First poster Session
Time: Monday, August 6, 2012 PM

Paper Prepared for the 32nd General Conference of
The International Association for Research in Income and Wealth

Boston, USA, August 5-11, 2012

Macro Financial Balance Sheets. Alternative Approach. 1980 – 2011. Sweden

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32nd IARIW General Conference
Boston Massachusetts USA

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Content

1 Introduction

The global financial and debt crises in recent years have brought up the need for macroeconomic financial data, in particular on stocks and balance sheets, on integration of real and financial economy and on asset prices and holding gains. This paper being a continuation of the paper *Balance sheets – a financial approach*[1] intends to make some clarifications and provide some new ideas in the area. The 2010 IARIW paper focussed on theoretical aspects of capital stocks and balance sheets, on concepts and on statistics. Also an alternative financial approach was tentatively sketched along with some very preliminary calculations.

In this paper the last part of the 2010 paper will be further elaborated and developed. Time series data from 1980 – 2011 will be shown. A final section discusses return on capital in a broader sense i.e. that operating surplus, property income as well as holding gains are included and related to stocks following the alternative financial approach. It should be noted that minor parts from the 2010 paper have been copied and inserted in this paper without being referred to.

2 Balance-sheets – a financial approach

2.1 Back-ground

In economic analysis there are in principle two kinds of economic variables – flows and stocks. Flows are economic activities that take place during a certain period of time while stocks are balance-sheet items in the form of assets, liabilities and wealth. Flows in the form of so called transactions are dominating in national accounts statistics, macroeconomic analysis and -modeling. One example is the GDP and it's components (consumption, capital formation, export/import, production, wages, operating surplus). Other examples are property incomes and transfer incomes as well as financial transactions (lending and borrowing). All changes in stocks between two periods of time are thus flows meaning that also changes due to asset price changes are defined as flows.

Stocks consist of different kinds of non-financial capital and financial assets and liabilities. Stocks are building stones in a balance-sheet, which in its most simple form can be compiled as follows:

[1] Presented at the IARIW general conference in St Gallen Switzerland August 2010. Poster session. Bo Bergman.

Table 1

Assets	**Liabilities and equity**
Non-finncial assets	Liabilities
Financial assets	Equity / Net worth
Balance sheet total	Balance sheet total

For each balance-sheet item there is a relation between flows and stocks during any period, t

- *Opening balance (OB) + flows (F) = closing balance (CB)*

meaning that the value of a stock at a certain moment is always the accumulated value of all historical flows.

Simultaneously the market value of the same stock can be expressed as the present value of the owner's expected future economic benefit of the capital stock.

Traditionally national wealth and sector balance-sheets statistics are provided within the framework of SNA[2] national and financial accounts. National and sector balance-sheets accounts give certainly the most comprehensive picture. These accounts cover non-financial assets, financial assets and liabilities for all institutional sectors as well as for the whole nation (the national wealth). Nevertheless, national balance-sheets that are produced and published by statistical authorities have met with relatively low interest among users, at least in Sweden. Reasons could be that there are some conceptual shortcomings and uncertainties in the balance-sheets accounts, for instance that most of the value representing non-financial invisible assets in a company is not included in the recorded accounts such as internally generated assets (trademark, goodwill, organizational capital)

Further the use of market values is not generally accepted among users, for instance the application of marginal values on the entire capital stock (example: the housing stock). Another complication is how to interpret the concept Corporation Net Worth, i.e. accumulated profits that are not attributed to the formal company owners, but stays in the legal corporate unit.

Before going further let's bear in mind the two different aspects of capital and balance sheets. The first aspect, is to regard capital as *storage of wealth*. Here the assets and liabilities of institutional sectors are recorded at current market prices. The second aspect is to see capital as a *source of capital services*. Capital services is a concept used in particular by the OECD which impact operating surplus, consumption of fixed capital and capital taxes. Capital services thus show productive assets contribution to total production and GDP, measured in volume and at fixed prices.

Leaving the second aspect of capital and concentrating on the first one – the storage of wealth aspect – it can be noted that issues about wealth and debt are closely related to financial markets, which in turn are close to business accounting and market valuation.

In the wake of the latest financial and debt crises different views have been expressed in respect of macroeconomic theory and statistics like e.g. how to theoretically integrate real and

[2] United Nations System of National Accounts

financial economy and how to treat asset prices and holding gains. A good example is the Stiglitz Commission on the Measurement of Economic Performance and Social Progress. Executive Summary.

Excerpts, pages:
56) For firms as well as for an entire country, the information about wealth is brought together in balance sheets. To construct the balance sheet of an economy, we need comprehensive accounts of its assets (physical capital – and perhaps even human, natural and social capital) and its liabilities (what is owed to other countries). To know what is happening to a country as a whole, we need to ascertain changes in total wealth – economic, social, and environmental. In some instances, it may be easier to account for changes in wealth than to estimate the level of wealth. The importance o measuring wealth, in all its main dimensions, is also a core recommendation of recent work on the measurement of sustainability by the UN-ECE, the OECD and Eurostat (2009).
57) Although information about many aspects of economic wealth is in principle available from national accounts´ balance sheets, it is often incomplete. For some assets, price indices are incomplete or do not follow an agreed methodology. This concerns, for instance, the single most important type of asset for private households, dwellings… Furthermore, certain assets are not recognized as such in the standard accounting framework.
58) Changes in wealth entail gross investments (in physical and human capital) minus depreciation and depletion (of physical, human, and natural capital). Wealth also changes through revaluation: in the present economic crisis, plummeting house prices negatively affect many households, and revaluations of pension funds´ assets directly influence consumption possibilities of pensioners. There is thus a direct link between stocks and flows and information on both is needed to assess peoples´ living standards.

From now on this paper will focus on an alternative to the traditional national wealth and sector balance sheets accounting. It should be pointed out, however that the going through this approach is mostly theoretical. Data illustrating aggregates and links stem partly from official statistics, partly from estimates based on my own more or less well-founded judgments.

2.2 Methodology

The macro financial balance-sheet approach can be described as an economic–statistical framework covering capital stocks in the form of sector balance sheets. By way of introduction I put up some basic conditions. These are to some extent taken from discussion papers used at the SNA 2008 review process[3] (*in italics*).

- *The financial markets (involving all financial assets and liabilities) moves (expected) economic benefits forward – and backward – in time through savings and borrowing.*

- *Consumption does not generate capital since consumption is assumed to take place in "current period", Production and capital formation, on the other hand, imply that expected economic benefit is put forward in time in the form of capital stocks (buildings, machinery, and equipment)*

[3] e.g. the Expert Advisory Group, AEG

- An investment thus means that consumption is given up in exchange for expected higher future economic benefits. But - what should also be mentioned - at a higher risk exposure.

- The above mentioned general characteristics of financial and non-financial assets would imply that the two capital categories (financial and non-financial) could be treated in the same manner. My suggestion is they are both regarded as financial.

Then which are the conceptual consequences of applying a financial approach on institutional sector balance sheets? I would propose the following:

1. Households and government are supposed to be classified as *final owners* of capital stocks.

2. These sectors are supposed not to be direct owners of real assets. Their legal owning of e.g. real estate is hence transformed into financial assets (imputed shares of equity) at imputed notional corporate units (corresponding to the treatment of real assets abroad in the Balance of Payments (BOP).[4]

3. All corporations and corporate units whether actual or imputed (see item 1 above) are supposed to be regarded as *intermediaries* i.e. they are at one hundred per cent owned by their owners. The "corporations" are supposed therefore to have no own saving and no net worth (see further below). The liability side of this extended "corporate sector" is thus entirely the total sum of debt and equity instruments at market value or at corresponding value.

4. All assets and liabilities - whether actually financial or imputed, whether interest-bearing or equity – should throughout be valued at *current market prices* or at a corresponding value.

5. The compilation of the balance sheet of the accordingly extended corporate sector provides a residual item on the asset side of the balance sheet (since net worth is zero). This item consists of the *total market value of all non-financial assets* in the domestic economy. If added with net external assets, National Wealth at current market value is thus provided. It should be noted that this item includes also in principle all invisible assets as reflected by corporations total equity capital at market value..

2.3 A numerical exercise

Following from above a numerical exercise can be elaborated in the following seven steps.

Step 1
Make the distinction between final and intermediate owners. The SNA institutional sectors *Households (including NPI:s)* and *General government* are classified as final owners. *Non-financial and Financial corporations* are intermediate owners. The *ROW sector* is left unchanged as it already applies the financial approach on external real assets.

[4] SNA 2008 para 10.60

Step 2
Final owners (households and government) can only possess financial assets. So they cannot directly own non-financial assets. For these sectors, BOP method of treating legal owning of real assets is applied i.e. that owning of real assets is transformed to financial assets through *notional corporate units*. This is done by calculating real assets according to a simplified *perpetual-inventory (PI)-method)*[5].

Step 3
Consequently the corporate sector is extended so as to include not only non-financial and financial corporations but also notional corporate units (see above).

Step 4
A basic table containing all assets and liabilities is compiled. Four institutional sectors are shown *("Corporations", Households, Government and the Rest of the world*) and also four kinds of financial instruments (*interest-bearing, listed shares, unlisted equity and imputed assets/liabilities for legal owning of non-financial assets*). Interest-bearing assets and liabilities include also zero-interest instruments like notes, trade credit and other accounts receivable/payable.

Step 5
Apply the Own funds approach[6] on the extended corporate sector, i.e. corporations net worth is eliminated and allocated to its owners.

Step 6
Change viewpoint to business accounting as regards the balance-sheet identity in the corporate sector. Since all non-financial capital in the national economy has been allocated to the extended corporate sector it can thus be residually calculated as the difference between liabilities including equity capital less financial assets.

Step 7
The total of non-financial assets at market value could then be compared with total of real assets PI-method compiled. Ideally there is a positive residual expressing the total value of non-financial non-real assets in the national economy. Unfortunately this is not the case for most of the years examined in this study. Negative values are more common, indicating that there are statistical inconsistencies between the calculations of different statistical series.

The following table shows the results as at end 2011.

[5] Opening balance + net investment + valuation changes = closing balance
[6] SNA 2008 paragraph 13.88

Table 2 Assets and liabilities end 2011

	2011 CB					
	Trillion SEK	**"CORP"**	**GOV**	**HH**	**ROW**	**TOTAL**
	GDP = 3,5 trillion	*1*	*2*	*3*	*4*	*5*
1	FA, interest -.bearing	16,2	1,5	4,2	7,4	29,2
2	Shares quoted	4,1	0,6	1,1	1,4	7,1
3	Equity non-quoted	8,6	0,8	2,4	2,2	14,1
4	Imp owning NFA		3,4	5,4		8,9
5	Total assets	28,9	6,3	13,2	11,0	59,4
6	LIA,interest -.bearing	19,2	1,8	3,0	5,2	29,2
7	Shares quoted	4,9			2,3	7,1
8	Equity non-quoted	9,9			4,2	14,1
9	Imp lia NFA	8,9				8,9
10	Total liabilities	42,9	1,8	3,0	11,6	59,4
11	Net financial assets	-14,0	4,5	10,2	-0,6	0
12	*= total NFA	**14,0**				

FA = financial assets; LIA = liabilities; NFA = non-financial assets

The table above looks like any ordinary SNA financial accounts balance-sheet table, with some exceptions. Total assets (r5/c5) are identical to total liabilities (r10/c5) since monetary gold is classified as liabilities in the corporate sector contrary to the treatment in the SNA financial accounts. The main difference, as mentioned earlier, is the absence of net worth in the corporate sector and the imputed notional corporate units, consisting of final owners' possession of real assets (r9/c1). The table accordingly provides an extremely condensed picture of the total economy in balance sheet terms and at a financial approach. Macro economic aggregates that can be identified are e.g household outstanding debt (r6/c3), government gross debt (r6/c2) and the international investment position, IIP at market value (r11/c4 with reversed sign).

2.4 Data sources – about the figures

The SNA national accounts, in particular the financial balance-sheets accounts, are the cornerstone of the calculations.. Ideally numerical data on stocks of tangible assets by institutional sectors should be on hand in official statistics. However up to date information on non-financial capital is not available. But, by applying perpetual-inventory (PI) methods using statistics on capital formation and on real estate prices estimates can be made. See below.

Data are relatively consistent over the period 1980 – 2011. There is a conceptual break in the series around 1995 due to the implementation of the European System of Accounts (ESA 1995) Yet, since the model is mainly built-up from stocks of assets, lower accuracy requirements may be accepted.

Contents in brief:

1. *Financial interest-bearing assets (and liabilities)*
   Include deposits, bills, bonds, loans, insurance reserves. Also zero-interest financial assets, like trade credit, other accounts are included.

2. *Shares, quoted*
   All shares listed on a stock-exchange including mutual funds shares.

3. *Equity, non-quoted*
   Market values are not available so an estimate is required. In the Swedish financial balance-sheets accounts, book values are commonly used. In the present exercise a rough estimate of market values has been made by using different ratios; the pan-European database for quoted shares[7] and also an implicit calculated ratio for direct investment corporations (at book and at market value in the BOP). The figures on unquoted shares are extremely uncertain, and should be interpreted primarily as a theoretical model component.

4. *Non-financial assets*
   Stocks of fixed assets and national wealth[8] are used for the period 1980 – 1994. Starting from bench-mark end 1994, stocks of non-financial assets have then been projected by adding yearly national accounts data on capital formation less consumption of capital. Holding gains have been estimated by using statistics on real estate prices.

5. *Imputed assets for owning of non-financial assets*
   Final owners (households and government) legal owning of non-financial assets have been transformed into financial assets (a corresponding liability is inserted in the corporate sector).

2.5 What is a corporation? Focus on the liability side.

The corporate sector has a central role. According to SNA 1993 *"corporations are institutional units created for the purpose of producing goods or services for the market. They may be a source of profits for the units that own them." (SNA 1993 4.18).* The SNA defines thus companies mainly from the asset side of a company, the activities deriving from its productive assets. When applying the financial approach, we should look at corporations from the liability side thereby focusing on the contractual relation between the legal company and its owners/ the investors. I think the following extract from an article in the Swedish journal for economics[9] might shed some light on the issue. (freely translated).

"Enterprises and business activity can be described from a contractual perspective where the boundaries for enterprises decisions on allocation of resources and incentives are determined

[7] Eurostat
[8] Published by Statstics Sweden 1995

[9] Bjuggren, Per-Olof, Du Rietz, Gunnar and Johansson, Dan (2007). "3:12-reglerna: en ekonomisk analys" ["The Rules for Closely Held Firms (the so-called 3:12-rules): An Economic Analysis"]. *Ekonomisk Debatt*, 35(7): 18-30.

by the legal framework of private property….. The purpose of owning of business is to generate a surplus leading to positive return on invested capital, financially and human, through the acquirement of resources which are used to create a value added that can be sold at a price that exceeds costs of production and selling expenses. The acquirements and disposals are regulated in a number of different agreements between the enterprises and e.g. its employees, suppliers and customers. ….

According to basic economic theory there is a fundamental difference between compensation to the owners and the compensation to other contracting parties. The owners receive what remains after allocation of payments to all other contracting parties. Consequently, it can be said that the owners possess a ***residual contract*** *(my mark)."*

The items in a company's balance-sheet are valued at business accounting principles. The book values are a mix of market values and other valuation principles, preferably tax based. An important objective of business accounting is to provide relevant information to owners and other interested parties about liquidity, solidity, profitability etc.

An analytical complication with the SNA corporate sector is the existence of the item Net worth. Net worth is that part of corporations own funds that is not allocated to the owners in the form of shares and other equity capital items. The corporate sector thus has an own"own capital". Net worth can show both positive and negative values depending on firstly the discrepancy between market valuation of shares and other equity and the corresponding. An implication of the financial approach, where a strict market valuation is applied all over the economy and the main sector division criterion is between final owners and intermediaries, is that it seems more appropriate not to compile and show any independent "net worth" for corporations.

The alternative approach outlined above assumes that all financial assets and liabilities are at market value or at a corresponding value. The consequence is that also the residual item Non-financial assets, NFA is market valued.

It should be mentioned that non-financial capital not easily can be broken down on tangible and intangible assets (net). The reason is that changes in market valued equity normally cannot be directly related to specific assets in the balance sheet. It could as well be a combination of effects from value changes on tangible assets, intangible assets and debt instruments as from impact of structural components in the company.

To sum up briefly: An alternative to the traditional statistics is explored in this paper. A financial approach is applied. The characteristics are as follows: Final owners are separated from intermediate owners. Final owners legal owning of non-financial assets is transformed into financial assets. Corporations' net worth is eliminated and allocated to its owners. Total non-financial capital at market value (including intangibles) can be calculated as a residual item. It should be pointed out also that data to some extent rely on rough estimates and that the calculation is to be regarded principally as a numerical exercise.

2.6 Numerical results 1980-2011

Table 3

Assets, liabilities and wealth. Year-end data
Sweden SEK Billion
at market value

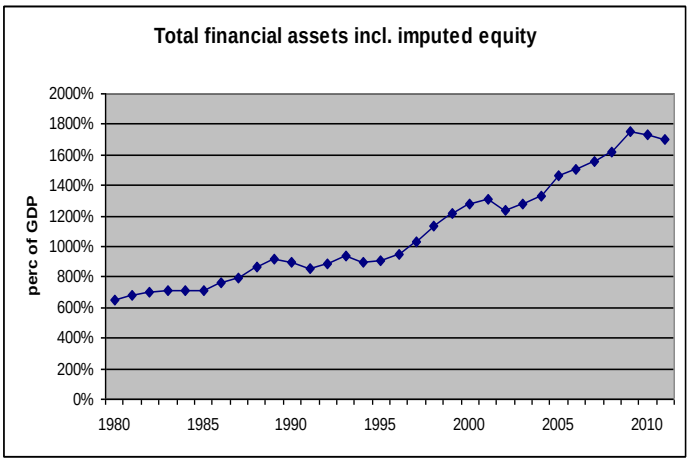
row		*1980*	*1990*	*2000*	*2010*	*2011*
1	**Corporate sector**					
2	Interest–bearing assets	1173	5074	9029	15469	16172
3	Shares, listed.	28	365	2211	4484	4136
4	Shares and other equity, unlisted	95	417	3158	7786	8624
5	Total financial assets	1295	5856	14398	27739	28933
6	ow held by financial corporations	858	3899	7641	15963	16339
7	Total non-financial assets	1666	4176	6228	14326	13977
8	real assets PI-method	2183	5730	7582	15883	16009
9	residual	-517	-1554	-1354	-1558	-2032
10	Total assets	2962	10031	20626	42065	42910
13	Interest–bearing liabilities	1394	5923	9894	18509	19231
14	ow held by financial corporations	713	3116	4919	11251	11996
15	Equity, listed	59	669	3924	5666	4872
16	Equity, unlisted	237	226	2824	9064	9922
17	Equity imputed	1272	3213	3984	8826	8885
18	Total liability side	2962	10031	20626	42065	42910
19	**Government sector**					
20	Interest–bearing assets	323	697	1002	1395	1461
21	Shares, listed	2	49	351	650	565
22	Shares and other equity, unlisted	46	93	358	751	825
23	Equity capital, imputed	591	1424	1597	3454	3439
24	Total assets	962	2264	3309	6250	6290
25	Total liabilities	289	702	1756	1741	1844
26	ow Maastricht debt	218	584	1296	1313	1341

27	**Household sector**					
28	Interest–bearing assets	425	1233	2074	4138	4248
29	ow collective pensions	52	233	648	1750	1763
30	Shares, listed	28	213	1104	1369	1088
31	ow mutual funds shares	1	103	451	664	578
32	Shares and other equity, unlisted	135	560	754	2184	2395
33	ow tenant ownership rights	32	192	333	1204	1210
34	Equity capital, imputed	680	1789	2388	5372	5446
35	ow real estate	573	1572	2191	4861	5121
36	Total assets	1268	3796	6319	13063	13177
37	ow dwellings (houses and flats)	605	1764	2523	6065	6331
38	Total liabilities	288	861	1155	2882	3013
39	ow housing loans	102	449	620	1596	1673
40	**External position to the Rest of the world**					
41	Interest–bearing assets	100	454	2043	4711	5159
42	Shares, listed	0	0	1004	2423	2269
43	Shares and other equity, unlisted	58	1075	2355	3801	4172
44	Total financial assets	158	1529	5403	10935	11601
45	Interest–bearing liabilities	147	933	2742	6840	7365
46	Equity, listed	2	42	1262	1586	1353
47	Equity, unlisted	19	230	909	2144	2250
48	Total liabilities	168	1205	4913	10570	10968
49	**Total financial economy**					
50	Interest–bearing assets	2068	7938	14847	27843	29247
51	Shares, listed	59	669	4928	8089	7142
52	Shares and other equity, unlisted	295	1300	5179	12866	14094
53	Total financial assets/liabilities	2423	9907	24955	48797	50483
54	Equity capital, imputed	1272	3213	3984	8826	8885
55	Total including imputed equity	3694	13120	28939	57623	59368
56	**Total national economy**					
57	Non-financial assets	1666	4176	6228	14326	13977
58	real assets PI-method	2183	5730	7582	15883	16009
59	residual	-517	-1554	-1354	-1558	-2032
60	Total net assets to the ROW	-10	324	490	365	633
61	National Wealth	1656	4499	6718	14691	14610
62	*Gross Domestic Product*	*569*	*1457*	*2265*	*3331*	*3495*

2.7 Analysis of results

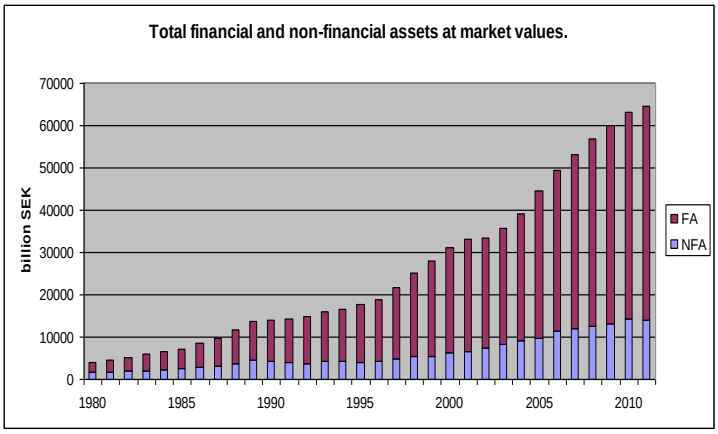
The main purpose of this study is to provide a quite simple framework containing macro financial balance-sheet data. But it should be understood that what is labeled the total financial economy is a strongly over-sized aggregate. Data are unconsolidated, in particular in the financial corporations sector. On the other hand the total sum could be even higher if guarantees and public pension entitlements had been included.

Figure 1



The total of financial assets in the economy is enormous in size. Starting from the already high 600 percent of GDP at the end of 1980 the financial total almost tripled up to the peak 2009. Thereafter the size of the financial economy has slowed down similar to what happened at the earlier financial crises in Sweden (bank and IT-crises 1990 and 2000 respectively). Another illustration of the formidable expansion of the financial economy the last 30 years is shown in the figure below.

Figure 2

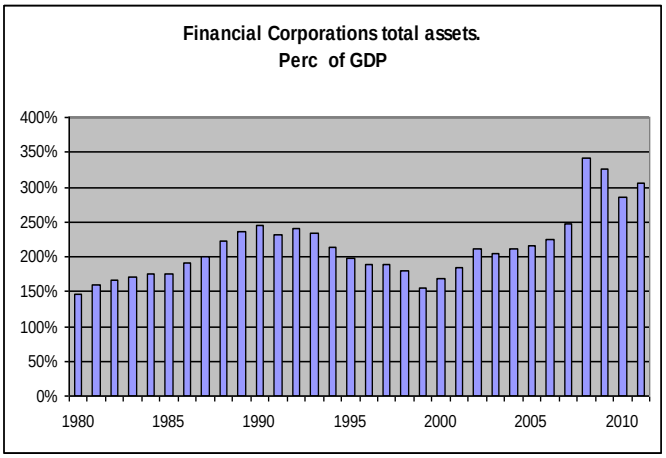


Even if macro-macro aggregates like the total of financial assets could be subjected to some interest it might be more fruitful to pay attention to issues on a lower aggregate level. The following are in center of interest at present.

2.7.1 Expansion of banks

The development of balance-sheet totals of banks and other financial institutions show an interesting pattern. As was the case at the 1990-ties financial crisis, banks assets rose rapidly before the acute start of the crises and then fell down relatively sharply.

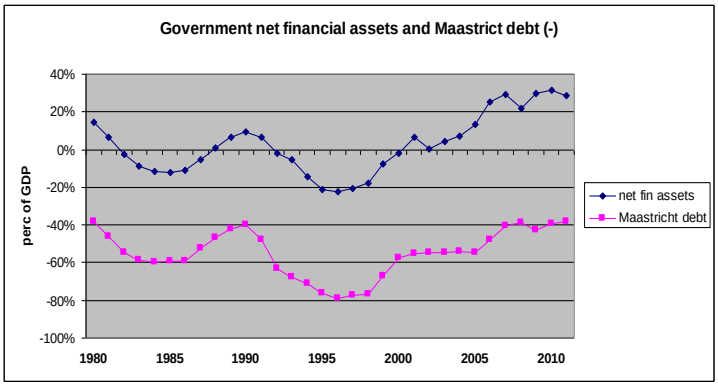
Figure 3



2.7.2 Government financial position.

Figure 4 below illustrates net financial assets position (financial assets less all liabilities). Also the development of government debt approximately defined according to the so called Maastricht criteria[10]. It is worth noticing in particular two things. First, that Sweden contrary to most other countries has improved the government financial position during the latest/current global financial crisis. Net lending has in general showed surplus the latest years and the government debt has fallen as percentage of GDP (partly en effect of GDP-growth). Second, the big difference between the net assets aggregate and the outstanding government debt – figure 4 shows that although Maastricht debt peaked at nearly 80 percent in mid 1990-ties, net financial debt did not exceed 20 per cent of GDP. This circumstance strongly contributed to the relatively smooth solution of the Swedish debt crisis. Large amounts of government assets (mostly securities) were disposed of and used to pay off government debt.

Figure 4



[10] General government consolidated gross debt at nominal value. Excludes trade credit and other accounts payable.

2.7.3 Households housing loans

Figure 5 shows that the outstanding stock of housing loans grew steadily during the 1980-ties. The estimated value of households' dwellings (houses and owned flats) is more up-and-down. At the beginning of the 1990-ties, however, there was a dramatic macro-economic change together with dramatic changes in taxation rules. The changeover from high inflation to low inflation, from high to low (or no) economic growth, the dramatic increase of unemployment and much less favorable conditions for borrowers led to sharply decreased house prices. At the same time housing loans remained at the early high level so the housing debt ratio rose quickly (see figure 6). Thereafter the ratio has fallen back to a (as it seems stable) level at around 25 per cent.

Figure 5

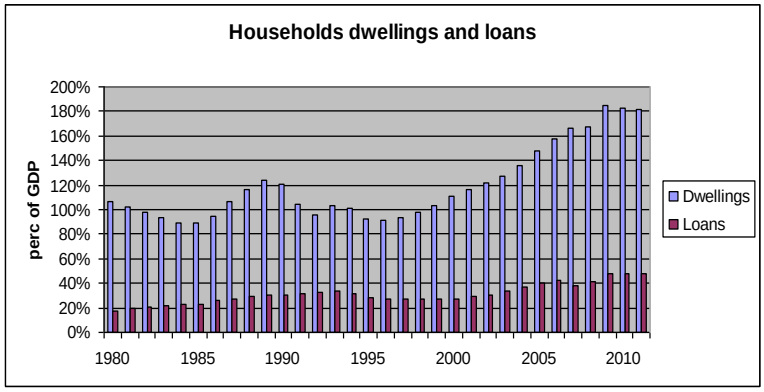
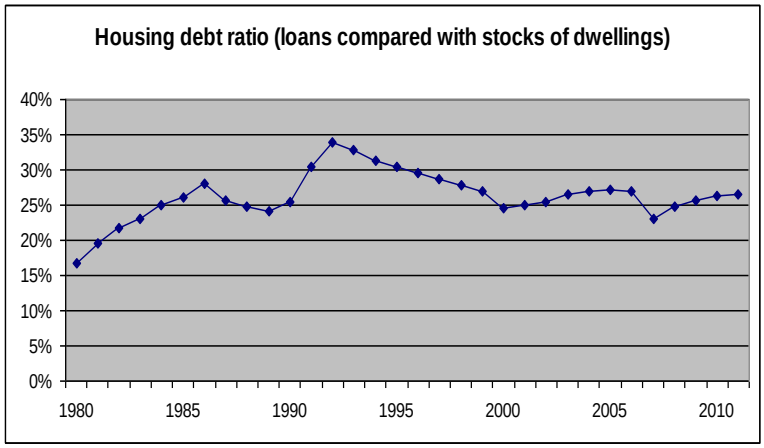


Figure 6



2.7.4 The international investment position (IIP)

Figure 7 shows the Swedish current account balance since 1980. After turbulent 1980-ties with ups-and-downs there was a remarkable improvement as from mid 1990-ties. This was due to the new monetary policy regime and the subsequent strong development of exports and GDP-growth. All over the period foreign affairs gave an average surplus corresponding to three per cent of GDP. As from 1995 the balance of current account was as high as six per cent of GDP on average.

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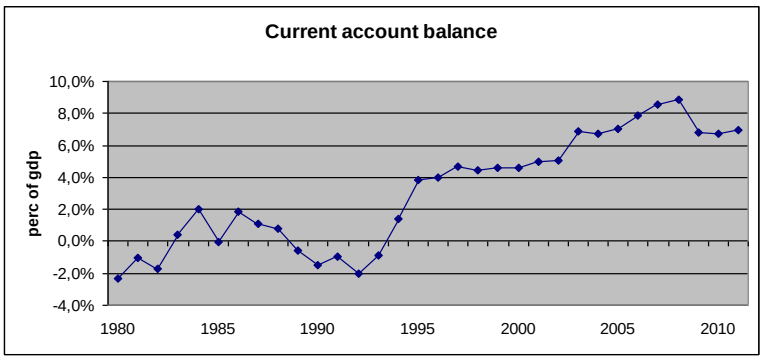
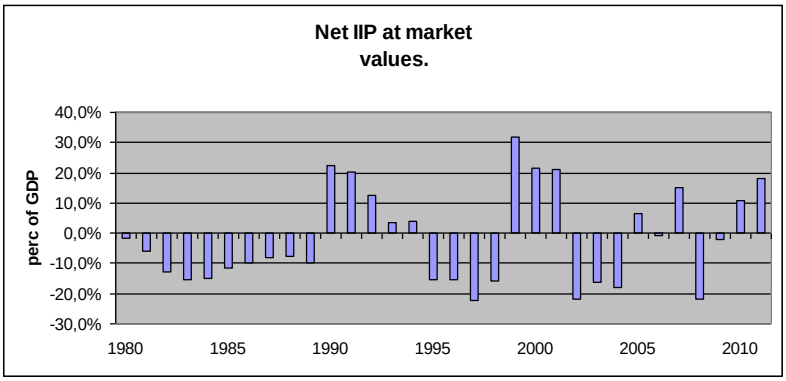
Figure 7



By definition a surplus in the current accounts automatically contributes positively to the net foreign assets of a nation (the international investment position, IIP). So reasonably the IIP should evolve at a satisfactory pace, at least during the last 15 years . However that is not at all the case. As from 1990 there has large irregular fluctuations ranging from plus 30 percent of GDP to minus 20 per cent obviously without any correlation with the development of the current account balance (see figure 8).

Figure 8



So why hasn't the IIP improved to any appreciable extent? And why are the annual up and down changes so big? The answer spells *holding gains* (and unfortunately statistical discrepancies) and it works like this:

The balance sheet total of the external assets /liabilities is very large (about three times GDP). Sweden has a floating currency meaning that the krona can fluctuate considerably against other currencies. Since the currency exposure differ between assets and liabilities the effect of currency fluctuations can thus have substantial impact. Another important explanation is stock exchange fluctuations. About 35 % of the Stockholm Stock Exchange is owned by foreigners. In the macro statistics this item is classified as a liability in the accounts. So at times of stock exchange increases, the IIP deteriorates.

3 Return on capital

Three main capital stocks categories are identified in the model – non-financial assets, interest-bearing assets and equity capital. The return on capital can be described in a broader sense as economic benefits derived from their owners by holding them or using them over a period of time.

According to ESA 95, para 7.11: " *The economic benefits consist of primary incomes (operating surplus by using, property income by letting others use) derived from the use of the asset and the value, including possible holding gains/losses, that could be realized by disposing of the asset or terminating it*."

This broad definition of return matches very well the financial balance sheets approach. So what we can do now is to study the three different capital categories and the three different return categories – in all nine cells per year. The annual outcomes of these mechanical computations (return/average stock) however provide a very shaky picture for specific years. The results are not good enough to be analyzed on a yearly basis. The main reason is statistical uncertainties. Therefore moving averages have been calculated in order to smooth the curves over the three-decennium period. In table 4 below four subsequent five-year periods have been selected. Please note that OS stands for operating surplus.

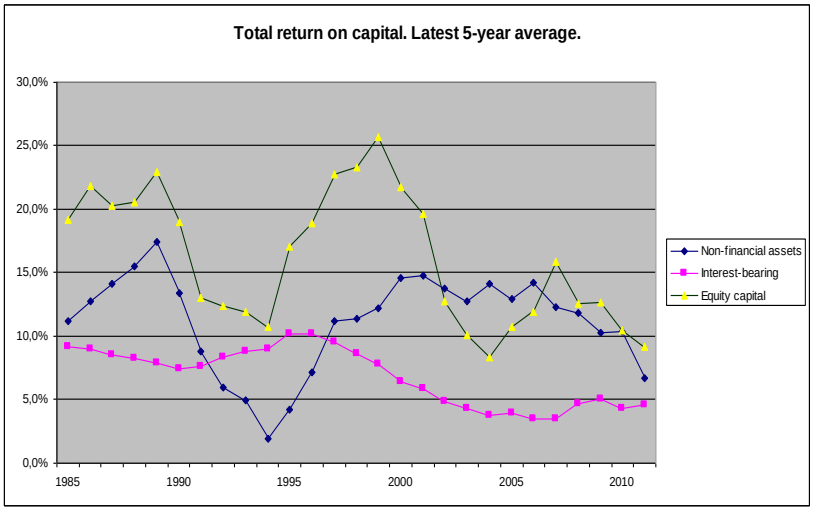
Table 4 Return on capital – breakdown on categories.
5- years average data**.**

	1985	1995	2005	2011
Total return on capital				
Non-financial assets	11,2%	4,3%	12,9%	6,7%
Interest-bearing	9,2%	10,2%	4,0%	4,6%
Equity capital	19,2%	17,1%	10,7%	9,2%
Property income/OS				
Non-financial assets	6,4%	7,0%	5,3%	4,3%
Interest-bearing	7,5%	8,0%	3,1%	2,4%
Equity capital	5,0%	4,9%	4,7%	5,4%
Holding gains				
Non-financial assets	4,8%	-2,7%	7,6%	2,5%
Interest-bearing	1,7%	2,2%	0,9%	2,1%
Equity capital	14,2%	12,2%	6,0%	3,7%

The results seem nevertheless interesting. Luckily the selected periods represent fairly well-defined economic courses and monetary regimes in Sweden. The high-inflation 1980-ties, the strong stock-exchange in the early periods, the weak real estate market in first half of the

1990-ties, the period just before the current financial- and debt cruses and finally the generally low return ratios during the present period.

Figure 9



4 Concluding remarks

The purpose of this study has been to put together and combine stock data in a comprehensive framework covering real and financial assets and liabilities. My experience from the work is that the compilations are surprisingly straight-forward. Data can be obtained rather easily if accuracy requirements are not too high. It must be noted though that the macro financial balance sheets presented in this paper is merely an additional alternative with no intention to replace the traditional SNA sector balance sheets accounts. The transformation of real assets into financial assets (imputed) is thus not necessary but I think it adds an extra touch in the context. It should be brought out also the high timeliness quality of the macro financial balance sheets– data are available within 2 – 3 months after the reference date.

I realize there are well-founded objections to the general use of market values. Market values do not always represent the "true" values of assets. But my intention is not primarily to demonstrate a true picture; it is to illustrate the mechanical statistical effects on the total national and sector balance sheets from the development of the financial economy during the latest just over 30 years. For instance how high volatility, asset price changes and the effects of financial markets expansion generate balance sheet totals and how this development actually is mirrored in the stock of non-financial assets or if you wish the present value of the owner's expected future economic benefit of the capital stock.

Another observation is that the stock numbers are enormous in size. Accounting units must be in billions and trillions in stead of in millions and billions (as for transactions).

Perhaps the most interesting use of macro financial balance sheets is when they are applied on return on capital. Unfortunately however, as has appeared above, the outcome of the very rough calculations does not for the time being give results acceptable for a basic analysis.