wealth: Evidence from Selected OECD Countries, The Luxembourg Wealth Study July 2007

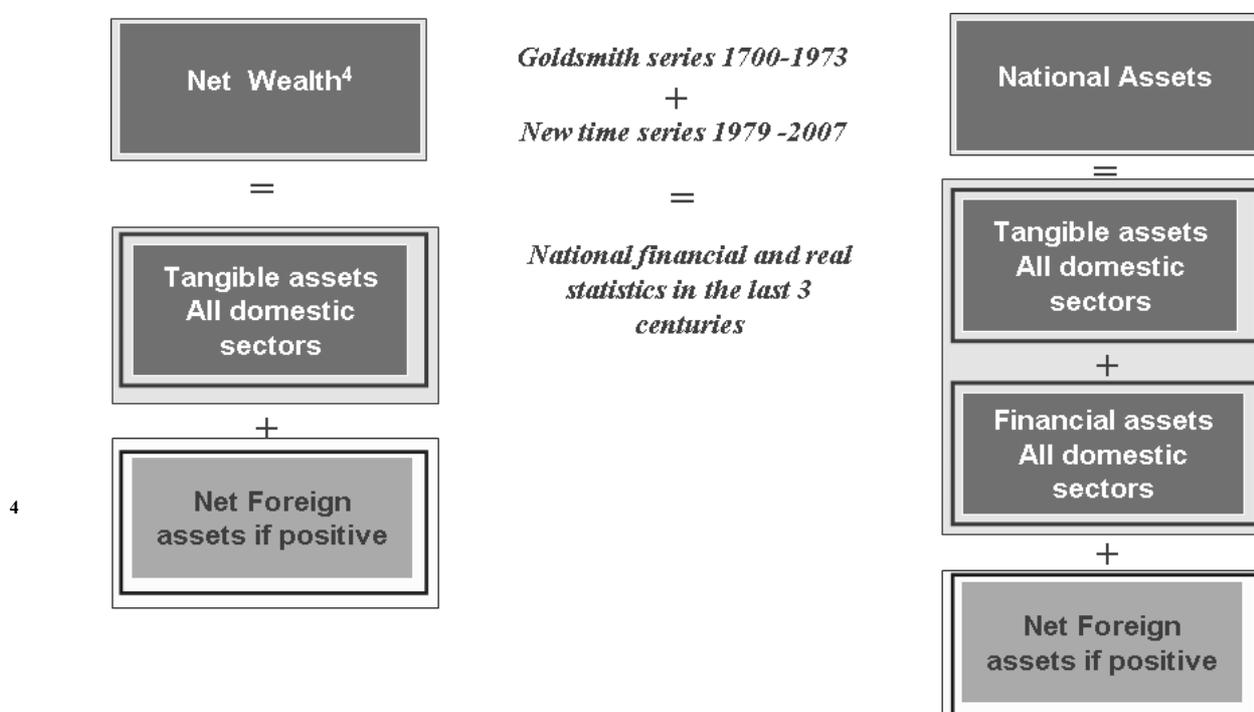
We are engaged in a broad and detailed statistical reconstruction that has allowed us to reconcile the SNA 93 series with the preceding series.

The emphasis is on stocks and their trends for both assets and liabilities from 1980 onwards. For some countries data are available for a longer time span.

Although both consolidated and non-consolidated data are potentially usable, the analysis has taken into account only non-consolidated data; the reason being there were in the past no clear indications about how consolidation was carried out by each country.

The reconstruction work so far enabled us to connect recent data to previous time estimates and to the analysis carried out by Raymond Goldsmith in particular. The chart following illustrates the general methodology used, relevant to the main aggregates under analysis:

Table 1: main aggregate definitions



## Results on long term series

### *The UK*

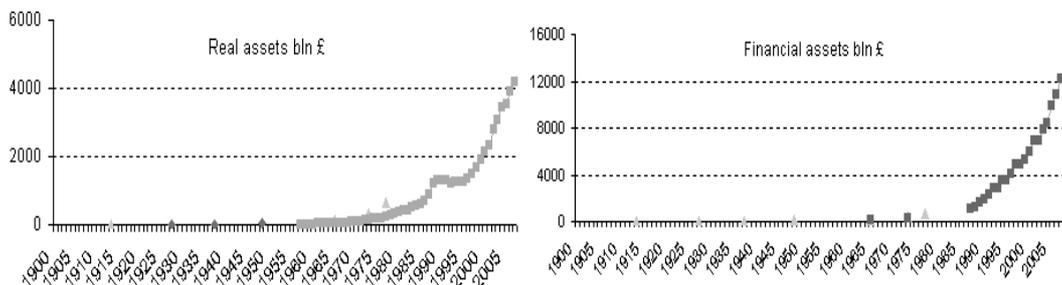
We have obtained very good results for the UK series, this is not surprising since sources used have been quite homogeneous<sup>5</sup>. Levels and trend for both national tangible assets and financial assets are substantial: there is a good degree of continuity between the old and new time series.

<sup>4</sup> N.B. Total financial assets and liabilities cancel out for the national net worth aggregate.

<sup>5</sup> Teresa Sbrana : « Reconstructing the financial assets time series in UK », published in « Economic and labor market review » vol.2 N4, April 2008

**Graph n.1**

***Absolute values: a good degree of continuity for both Real and Financial assets***

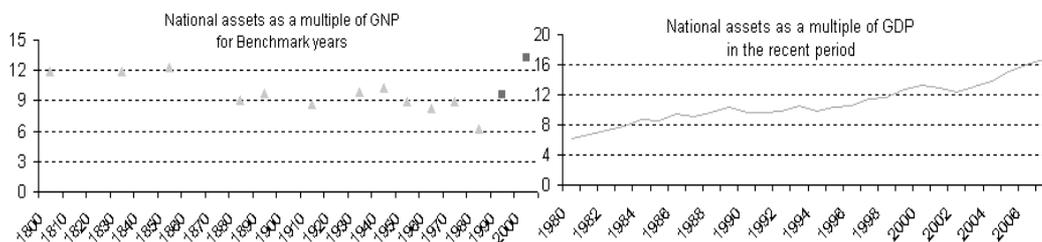


The perfect matching allows us to analyze the trend of National wealth for a number of benchmark dates spanning on more than three centuries.

The balance sheets refer to the total domestic sectors plus the net financial assets of the rest of the world if positive.

**Graph n.2**

***Relative values: UK national assets as a multiple of GNP, historical and recent trends***

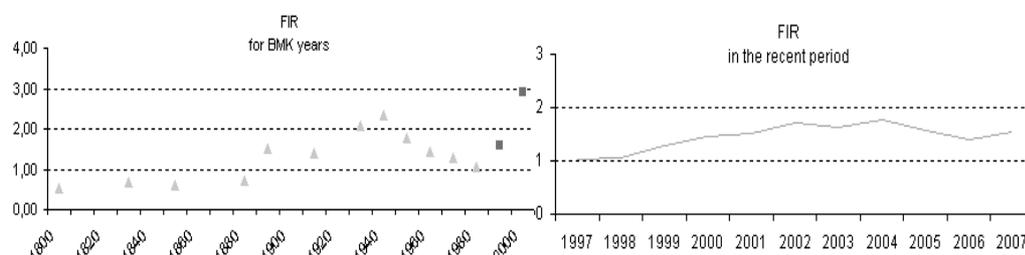


An interesting dynamics in the UK. The National assets/GNP ratio in the long run period signals four main breaks in the 1860, 1929, 1988 and in 2001 in correspondence to the main economic downturns.

It is striking that the ratio of National Assets to GDP has been relatively stable over time, though volatile, except for the 1980-2000 upward trend.

The broadest and most important relation for the financial analysis is the financial interrelations ratio (FIR) the quotient of financial and tangible assets, a ratio which measures the relative size of an economy's financial superstructure.

Graph n.3

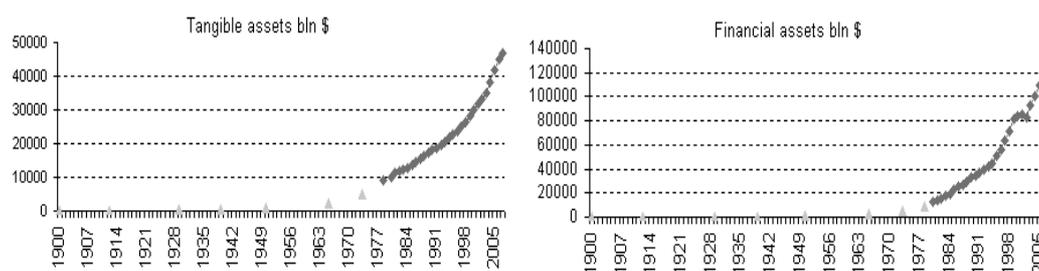
**UK: Financial interrelation ratio**

The ratio has been especially high observed in the mid20<sup>th</sup> century (1920, 1945). This could be explained by the Increased treasury debt reflecting almost entirely military expenditures, which constituted the largest financial instrument and the main financial asset of the public. Downturn trend followed, but new upsurge started in the 90s. Nowadays we are over the post war peaks, but the origin must be searched in the financial sectors itself.

**The USA**

We have obtained a very good matching for the USA , which can be attributed to the quality of the sources.

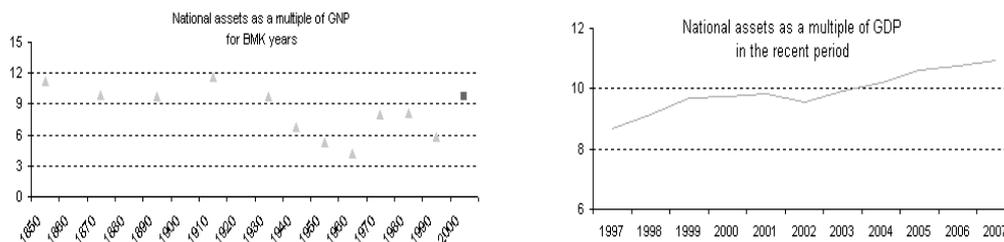
Graph n.4

**Absolute values: a good degree of continuity for both Real and Financial assets**

In relative terms, the size of national wealth as a percentage of GNP stood at high levels from 1890-1930. An important contraction occurred during the great depression with an impressive correction of the ratio from 10 to about 6 times the GNP (Graph n.5)

**Graph n.5**

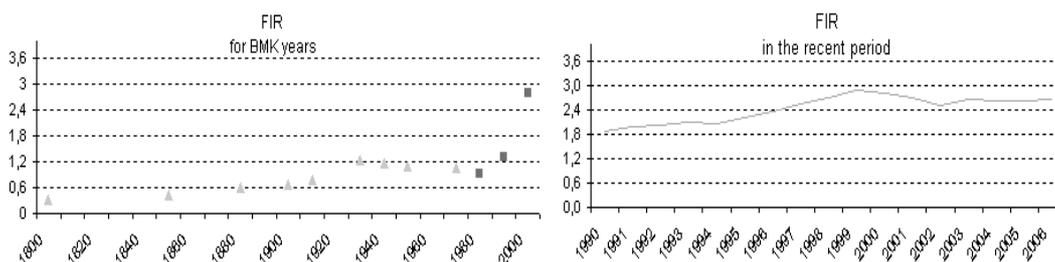
**Relative values: US national assets as a multiple of GNP, historical and recent trends**



During most of the 20<sup>th</sup> century wealth increase was due to savings deposits, insurance and pension claims rather than to money. At the beginning of the 21<sup>st</sup> century on the other hand an explanation must be looked in other domains. Apparently “financial intensity” has increased across the board.

**Graph n.6**

**USA: Financial interrelation ratio**



The size of financial superstructure can be measured as the financial/tangible assets ratio. As shown in Graph above were a gradual increase is observed in the last two centuries. The FIR has grown thus resulting from almost zero in 1800 to 1,2 in the 1930. The ratio has been gradually increasing from 1980 with an acceleration from 1980 to 2000. The stability in the period 2000-2006 can be explained by the simultaneous increase in the values of financial and tangible assets.

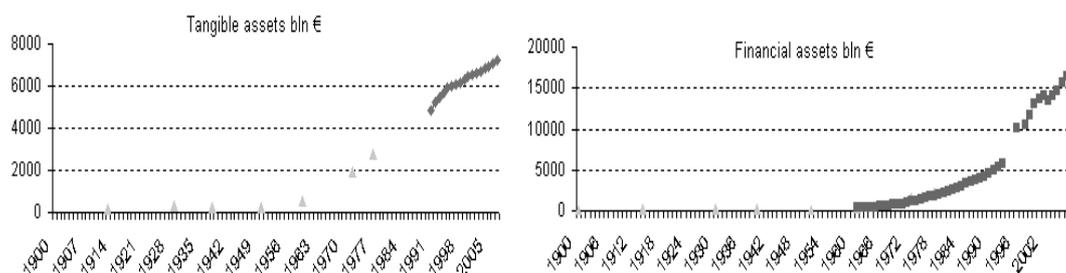
After 2000 a stable trend is observed, with the index floating around the 2,4.

**The German case**

Also for Germany there is a good degree of continuity between the old and new time series also in the case of Germany.

Graph n.7

**Absolute values: a good degree of continuity for both Real and Financial assets**

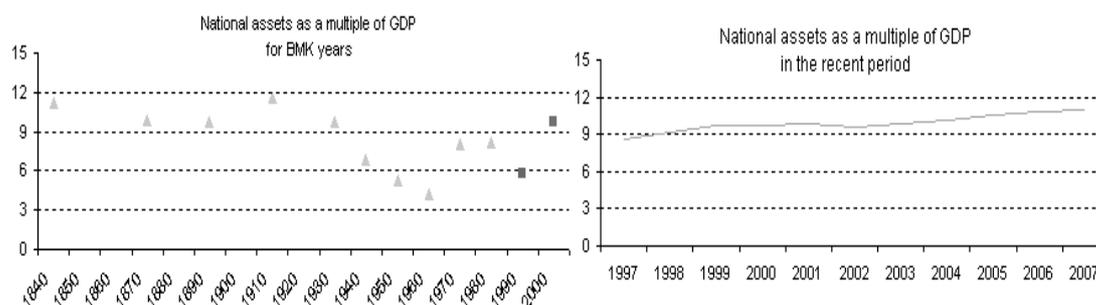


All long-term comparisons are basically affected in the financial sphere by two inflations, the open hyperinflation of 1919-23 and the repressed inflation of the first half of the 1940s and by the currency reform and debt-write-down which followed it; and in the case of tangible assets by the large-scale destruction during world war II.

After the unification we witnessed an important increase that drove the ratio at the level presented at the beginning of the 20<sup>th</sup> century. This upward trend was generated mainly by the financial assets increase.

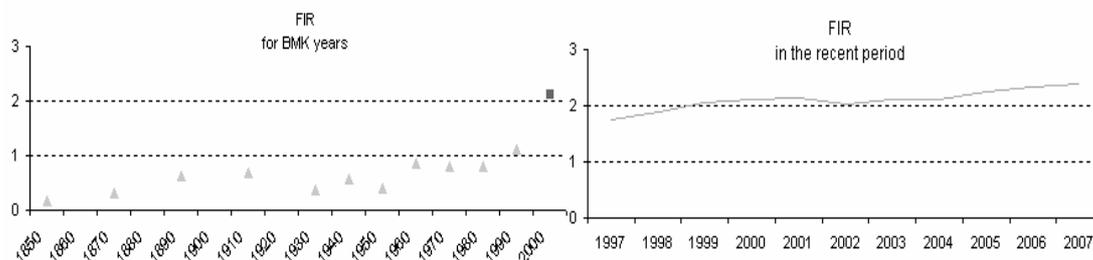
Graph n.8

**Relative values: German national assets as a multiple of GDP, historical and recent trends**



An upward FIR trend can be seen until World War One (Graph n.9). Reduction afterwards should be explained with war inflation. In the late 60s when the great post war boom started to vanish, the ratio increased. Financial assets doubled the correspondent tangible assets, level being maintained till nowadays, with an upward trend).

Graph n.9

**Germany: Financial interrelation ratio****Looking at indicators of Financial Development**

It is of course of great interest to look at indicators of Financial development

A number of macro issues raised could benefit from the series developed:

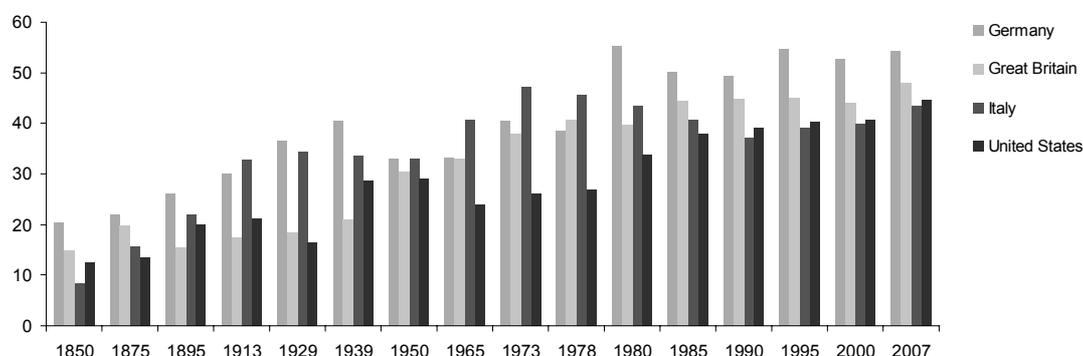
- Is there a strong common trend in the relative size of the financial infrastructures?
- How do financial institutions position themselves, in the initial periods
- What weight do pension funds and life insurance vehicles have

Even if a profound macro analysis is beyond the scope of this paper, we will try to build a solid database for a future research and high-lighten how the “matched” series could be of interest to analysts and policy makers for better understanding long-term trends.

**Financial Intermediation Ratio (FIM)**

Raymond W. Goldsmith’s definition of the Financial Intermediation Ratio (FIM) is the quotient of the assets of financial institutions and the total financial assets. The ratio is a measure of the financial superstructure. The process of institutionalization resumed in the post World War II period, peaking in 1980. As a result, the FIM averaged in the late 1970s nearly 40%, reflecting a strong growth of both components of the ratio.

Graph n.10

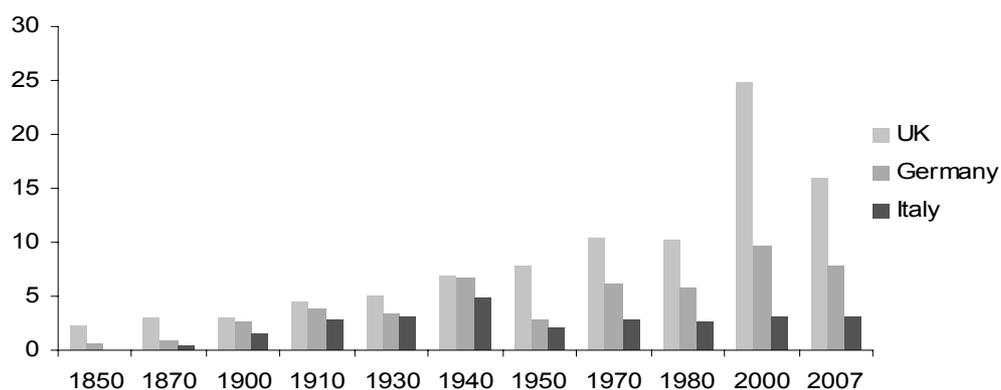
**Financial intermediation ratio in Germany, UK, Italy and US****Insurance and pension claims**

The ratio of insurance and pension claims to total financial wealth tends to peak after 1980. This reflects the fact that total financial assets have increased along with the assets of financial institutions. This probably reflects a change into the nature of financial intermediation.

These types of financial assets have shown in most countries the steadiest and most pronounced upward trend in relation to total financial wealth. Thus their share in financial assets has more than quadrupled in the UK from about two percent in the mid 19<sup>th</sup> century to respectively 10 and 8 percent in the 1970s.

These differences reflect the relative importance of the social security system and the way it is financed.

Graph n.11

**Share of insurance and pension claims in national financial assets for benchmark years**

How can we explain the fall into the ratio form 2000 to 2006? Probably we must look at the both sides of the ratio. Pension assets have been affected by market negative trends in 2001 and 2002; recovery

forward from 2003. Still the overall financial intensity of the economy increased<sup>6</sup> as well, thus deferring the ratio to lower levels.

### The openness towards the rest of the world

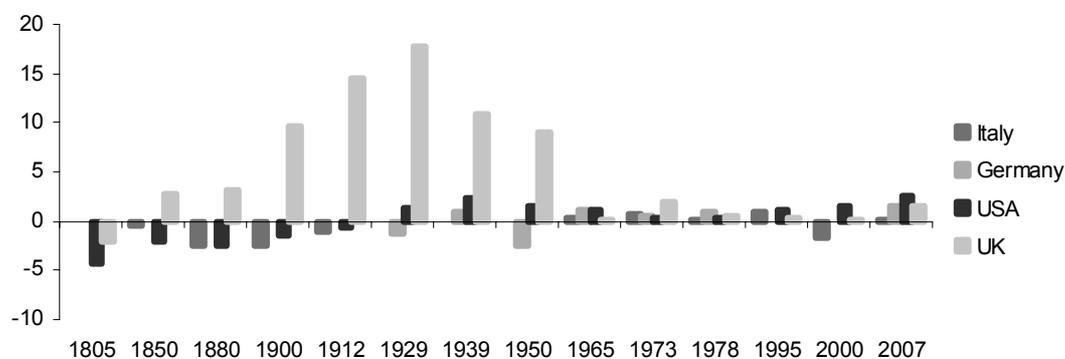
During the 19<sup>th</sup> century **Great Britain** became the largest international creditor, and the share of its net foreign balance rose from about 7% of all total domestic financial wealth in 1830 to over 15% in 1913, being the highest ratios ever observed. During the post war period foreign investments become small, even slightly negative in the late 1970.

Vice versa during the 19<sup>th</sup> century **the United States** were one of the largest users of foreign capital. During the 20<sup>th</sup> century the opposite relation prevailed as the country became the largest exporter of capital. In the seventies the trend reversed again partly as a result of the accumulation of large dollar balances of foreign banks and monetary authorities. Net foreign assets tended to increase even more substantially in the last 15 years.

Before World War I, **Germany** was a capital exporting country. In the interwar period Germany became a net international debtor and reverted to positive position in the 1950s reflecting substantial capital imports needed to overcome the effects of the war and inflation. In the 1970s, substantial investments abroad and foreign investment in Germany resulted in a small net credit balance keeping well below 1 percent.

Graph n.12

#### Net foreign assets as a % of total National assets



### Concluding remarks

The aim of this exercise was to revive the historical work of R Goldsmith continuing his time series and financial indicators that go back to 1688

<sup>6</sup> Daniele Fano, Maria Pace, Milena Georgieva, Teresa Sbrano Financial cycles in selected OECD countries and the growth and evolution of asset management *Pioneer Investments Economic Research* <sup>6</sup>, Munich, June 2008

A perfect continuity is observed in the UK, US and Germany both in terms of tangible and financial assets FIM and FIR indices thus resulting significant and highlighting the main dynamics in the financial and real assets

An extension of this exercise to other countries may provide useful insights to better understand the growth and evolution of national wealth and the role of financial institutions

The years following 2000 are clearly anomalous. We hope that data we present in this paper will provide a basis for further analysis.