Measuring national wealth in a global world – is it time to raise the white flag?

Joseph Haynes
(Statistics Netherlands)

Paper prepared for the 35th IARIW General Conference

Copenhagen, Denmark, August 20-25, 2018

Session 7E-2: Measuring Capital and Wealth II

Time: Friday, August 24, 2018 [14:00-17:30]

Measuring national wealth in a global world – is it time to raise the white flag?

Joseph Haynes – Statistics Netherlands

Session 7E-2: Measuring Capital and Wealth II

Paper prepared for the IARIW annual conference 2018 in Copenhagen Denmark

Abstract

This paper looks at several issues around the measurement of the non-financial and financial balance sheets which make up national wealth. How can these statistics be measured in an era of increasing globalisation and asset mobility and what are the issues with the current international guidance? The paper proposes changes to current guidance that would allow the statistics to better reflect economic reality rather than a legal reality which increasingly gives an odd view of an economy.

In this paper references are made to real world businesses, all of the information included has been taken from previously published publically available sources.

The author would like to thank Mark de Haan and Phil Stokoe for their comments and suggestions which improved the paper.

Introduction

Underlying measures of national wealth is an inherent assumption that assets and liabilities have an intrinsic nationality, a land to which they belong. That compilers of national accounts are able to ascribe the global stock of non-financial and financial assets as well as liabilities to particular lands.

In the modern globalised economy, the concept of an observable and measurable national asset base is increasingly opaque. The ever increasing mobility of capital and assets means that wealth has long since stopped being a national concept. Yet despite this, statisticians persist with the task of attempting to measure national wealth and compile national balance sheets.

The aim of the paper is to highlight some of the issues this produces and to promote broader discussion of the continued usefulness of measures of national wealth in a global world. The range of issues goes far beyond those discussed in this paper but the hope is that this paper gives an introduction into the complexities of measuring national wealth in a global economy. The central question under investigation is: When the national asset base is so fluid, and changeable, often at the stroke of an accountant's or lawyer's pen, has the time come to admit that national measures of wealth are no longer practical or relevant? Can the measures be saved or do we need to raise the white flag?

Section 1 introduces the concept of national wealth. Section 2 focuses on the non-financial balance sheet and how what this records can sometimes be very different to observed reality. Sections 3 and 4 look at issues around the financial balance sheet linked to the role of special purpose entities. Section 5 offers tentative conclusions.

1. What is national wealth?

National wealth is defined as the total of all financial and non-financial assets owned by resident institutional units less the value of all outstanding liabilities. For individuals sectors or units such a calculation is termed net worth. National wealth can also be defined as the sum of net worth of all resident institutional units or sectors[1]. Measures of national wealth are therefore dependent on accurate measurement of both the non-financial and financial balance sheets, something which in practice is exceedingly difficult to do.

National wealth is a stock measure but is linked to flow measures via the balancing item net lending/borrowing and the proceeding balancing items in the current accounts. As such measures of national wealth can be seen as a sort of residual value. Being that they are in effect the balancing item which falls out at the end of the whole national accounts system. This makes them particularly susceptible to issues arising early in the system.

Since 1945 development of the national accounts system, stock measures such as national wealth have received less emphasis than production or income measures. This lack of emphasis on national wealth was recognised as early as the 1950s with Raymond Goldsmith noting that all the efforts up to then had been targeted at the revenue account whilst the balance sheet had been neglected[2]. In the intervening decades the balance sheet and wealth measures have received greater emphasis and attention though they still often come second to the more favoured flow measures, most notably GDP.

[1] SNA08 13.4
[2] Goldsmith, 1951

When wealth measures have been in the spotlight more recently it has been because of attempts to extend them by adding in natural capital or human capital stocks. Whilst noble and worthwhile such extensions should not distract from the underlying basis of national wealth measures. This is particularly so at a time when compiling national non-financial and financial balance sheets that reflect the economic reality is becoming increasingly difficult. Measures of natural and human capital may be the icing and cherry on the cake but if the underlying cake is missing key ingredients then the outcome will not be palatable.

2. The Netherlands a land with train tracks, train stations, train drivers, train passengers but no trains

Until the end of 2017 the trains which everyday rode past the windows of the offices of Statistics Netherlands even carrying its employees to and from work were, according to Statistics Netherlands and the Dutch national accounts, not actually in the Netherlands. Instead they were recorded as being in Ireland, hundreds of miles away from their drivers, passengers, tracks and stations. Nearly everyone who would hear this would find such a situation absurd. Trains which day after day, year after year, ride around the Netherlands are recorded as being in Ireland. They would be justified in asking how such a stupid mistake had been made. But this was not a mistake. It was perfectly in line with the international manuals.

In the late 1990s faced with the prospect of the rail network being opened up to competition the Dutch state railway operator (NS) established an Irish subsidiary to own its current stock of trains and make purchases of new trains. The trains were subsequently sold to the Irish subsidiary and then leased back to the Netherlands on an operating lease basis. The object of this was to reduce the level of taxation faced by NS. This situation was in place until the end of 2017 when political pressure forced NS to 'repatriate' the 400 trainsets to the Netherlands[3].

Because Dutch trains had been sold by NS in the Netherlands to its subsidiary in Ireland then following the international guidance the trains were recorded by Statistics Netherlands as being exported to Ireland. As a result the capital stock in the Netherlands decreased (disposal of a fixed asset) and the capital stock of Ireland increased (gross fixed capital formation). In the intervening years regular payments to lease the trains were recorded as intermediate consumption by Statistics Netherlands. Then at the end of 2017 the Netherlands imported the trains. The capital stock in Ireland shrunk and the capital stock in the Netherlands increased. Yet throughout all this time the very same trains carried passengers around the Netherlands and never entered Ireland. For those aware of the intricacies of national accounting such a situation will be familiar and an example of the issue of globalisation, asset shifting and economic versus legal ownership.

The goal of national accounts is to record the economic reality and it is acknowledged that this can sometimes differ from the legal reality. Clearly the legal owner of the trains was the NS subsidiary in Ireland. As the lease agreement was designed in such a way as to be seen as an operating lease, following current guidelines, so too was the Irish NS subsidiary the economic owner of the trains. Therefore the recording by Statistics Netherlands was 'correct'.

Following the sale of the trains to the subsidiary in Ireland, the decrease in capital stock in the Netherlands decreased the size of the total value of the non-financial balance sheet. Alongside that the value of the financial balance increased by way of the claims of NS in the Netherlands on its

[3] http://www.railwaygazette.com/news/business/single-view/view/ns-repatriates-train-leasing.html

subsidiary in Ireland. The overall impact on net wealth could therefore in theory be neutral. However there was still a shift in the make-up of net wealth. A non-financial asset had been switched for a financial asset. This gave a distorted view of the economic reality and would impact on any analysis that is dependent on the level of capital stocks or financial assets in an economy. Most notably it would impact on productivity measurements by distorting the recorded level of capital. There was also an impact on the production accounts where the depreciation of trains which suffered wear and tear riding on Dutch tracks was recorded in the Irish national accounts. Major upgrades and new purchases of trains were also recorded as Irish gross fixed capital formation and increases to the Irish capital stock despite the trains never being in Ireland.

But was this recording really reflecting the economic reality of the situation? How can it have been when the output of the trains (moving passengers within the Netherlands) did not change? The recording solely reflected the legal reality.

Could this issue have been better recorded? One possible option would be to question the residency of the Irish unit owning the trains. Is that unit really economically resident in Ireland? This question is particularly pertinent if that unit is a special purpose entity (SPE). Section 3 discusses this further. In this case the Irish company owning the trains was not an SPE (the fact that it owned the trains, non-financial assets, excludes it from being an SPE) and was economically resident in Ireland.

As a second option could the rules around operating leases be sharpened? Should national accountants look through legal contracts and business accounting practices and determine that assets sold and then leased back on a long term base should be seen as financial leases by default? Unless there is good reason to record the transaction otherwise. Asset sales between units within the same global group should in particular be viewed by compilers with heavy scepticism as to whether the sale reflects any economic reality. A default ruling that all asset sales between units within a global group are financial lease type transactions could be applicable. This would ensure that the underlying non-financial asset does not move and capital stock measures are not impacted.

Proposal 1 – Sharpen the rules on operating leases on long term contracts and specifically those within MNE groups.

Thirdly, could a notional unit have been used to keep the Dutch trains in the Netherlands from a national accounts perspective much like is done for immobile fixed capital and natural resources? As SNA08 3.39 and 4.49 set out when assets which cannot physically leave the economy (land and buildings) are owned by a non-resident a notional unit is established with the non-resident holding equity in this notional unit. In this way the assets in question do have resident economic owners so they are included within the asset boundary and on the balance sheet. ESA10 1.63 and BPM6 4.34 include this same recording of a notional unit for the situation where a foreign resident is the owner of land or natural resources.

Expanding the definition of immobile fixed capital to also include those assets that whilst mobile are overwhelmingly physically located in one country (and which have never set foot in another) would better reflect the economic reality of the mobility of assets. It would also lead to the creation of notional units when such assets are owned by non-residents. Clearly applying this would require a form of rerouting and potential data sharing with other NSIs. But when the alternative is the absurd situation of NSIs pretending that the trains riding past their windows do not exist then this trouble would be worth it. Such a treatment would also be of help in the issue of intellectual property assets which are the most mobile of all assets and are increasingly being relocated as part of tax reduction strategies by MNEs. The result of such relocations and the current international guidance have been shown to lead to both assets and GDP disappearing from global measurement[4].

Proposal 2 – Extend the rationale for creating a notional unit to include not just immobile fixed assets (land and natural resources) but any fixed asset which is de facto located in an economy.

3. The best Dutch football team are the champions of Italy

Dutch football is not currently in a good position. The national team has not qualified for the past 2 major international tournaments and the club sides which once counted themselves as serious competition to the best clubs in the world are now just happy to share the same pitch. However since 2016 the Netherlands can lay claim to one extra club. This club does not have a stadium in the Netherlands, does not play in the Dutch league, does not have any Dutch players or a large Dutch fan base but it has been champions for the past 7 years, champions of Italy.

This has occurred due to the Netherlands being an attractive location in which to register special purpose entities (SPEs). At the last count there were over 15,000 SPEs registered with the Dutch Central Bank[5]. There is currently no standardised definition of SPEs though they can be characterised by having little to no employment, no ownership of non-financial assets, no or very limited physical presence in a land (a so called 'brass plate' company), no or extremely limited production activities and resident in a territory other than that of their related corporations. SPEs are key components in the structure of many MNE groups.

Exor N.V. is a Dutch resident SPE which acts as a holding company for major shareholdings in some of the world's most well-known companies (Fiat-Chrysler, Ferrari, the Economist magazine and Juventus football club). The company is controlled by the Agnelli family (descendants of the Italian entrepreneur Giovanni Agnelli who founded the FIAT motor company in the late 19th century) who hold over 50% of the shares in Exor. This shareholding is in turn held by Giovanni Agnelli B.V. an additional Dutch SPE which is owned via non-listed shares by the Agnelli family. In the Dutch national accounts these unlisted shares are recorded as being held by the rest of the world sector reflecting the fact that their owners are not Dutch residents.

Foreign ownership of well-known brands or a football club with a strong association to one country is not unusual. Yet what is more unusual with Exor is that its arrival in the Netherlands was not as a result of any underlying change to the ownership of the business. Exor was not taken over by a Dutch resident rather a new holding company was registered in the Netherlands and the assets were transferred to this Dutch SPE. It is therefore difficult to identify any real change in the underlying economic reality of the situation.

What this new situation has done is increase the size of both Dutch assets and liabilities impacting on the financial balance sheet and measures of national wealth. There is also an associated impact on measures of net wealth in Italy which now has increased liabilities to a foreign unit with a potential impact on their net wealth and international investment position. But given that there was no change to the real economic substance it is justified to ask how the underlying national wealth of the Netherlands or Italy were changed by this restructuring?

[4] de Haan, 2018
[5] Eggelte et al. 2016

The lack of physical presence and lack of ownership of non-financial assets means that the impact of SPEs on measures of net wealth is confined to the financial balance sheet. Though the presence of these units can impact on production and income accounts. The quantity of these units in the Netherlands certainly does have an real impact on production measures and particular GNI via large property income flows.

For most SPEs the impact on overall national wealth is likely to be small. Financial asset claims against the rest of the world are met with matching liabilities such that the net claim on the rest of the world is close to zero. Yet due to the huge number of SPEs in the Netherlands the combined net impact on balance sheets can be far from neutral. Plus there can be serious issues caused by SPEs when looking at a breakdown of national wealth. Most obviously the presence of SPEs balloons the balance sheet of an economy even if the assets and liabilities are net neutral. The combined balance sheets of SPE type units in the Netherlands is 6 to 7 times the size of Dutch GDP and larger than that of the financial sector[6].

MNEs can also use resident units with production to hold assets and liabilities or channel funds. According to analysis by the Dutch central bank approximately, one third of the debt held by Dutch non-financial corporations relates to SPE type activity[7].

There can also be an issue when the assets and liabilities of SPEs are not within the same instrument category[8]. Such a situation can lead to distortions of measures such as percentage shares of net worth accounted for by a particular instrument i.e. the percentage shares accounted for by debt and equity financing.

A significant proportion of assets and liabilities held by SPEs are unlisted equity. In the national accounts equity is recorded as either listed or unlisted. Listed equity are those shares listed on an exchange. By definition listed shares have a market price equal to that at which they are currently trading. As unlisted shares are not openly traded on an exchange they do not have an observable market value.

This can be an issue for measures of national wealth when entities hold listed shares on one side of their balance sheet and unlisted shares on the other side. Unless the valuation of unlisted shares tracks that of listed shares then a positive or negative balance can arise which can impact on measures of national wealth. Often the stated value of unlisted shares will be lower than the true value due to valuation issues.

For SPE units Statistics Netherlands makes a correction to the values obtained from source data in order to better align the assets and liabilities of unlisted shares and avoid distorting the financial balance sheet. If this correction were not made then the financial balance sheet would be heavily influenced by a valuation problem which has no underlying connection to the economic reality.

An additional concern is that of the net investment position, an important indicator used within the EU to detect macroeconomic imbalances. Such an indicator relies heavily on measuring an economy's net financial asset base. The complexities mentioned in this paper will certainly influence this measure and potentially economic policies.

The lack of a physical dimension to SPEs means they can be established and dissolved at limited cost meaning that the population of SPEs within a country can change rapidly. The transactions and

---

[6] Eggelte et al. 2016
[7] idem
[8] UNECE guide p.60

holdings of SPEs can also vary substantially year to year. Since much SPE activity is related to tax minimisation strategies changes in domestic tax policy can result in sudden changes to national balance sheets. A large number of SPEs in a territory can therefore make balance sheets and measures of net worth or national wealth volatile to sudden shifts.

The guidance recommends that data is produced that both includes and excludes the activities and holdings of SPEs. The Netherlands has been meeting the recommendation for a number of years. A better image of the true national wealth of a territory is obtained by looking at measures that exclude SPEs. This point and the issues of SPEs and measures excluding them should be greater promoted to users. NSIs should not shy away from being honest with users about measurement issues.

Proposal 3 – In order to better reflect the true wealth of a nation precedence should be given to national wealth measures which exclude the activities, assets and liabilities of SPEs. NSIs should promote the importance of these measures to users.

However if such an approach were taken by all nations then there would clearly be an issue of assets and liabilities held in SPEs which are not counted by any NSI in their measure of national wealth. To avoid this it would be better to more broadly (as a joined effort by all NSIs involved) consider where SPEs are actually economically resident and include their assets and liabilities in the accounts of that country.

4. Economic residency of SPEs

Underlying both of the issues discussed is that of the residency of units holding assets on behalf of others, principally non-resident units. In the national accounts residency is based on the concept of a centre of economic interest. SNA08 1.48[9] states;

> ‘An institutional unit is said to be resident within the economic territory of a country when it maintains a centre of predominant economic interest in that territory, that is, when it engages, or intends to engage, in economic activities or transactions on a significant scale either indefinitely or over a long period of time, usually interpreted as one year.’

For most units residency is obvious and aligns with the legal form of the company. Most legal entities in the Netherlands are physically and economically located in the Netherlands i.e. physically presence in the Netherlands, have employees in the Netherlands etc. However SPEs often have zero employees, visible economic activities and no physical presence beyond a brass plate. SPE type units which are located in the same economy as their parent are not seen as institutional units but rather as artificial subsidiaries which are to be consolidated with their parent. True SPEs are characterised by being located in an economy separate to that of their parent meaning they are institutional units in their own right. SNA08 4.56 goes on to state

> ‘…In the absence of any physical dimension to an enterprise, its residence is determined according to the economic territory under whose laws the enterprise is incorporated or registered.’

And SNA08 26.41 further expands this;

> ‘In the absence of any significant physical dimension to an enterprise, its residence is determined according to the economic territory under whose laws the enterprise is

[9] SNA08

> incorporated or registered. The incorporation and registration represent a substantial degree of connection to the economy, associated with jurisdiction over the enterprise's existence and operations. In contrast, other connections such as ownership, location of assets, or location of its managers or administrators may be less clear-cut.'

The recording therefore falls back on the legal residence of the SPE. But does recording SPEs as resident in the country of their registration reflect the underlying economic reality? How substantial is the degree of connection of an SPE to the country it is registered in?

Guidance on SPEs owned by government gives the most detailed analysis of the residency issue of SPEs. In doing so it accepts that the residency issue can be troublesome and that by a unit using an SPE located in a different territory then assets and liabilities that are intrinsic to a resident unit can be artificially removed and therefore not counted. In order to rectify this SNA08 states that for government the activities of non-resident SPEs must be reflected in the accounts. Here SNA08 is clearly implying that the legal reality should not receive precedence over the economic reality. SNA08 22.53 and 22.54 state:

> 'Non-resident SPEs are always classified as separate institutional units in the economy where they are established. When such entities are created, care must be taken to reflect faithfully the fiscal activities of the government. All flows and stock positions between the general government and the non-resident SPE should be recorded when they occur in the accounts for general government and the rest of the world.
>
> A government may create a non-resident SPE to undertake government borrowing or incur government outlays abroad. Even if there are no actual economic flows recorded between the government and the SPE related to these fiscal activities, transactions should be imputed in the accounts of both the government and the rest of the world to reflect the fiscal activities of the government undertaken by the SPE, including borrowing….'

By imputing the transactions back to government the statistics continue to reflect the economic reality. The question must then be raised as to why this is only the proscribed recording for units in one sector? If it is done for government units then why not extend this treatment to all units? The answer is almost certainly pragmatic rather than conceptual. Obtaining data and coordinating recording with other NSIs could present a problem if this recording was extended to all SPEs. By restricting such imputation to government the practical problems are less and data issues close to non-existent assuming government is open about its finances with its NSI.

However just because it would be practically difficult to implement does not mean that it should not be conceptually stated as the correct approach and set as a goal to achieve it. The current drive to greater data sharing and greater co-operation between NSIs is evidence that greater imputation will be possible in the future. Not only will it be possible but it is also necessary as demonstrated by this paper and also by over research undertaken by Statistics Netherlands which should that current treatment of SPE units in the National Accounts can result in assets, liabilities and ultimately GDP completely disappearing from the global system[10].

Proposal 4 – Develop the concept of economic residency as opposed to merely legal residency. SPEs should be recorded as economically resident in the territory where they are controlled not where they are registered. Expand the treatment of SPEs belonging to government to all SPEs.

[10] de Haan, 2018

5. Conclusion

Measuring financial and non-financial balance sheets is intrinsically difficult and through globalisation becoming increasingly more so. This paper has highlighted several issues with the current international guidance and proposed improvements to the treatment of mobile capital and residency of SPEs. There are many more issues which need attention if national measures of wealth are to continue to be relevant.

At the start of this paper the deliberately provocative question was posed as to whether national wealth was still relevant given the issues of globalisation for measurement or if the white flag should be raised. As the world becomes more global national economic measures are struggling to keep up and becoming detached from the economic reality. Sometimes it can seem as if compilers of macro-economic statistics are seeking to rebuild economic borders where international organisations have torn them down. But despite this the need for national measurement and sub-national measurement will persist. The option of raising the white flag is not open to those charged with compiling economic statistics and fortunately there are steps that can be taken to improve current measures.

The outlook for national measures of wealth in the long run is increasingly difficult, in order to ensure that the economic reality is measured the international guidance must tackle these issues head on. The next updates to the System of National Accounts and the Balance of Payments Manual must include greater discussion and guidance on the areas covered in this paper. NSIs must increasingly co-operate and share information. Users must be made aware by NSIs of the issues and analysis based on the data must take account of these issues.

In short the white flag should not be raised but the potential need to raise it must be at the forefront of both compilers and users minds.

References

Eggelte, J. Bijlsma, M. and Carlier, K. (2016) ‘What shall we do with pass-through? DNB’s experience with special financial institutions’, *IFC conference paper*.

Eurostat (2013), *European System of Accounts 2010*

de Haan, M. and Haynes, J. (2018) ‘R&D capitalisation, where did we go wrong?’ *EURONA — Eurostat Review on National Accounts and Macroeconomic Indicators.* Issue No 1.

IMF (2009,) *Balance of Payments and International Investments Position Manual sixth edition*

Goldsmith, R (1951). ‘A Perpetual Inventory of National Wealth’ *Studies in Income and Wealth*, Volume 14

United Nations (2009), *System of National Accounts 2008*

UNECE (2015), *A guide to measuring global production*