

Accounting for the financialized UK and US National Business Model

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Abstract

In this paper we adopt a 'business model' conceptual framework grounded in accounting to describe the processes and mechanisms of national economic development and transformation. We locate national business models within a broad econo-sphere where they evolve and adapt to information arising out of stakeholder/institutional interactions. These interactions congeal into reported financial numbers that are presented as current income flows (income, expenditure), balance sheet accumulations and changes in net worth (assets and liabilities outstanding). We employ financial data from national accounts to specifically describe how the US and UK national business models have become financialized as ongoing capitalizations run ahead of earnings capacity. This process of interminable re-capitalization is conditioned by variable institutional and sub-institutional sector characteristics. However, in financialized national business models the system of accounting takes on added analytical significance because it 'transmits rather than contains' and 'amplifies rather than dampens' adverse financial disturbance as capitalizations are recalibrated up or down in secondary markets.

Keywords: National Business Models, Financialization, Capitalization, Financial Disturbance

Highlights

This article constructs a business model conceptual framework of analysis grounded in accounting to deconstruct the US and UK financialized national business models.

National business models have become increasingly leveraged as capitalizations across institutional sectors accelerate ahead of earnings capacity.

Financial disturbances within financialized national business models are transmitted and amplified by accounting systems.

1. Introduction

In both the US and the UK the period after 2008 marked a significant economic break when capital markets became increasingly volatile amplifying a process of corporate restructuring and forcing institutional interventions to maintain financial stability. The focus of policy in the US is now with macro-prudential management and in the UK with rebalancing the economy with a specific focus on stimulating manufacturing because this creates jobs and may close the underlying balance of trade constraint. Erturk et al. 2012 argue against mainstream attention focused on bottom line GDP outcomes and alternatively draw our attention to the constituent moving parts such as the different elements of final demand. Deconstructing the bottom line GDP figures reveals underlying mechanisms that are employed to critically evaluate the effectiveness of industrial policy centered on rebalancing the economy. In this article our objective is to likewise deconstruct the US and UK national accounts but locate our analysis within a business models framework grounded in accounting.

The term 'business model' (BM) is generally used to describe the possibilities of transforming corporate activities and business functions (Osterwalder et al, 2005; Magretta, 2002). This concept can be adapted to describe the macro-economic processes and mechanisms driving national financial development and transformation. Thus this paper argues for the examination of a national business model within an augmented accounting framework which captures and deconstructs both financial flows (income, expenditure, and flow of funds) and financial stock (balance sheet capitalization and net worth). We argue that such an accounting framework can be employed to describe the adaptation and evolution of national business models which are the product of stakeholder/institutional/regulatory interactions within the econo-sphere. Our objective is to locate national business models within accounting where financial flows and accumulated capitalization matter and apply such a framework to construct a critical examination of the development of the US and UK national business model(s) over recent decades. Our general argument is that the US and UK national business model can be deconstructed into broad institutional elements: corporate (financial, non-financial),

government and households. These institutional elements are constituted by the sum of their focal parts that is, focal firms and individual households operating with variable patterns of income, expenditure, cash surplus, allocation of funds and capitalization.

Our analysis of the UK and US national business model(s) reveals a general financial pattern namely: the accumulation of balance sheet capitalization (debt and equity) ahead of surplus generating capacity (Gross Operating Surplus). This financially leveraged outcome is explained by a range of factors that permit focal firms and households, within their respective national business models, to generate wealth recapitalizations ahead of surplus capacity. These factors include: low interest rates, financial product innovation (e.g. securitization, collateralized debt obligations and other derivatives), extension of financial intermediation, real estate and private equity firms, as well as accounting and regulatory adjustments that facilitate and extend the recognition of mark to market revaluations, goodwill, and holding gains in comprehensive income. This explanation contrasts with the notion that current capitalizations are the discounted present value of a stream of expected future cash surpluses extracted from productive corporate activities. In a financialized national business model capitalizations are also the product of: financial innovation, brisk asset trading, the extraction of speculative holding gains and goodwill accumulations that, in turn, provide the collateral for further recapitalizations. Thus the augmentation of balance sheet capitalization, within national business models, is a function of both extracting cash from selling product and services for final consumption and an interminable process of financial manipulations to lever asset and liability values to generate holding gains and goodwill for wealth accumulation.

In this paper we argue that this process of financialization can best be understood within an augmented accounting framework that deconstructs national business models into their institutional and focal entity constituents. This paper is grounded in accounting and we employ financial numbers to make visible: cost structure, cash generative capacity, and balance sheet capitalization (asset and liabilities) upon which we construct critically engaged narratives about economic transformation (Froud et al, 2006; Haslam et al, 2012). There is a long-standing

tradition within economics that is concerned with how national accounts can capture the relation between income, expenditure and capital accumulations in the balance sheet. Ruggles and Ruggles (1973) observed that the national accounts do not capture the financial relation between capital gains and business/personal income even though this can be a major source of unearned income.

Capital gains provide a substantial amount of unearned income, but this is not included in either business or personal income in the national accounts. Any understanding of the income distribution or measurement of income inequality should take into account this major source of unearned income
(Ruggles and Ruggles 1973: 113)

Eisner's (1980) paper '*Capital Gains and Income: Real Changes in the Value of Capital in the United States, 1946-77*' is a comprehensive project concerned with how national accounts should account for capital gains. Eisner (ibid) reveals the technical complexity associated with asset revaluations and estimating capital gains within the various institutional sectors. Eisner is convinced that capital gains should be accounted for because they inform us not only about the appropriate level of investment needed to maintain productive renewal but also about how capital gains can modify patterns of consumption and hence GDP.

As individuals or as societies we may have wealth that is the present value of an expected future stream of income that does not correspond to our preferred and planned future consumption. A lowering in the rate of interest may increase the value of that wealth and enable us as a consequence to plan a path of consumption that dominates the previous path. (Eisner 1980: 178)

The relation between income flow and changes in balance sheet capitalizations (stock) are explained as changes in the pattern of financial transactions and adjustments in asset valuation. National income, flow of funds, and balance sheet statements are the product of double-entry book-keeping which ensures that differences between income and expenditure are represented by corresponding adjustments to the flow of funds and ultimately changes in assets and liabilities where a constant balance is maintained. Thus Godley and Lavoie in their text '*Monetary Economics*' (2007) remind us of the importance of the concept of double entry book-

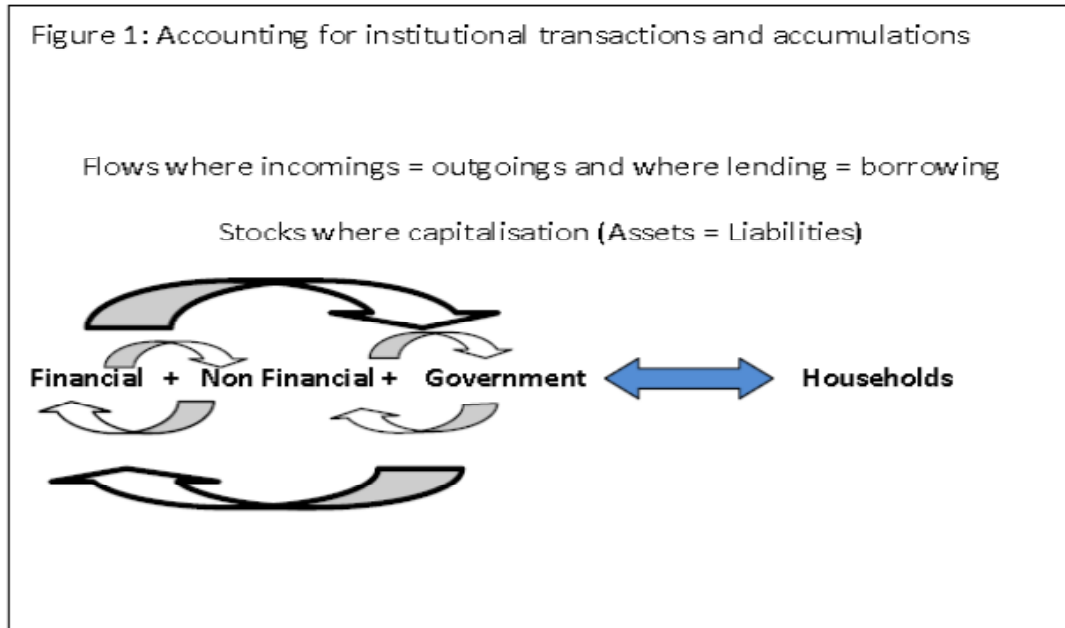
keeping (the interlocking system of financial assets and liabilities) when constructing a 'transactions flow matrix' which captures movements in financial flows and changes in financial stocks within and across institutional sectors.

The evolution of the entire system may be characterized (at the level of accounting) by saying that at the beginning of each period, the configuration of stock variables (i.e. all physical stocks together with the interlocking system of financial assets and liabilities) is a summary description of (relevant) past history (ibid p:8).

Godley and Lavoie (ibid) pay considerable attention to the construction of national economy financial accounts and argue that, for the purpose of constructing behavioural models, all transactions and price adjustments must be accounted for between the various institutional sectors. When this is done the matrix that identifies transactions (income/expenditures and flow of funds) and changes in financial assets and liabilities between the institutional sectors should net out to zero. Without the zero-sum condition in place the authors suggest that system modeling will be corrupted and analogous to a hydraulic machine with 'leaky pipes'

The use of logically complete accounts (with every row and every column in the transactions matrix summing to zero) has strong implications for the dynamics of the system as a whole. If the accounting is less than complete in the sense we use, the system dynamics will be subverted – rather as though we were trying to operate a hydraulic machine which had leaky pipes. (ibid: 9-10)

In this paper our objective is not that of accounting for all transactions to complete the 'productive' financial matrix of a national business model to generate predictive capacity. Rather, we are concerned with 'accounting' for a significant share of the financial flows and balance sheet capitalization within a national business model by broadly-defined institutional sectors: corporate financial, non-financial, government and households, observing that there are a variety of means by which ongoing recapitalization(s) can be generated.



Source: Authors

Figure 1 simply describes financial transmissions as financial flows (income/expenditure and flow of funds) and also stocks in the form of debt and equity and equivalent assets outstanding within the corporate, government and household institutional sectors where we do not suggest that all financial flows and stocks are, as a result, accounted for. Nevertheless, these broad institutional sectors do account for a significant share of national totals, as Table 1 reveals for the US and UK. Our intention is to employ these broad institutional sectors to explore more general issues about the nature and extent of economic transformation (cash extraction), capitalization (debt and equity balances outstanding) and the way in which financial disturbances are transmitted, amplified and made porous by the system of accounting. In essence, we attempt to capture the structural relationships and potential contradictions between broad institutional financial flows and stocks that describe the aggregate nature of national business models - aspects that are hitherto largely ignored in economic analysis where the focus is on the circular flow of national income.

Table 1: Main institutional sector's share of national GDP and Capitalization (%) 1987 and 2009

	Main institutional sectors GDP Share %		Main institutional sectors capitalization %	
	1987	2009	1987	2009
UK	77.3	77.6	86	83
US	73.4	67.2	69	73

UK: ONS statistical datasets; US: Federal Reserve Board: Flow of Funds Accounts Z1

Notes: Main institutional sectors are Corporate (financial and non-financial) and Government

Capitalization share is outstanding debt and market value of equity as a share of total economy debt and equity outstanding

An examination of the relationship between flows and stocks necessitates the use of accounting models and constraints. Dirk Bezemer (2009) argues convincingly that accounting models can specifically help inform policy and responses to the current financial crisis and he draws significantly upon the work of Hyman Minsky observing that:

His best-known contribution was to formulate the 'Financial Instability Hypothesis' (Minsky 1978, 1980), which says that financial instability is inherent in monetary capitalism. Periods of prolonged prosperity will cause the financial system to progressively increase its leverage, return rates and risk exposure, proceeding through the stages of 'hedge finance' on to 'speculative' and finally 'Ponzi' finance (Bezemer 2009: 11)

Minsky's 'Financial Instability Hypothesis' is grounded upon three broad organizing elements: the issue of 'financing the economy', the notion of 'financial structure', and observation about 'financial innovation'. With regards to the first of these - 'financing the economy' – Minsky (1992) draws attention to the role of financial institutions and their role in providing funding on the basis of expectations about earnings.

In a Keynes 'veil of money' world, the flow of money to firms is a response to expectations of future profits, and the flow of money from firms is financed by profits that are realized. In the Keynes set up, the key economic exchanges take place as a result of negotiations between generic bankers and generic businessmen. The documents 'on the table' in such negotiations detail the costs and profit expectations of the businessmen: businessmen interpret the numbers and the expectations as enthusiasts, bankers as skeptics. (Minsky 1992:4)

However this aspect of 'financing the economy' is limited because it is far too restrictive, when according to Minsky there is 'an increasing complexity of the financial structure' which includes not only the corporate sector but also households raising loans and consumer credit and governments requiring roll-over debt financing.

In the modern world, analyses of financial relations and their implications for system behavior cannot be restricted to the liability structure of businesses and the cash flows they entail. Households (by the way of their ability to borrow on credit cards for big ticket consumer goods such as automobiles, house purchases, and to carry financial assets), governments (with their large floating and funded debts), and international units (as a result of the internationalization of finance) have liability structures which the current performance of the economy either validates or invalidates.

(Minsky, 1992:5)

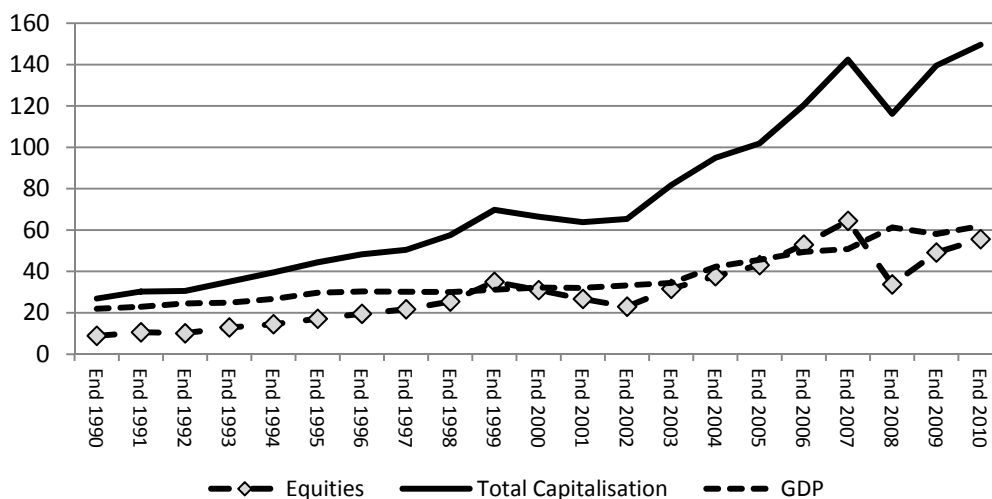
Within the network of funding relations between the various institutional sectors of a national business model stand the financial intermediaries who are profit seeking and, according to Minsky, will 'strive to innovate in the assets they acquire and the liabilities they market' (ibid: 6). The outcome of this process of financial innovation is, according to Minsky, that financing units (financial reporting entities) may be financed on the basis that cash flows will cover the loan and interest payments (hedged), need to roll-over their debt through re-financing arrangements (speculative) or may not be able to cover the interest or repay a principal sum (so-called Ponzi schemes). Veblen (1904) in *The Theory of Business Enterprise* on 'Modern Business Capital' observes that capital which is put on the market and actively traded is subjected to 'an interminable process of valuation and revaluation, i.e. a capitalization and recapitalization' and that 'the most elusive and intangible items of this marketable capital are, of course, those items which consist of capitalized good-will' (Veblen, 1904: 76). That is, goodwill, as representing the difference between book and market values, and how this financial component is incorporated into the collateral for on-going re-capitalizations. In current times Veblen's 'interminable process of valuation and revaluation' applies to current cost accounting which revalues assets even though they are not actively traded. Thus firms have less scope to keep valuations at historic cost and soften the impact of revaluation on the return on capital. In the next section we review the trajectory of GDP and balance sheet capitalization within the US and UK economy to establish the degree to which these have

diverged over a period of time. We then turn to examine the extent to which cost structures have been transformed to boost earnings capacity to underwrite inflated capitalizations before finally considering the way in which accounting systems transmit, amplify and extend the porosity of financial disturbance within national business models.

2. GDP and capitalization: Trajectory in the US and UK national business model

In this section we focus on the trajectory of GDP and expansion of national and corporate balance sheet capitalization measured as the market value of debt and equity outstanding. At a global level nominal GDP has increased over the period 1990 to 2010 by roughly \$40 trillion and at a compound annual growth rate (CAGR) of 5 percent whereas global capitalization (outstanding domestic plus international debt securities and equity market value) increased over the same period by roughly \$125 trillion or a CAGR of 8.5% (see fig.2). The growth rate of capitalization made up of equity with a CAGR of 9.1% and debt 8.2% where the ratio of Debt to Equity remains quite stable at roughly 2:1.

Figure 2: Global GDP (flow) and Total Capitalization (Stock) 1990 to 2010 (\$ trillion)

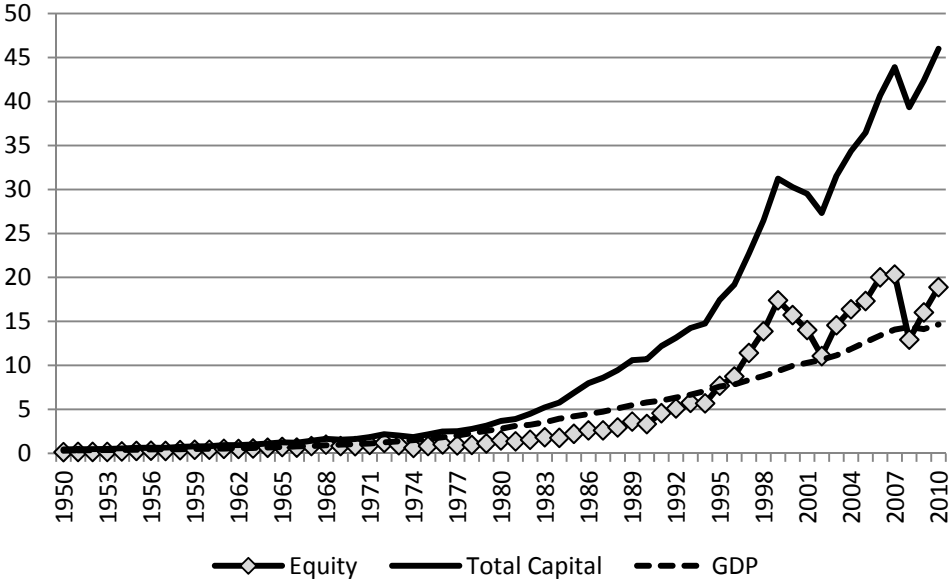


Source: BIS Quarterly Review <http://www.bis.org/>

Note: Total capitalization is the market value of equity plus the market value of outstanding debt securities

In 1990 we estimate that the US economy accounted for roughly one half of global market capitalization (market value of equity and total debt securities outstanding) and significantly US flow of funds and balance sheet data reveal how the trajectories of GDP and capitalization evolve over the period 1950 to 2010. This time series can be split into two distinct thirty year sub-periods: 1950-1980 and 1980-2010. In the first period US GDP grew at a CAGR of 7.5% and likewise capitalization (debt plus market value of equity) grew at a similar CAGR of 7.2%. The second period 1980 to 2010 breaks with the past because the CAGR for US GDP growth was 5.8% (and below the previous period) and CAGR for total capitalization 9% and above the previous period (see fig.3). The nature of compounding is such that over an extended period a progressive gap emerges between capitalization and GDP.

Figure 3: US GDP and total capitalization 1950 to 2010 (\$ trillion)

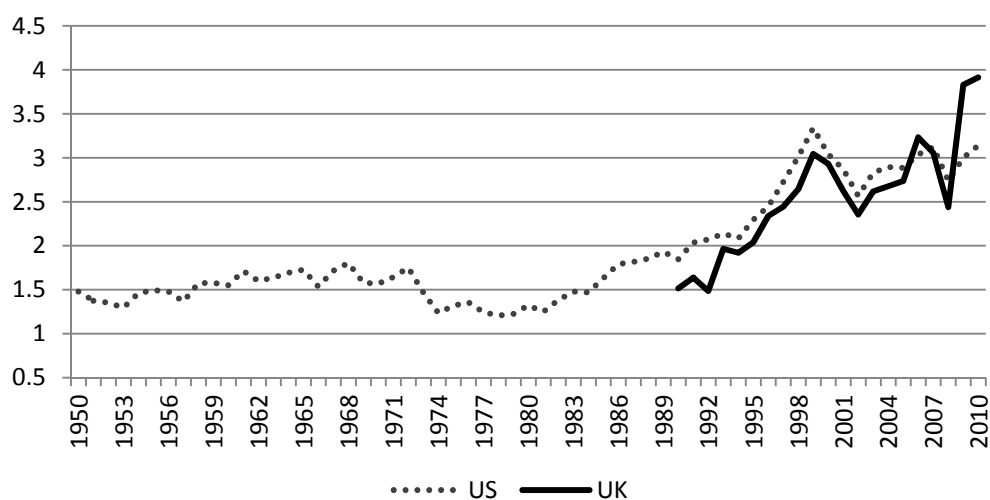


Sources: World Federation of Exchanges members (equity), and BIS Quarterly Review for outstanding domestic and foreign debt securities. GDP <http://unstats.un.org/unsd/snaama/resQuery.asp>

Over the period 1980 to 2010 the market value of equity generally tracks GDP but at times it cyclically moves ahead only to then fall back towards the underlying trajectory of nominal GDP. On the other hand the stock of debt finance outstanding accumulates progressively ahead of GDP from 1980 onwards, a period which coincides with a shift in demographic age composition

as the baby boomer generation (see Dent, 1993) accumulate retirement savings, lower interest rates, changes in banking regulations and financial innovations surrounding asset securitisation and derivatives. Figure 4 again confirms that the trajectory of debt and equity (capitalization) moved ahead of GDP growth in both the UK and US national business models from around the late 1980s and onset of financial liberalisation.

Figure 4: Capitalization to GDP ratio for the UK and US



Sources: World Federation of Exchanges members (equity), US Bureau of Economic Analysis (US GDP), and BIS Quarterly Review for outstanding domestic and foreign debt securities. GDP <http://unstats.un.org/unsd/snaama/resQuery.asp>

The divergence between GDP flows and balance sheet capitalization could be explained as resulting from a transformation in the earnings/surplus generating capacity of US and UK national business models. We consider this possibility in the following section.

3. Cost structure and cash surplus in the US and UK national business model

National accounting data can be utilized to consider the extent to which cost structures (external costs and internal labour costs) have been reduced in gross output to increase the share of cash extracted out of gross output (Cox, 1979; Kay, 1993). Table 2 identifies the gross output (GO) and gross cash operating surplus (GOS) as:

$$\text{GOS} = \text{GO} - [\text{Intermediation consumption} + \text{total employment costs}]$$

Table 2: National Business Model (financial flows and balance sheet capitalization)

Financial line item	Comment
Total sales/income	Gross Output
Minus Intermediate consumption	Suppliers and providers of support services
= Value retained	Gross Value Added (GDP)
Minus Total Employment costs	Employees and social charges (pensions)
= Cash from internal operations	Gross Operating Surplus
<u>Liabilities</u>	
Shareholder equity funds	Capital employed
Debt liabilities	
<u>Assets</u>	
Intangible fixed assets	Goodwill, trademarks, patents, licenses
Tangible fixed assets	Land Buildings, plant and equipment
Financial assets	Cash and marketable securities
Working capital	Inventory, receivables, less non-interest bearing liabilities
<u>Assets minus liabilities</u>	Net Assets Employed

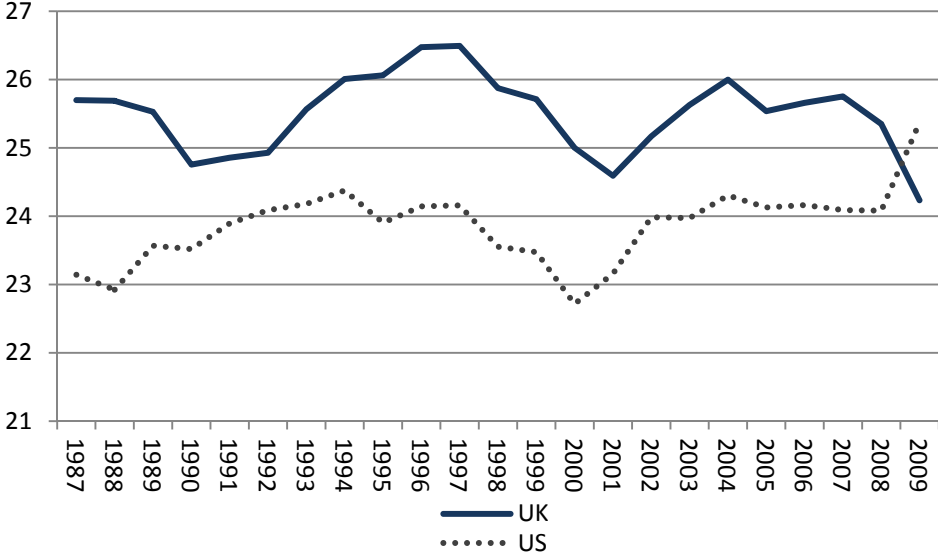
Source: authors

Thus an increase in the cash margin/surplus in total income (GOS/GO)¹ might arise where there is a reduction in intermediate consumption (external costs) or employee costs in gross output, or both. In the case of the US and UK our analysis of the GOS margins for the total economy reveals that that whilst there are differences between countries there has been little structural transformation in cash/operating surpluses in recent decades. These remain steady in the range 23-25 percent of GO (see fig.5). This suggests that in the advanced economies structural transformation in the operating cost structure of their respective national business models has, in aggregate, been difficult to achieve. Andersson et al. (2010) point to the fact that when we deconstruct bottom line financial ratios contradictory forces are often 'in play' frustrating

¹ GOS = Gross operating surplus. GO = Gross output and IC = Intermediate consumption (external costs)

straightforward financial transformation. For example a reduction in employment costs in value added might be offset by higher levels of intermediate consumption that, in combination, do not deliver a transformed surplus (GOS) in GO.

Figure 5: Total UK and US Economy: Gross operating surplus (GOS) in Gross Output (GO)

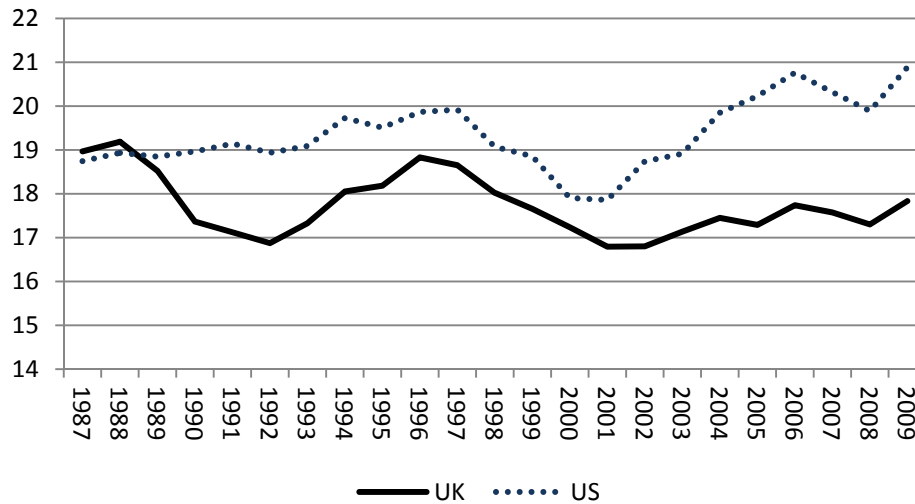


Sources: UK: ONS statistical datasets Blue Book. <http://www.ons.gov.uk/ons/index.html>
 US: Federal Reserve Board: Flow of Funds Accounts Z1. <http://www.federalreserve.gov/releases/z1/>

In figures 5 and 6 we deconstruct aggregate national data by institutional sector starting with the corporate sector which itself can be split down further into non-financial corporate and financial corporate. In the US and UK it is the non-financial corporate sector that takes a greater share of national GDP (roughly 50 percent in 2009). We should also note that the financial data extracted from the national accounts for the financial corporate sector is not straightforward and comes with a significant health warning². This sector facilitates financial intermediation and its financial contribution often involves making a number of imputations about risk and reference values to estimate value added and operating surplus.

² www.bis.org/ifc/publ/ifcb33aj.pdf IFC Bulletin no 33.

Figure 6: Non-financial corporate GOS in GO for the UK and US

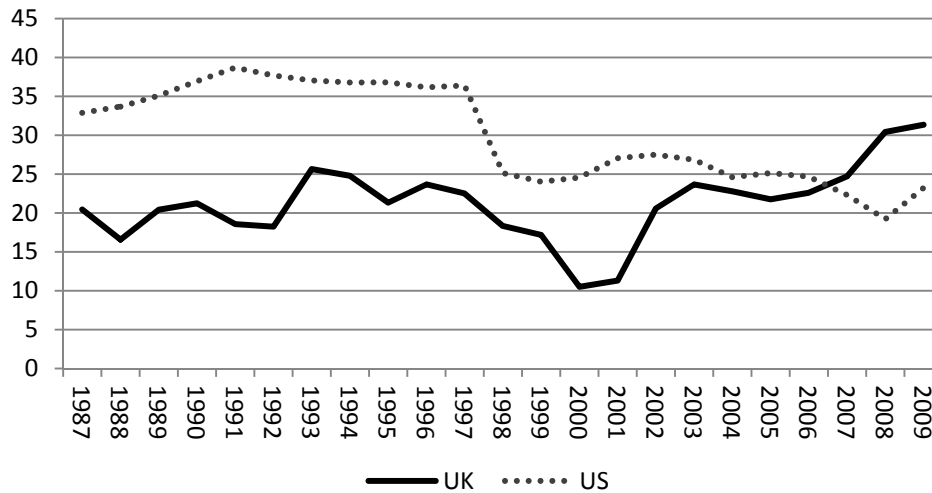


Sources: UK: ONS statistical datasets; US: Federal Reserve Board: Flow of Funds Accounts Z1.

The non-financial corporate sectors in both the US and UK have not structurally transformed the share of cash extracted out of gross income as this remains steady in both countries and in the range 18% +/- 2% with bouts of cyclicity. The picture for the financial corporate sector is a little more complex because it is more volatile but the general picture is one of cash margins deteriorating in the US and a recent recovery in margins in the UK. Our financial analysis now combines the GOS margin with total capitalization for the main institutional sectors³ in the UK and US. These main institutional sectors: corporate non-financial, financial and Government account for 70-75 percent of national GDP on average over the period 1987 to 2009 (see table 1).

³ Institutional sectors include corporate financial and non-financial and Government

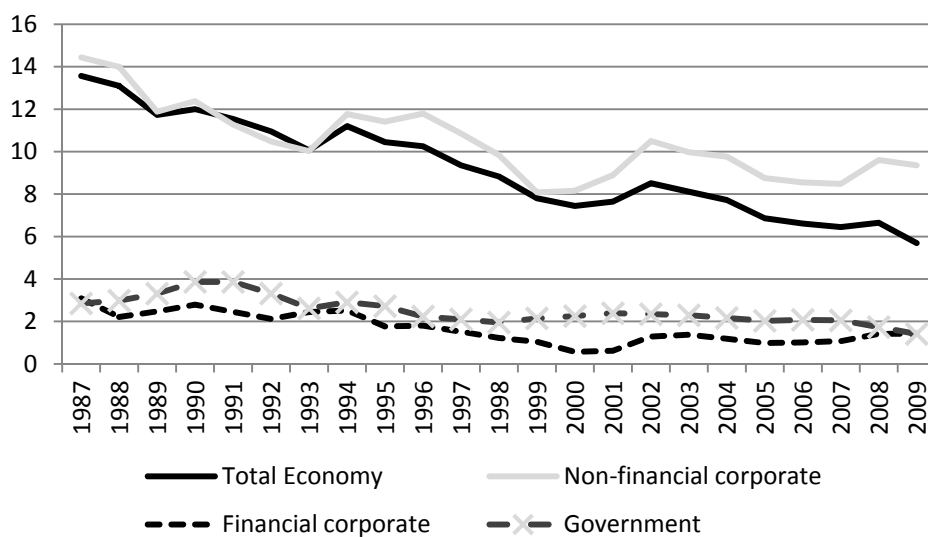
Figure 8: Financial corporate GOS in GO for UK and US



Sources: UK: ONS statistical datasets; US: Federal Reserve Board: Flow of Funds Accounts Z1.

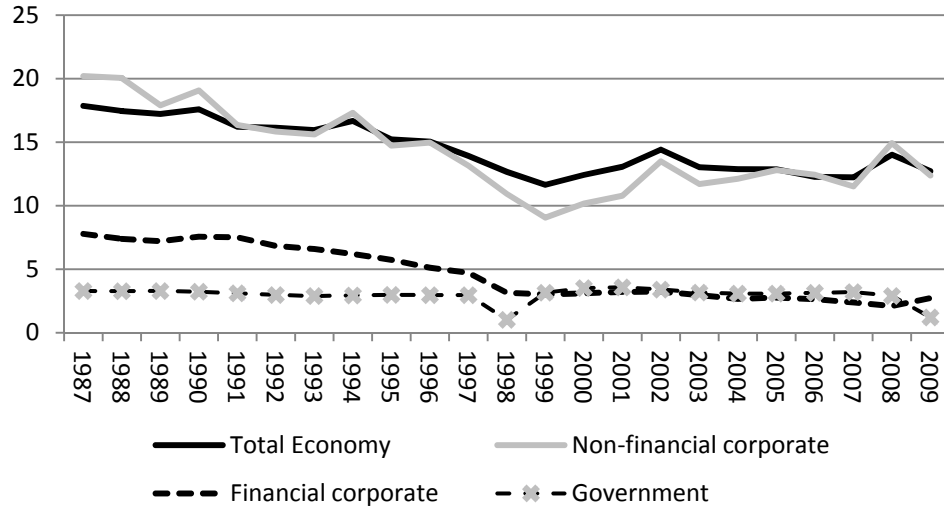
Combining cash extracted out of income and capitalization (debt and equity) by institutional sector for the UK and US reveals that the cash margin/surplus on capital employed across all institutional sectors is generally on a downwards trajectory (see figures 8 and 9). Suggesting that across institutional sectors the cash surplus underwriting capitalizations is getting thinner.

Figure 8: UK Institutional sectors: GOS relative to capitalization (debt and equity) %



Source: ONS Blue Book statistics various years

Figure 9: US Institutional sectors: GOS relative to capitalization (debt and equity) %

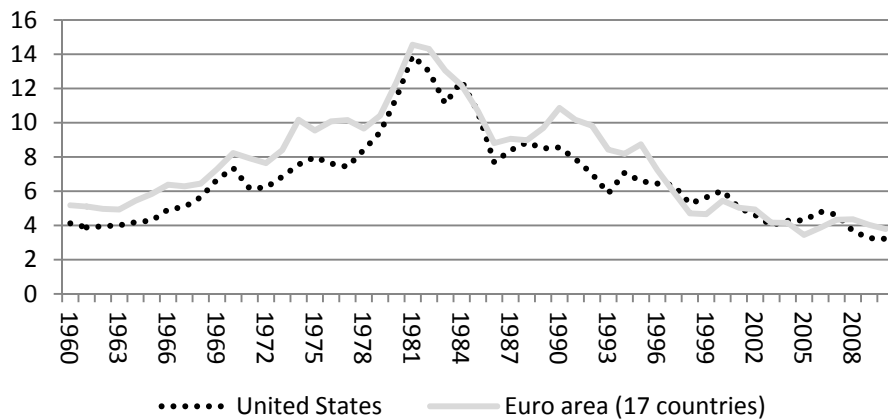


Source: US: Federal Reserve Board: Flow of Funds Accounts Z1

4. Drivers of financial leverage in the US and UK national business model

In this section of the article we set out some of the factors that may have contributed to leveraging capitalization ahead of cash operating surplus in the US and UK national business model. We start with the trajectory of interest rates in the US and UK which fell from an average 14 percent to 3-4 percent over the period 1980 to 2010.

Figure 10: Long-term interest rates US and Euro Area 1960 to 2010



Source: <http://stats.oecd.org/index.aspx?queryid=86>

Notes: Euro region 17 countries from 1970 onwards. Prior to this we have averaged the European country data available. Long-term interest rates are for 10 year bonds

The reduction in interest rates effectively frees up cash resources for a given level of capitalization or enables firms and households to extend capitalization (financing additional debt) on a given level of cash resources. Moreover, historically low interest rates also exerted constant pressure on financial investors to search for yield through financial innovation and asset inflation (Shin, 2010). There is no doubt that lower interest rates contributed to extending capitalization ahead of cash earnings capacity. However, other factors may also contribute to driving up capitalization and these include: corporate restructuring, speculative asset churning, financial innovations such as asset securitization and derivatives, and widespread adoption of mark to market accounting practices.

In the corporate sector, both in the US and UK, the period after the mid 1990s marks a break with the past in terms of the physical number of transactions and sheer scale of the financial value of mergers in both the US and the UK. This physical and financial trading activity in corporate assets also coincided with a change in practice from historic cost 'pooling' to 'mark to market'⁴ accounting. The outcome was a significant inflation of US and UK corporate sector balance sheets (Andersson et al. 2009). The bull market in the UK and US inflated the market value of companies traded on the main stock markets and this also mechanically increased the market to book value of listed firms. Over the period 1995 to 2010, a period of active merger and acquisition deals, the global market to book value ratio averaged 2.4:1. When the acquiring firm consolidates the acquired firm it effectively absorbs the difference between market and book value of assets. The difference between market and book value of the acquired assets is accounted for as 'goodwill' and this accumulates on US and UK corporate balance sheets until and unless it is deemed to be impaired. Where there is an active market for corporate control goodwill becomes indistinguishable from other forms of tangible asset and is essentially wrapped up into the valuation package for the next acquirer.

⁴ Finance Accounting Standards Board (FASB) Statement no 157 'Fair Value Measurements'.
<http://www.fasb.org/summary/stsum157.shtml>

Table 3: Global Merger and Acquisitions and Market to Book Multiples 1990 to 2010

Year	Market to Book Multiples	Global merger and acquisition deals \$ trillion
1985-1990	1.8	1.9
1990-1995	2.2	1.9
1995-2000	2.9	8.8
2000-2005	2.3	9.7
2005-2010	1.8	16.6

Source:

http://www.mckinsey.com/mgi/reports/freepass_pdfs/Mapping_global_capital_markets/Capital_markets_update_email.pdf

During the period from the mid to late 1980s there have been significant changes to the nature of commercial and investment banking from a 'retain and hold' to a 'buy and sell on' business model. Asset securitization permitted US and UK commercial banks to sell on existing balance sheet assets (loans) to, for example investment banks, that in turn financed these purchases with fixed interest securities thereby propagating and inflating debt markets. By 2011 the stock of securitized assets outstanding stood at \$7.1 trillion in the US and \$0.7 trillion in the UK equivalent to 30 and 50 percent of GDP respectively. We would also add to the mix of explanations, for the acceleration of capitalization, the emergence and development of new forms of investment activity: private equity firms and real estate investment companies that operate with high leverage (debt to equity ratios). These leveraged activities focused on extracting a return to equity investors from buying and selling on acquired assets at inflated values (Andersson and Haslam, 2012).

Low interest rates coupled with adjustments to regulatory frameworks and the evolution of financial innovation all contributed to leveraging balance sheet capitalization ahead of earnings capacity in both the US and UK national business models. This capitalization process becomes self-sustaining and increasingly decoupled from cash/earnings extraction capacity (see section 5 below). And, as Minsky observes, when economic times are good a significant proportion financial reporting entities drift from being financially hedged into speculative and Ponzi modes of capitalization. Minsky observing that:

In particular, over a protracted period of good times, capitalist economies tend to move from a financial structure dominated by hedge finance units to a structure in which there is large weight to units engaged in speculative and Ponzi finance. (Minsky 1992: 8)

In the next section of this paper we argue that the process of on-going re-capitalization generates holding gains that, in turn, generate additional financial leverage for both the corporate sector and household's wealth accumulation. Thus, significant parts of a financialized national business model become increasingly dependent and sensitive to the supply of debt and inflated equity valuations. A disturbance in the financial system, which restricts capital funding or undermines existing capitalizations, will fall immediately upon reporting entities that have thin liquidity and limited shareholder equity for solvency or both. In circumstances where a reporting entities financial viability and collateralization(s) are called into question this, like ripples on a pond, will quickly spread because the accounting system transmits, amplifies and extends the porosity of any initial financial disturbance within a financialized national business model.

5. Holding gains and financial disturbance in a financialized national business model

We now consider how the process of ongoing re-capitalization provides an opportunity for the corporate and household sectors to benefit from holding gains extraction as asset prices inflate. Within both the corporate and household sectors of US and UK national business model holding gains have become a significant boost to GDP income circuits in addition to facilitating the expansion of collateral for ongoing recapitalization(s). When balance sheet valuations are disrupted accounting systems transmit rather than contain and amplify rather than dampen these disturbances within a financialized national business model. Moreover, the spread of corporate financial reporting practices into public and voluntary sphere expand the realm for recapitalizing and extracting holding gains but also the scope for financial disturbance.

The process of ongoing recapitalization of balance sheets within the US and UK national business model permeates into GDP circular flow circuits because extracted holding gains can boost income and expenditure beyond current earnings capacity. In the US and UK households have extracted additional income for consumption from equity release mortgages which are possible when the value of property is inflating⁵. The increase in property value provides the necessary collateral upon which further loans can be leveraged. As of the end of 2007, and before the recent financial crisis, US household mortgage equity withdrawal (MEW) loans outstanding amounted to \$1.1 trillion. Housing equity withdrawal had, prior to the financial crisis, provided a significant boost to household income and consumption.

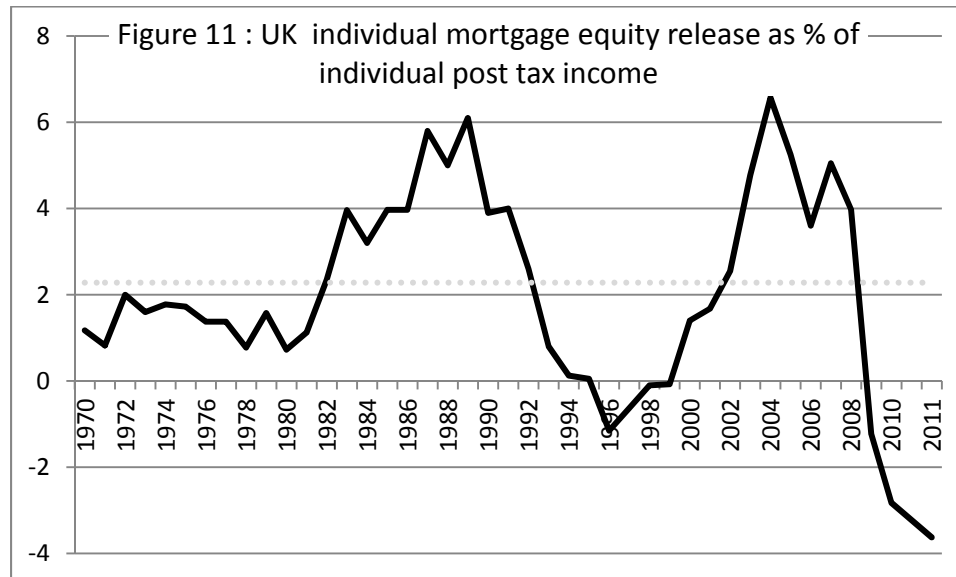
When the impact of traditional wealth effects from home value gains are summed with the short-term stimulus provided by realized capital gains and home equity withdrawals, housing contributed more than one quarter of the gains in personal consumption during each of those years. About half of that boost was attributable to equity withdrawals and realized capital gains on housing, confirming that housing did indeed prop up the economy (Belsky and Prakken, 2004:32)

In 2007, before the financial crisis, some \$150bn (1,1% of annual GDP) was released to US households in that year as equity loans but in 2010 this figure had gone into reverse at -\$90bn and an overall negative withdrawal equivalent to 1.2 percent of US GDP. In the UK Bank of England data reveals that mortgage equity withdrawal (MEW) was equivalent to inflating an individual's post tax income by an average of 2.2 per cent per year for the period 1970-2011⁶ (see figure 11). We note, for reference, that individual post tax income also grew at an equivalent average nominal GAGR of 2.2 per cent during the same period! Since June 2008 equity release has gone into reverse and this withdrawal of funding was equivalent to reducing household post tax income by 2.1 per cent, which has put a significant economic brake on consumer expenditure and GDP growth in both the UK and US. In recent years US households have turned to withdrawing equity from their 401K accumulated retirement plans which permit employees to extract funds because of 'hardship' or as a means of collateral to secure loans

⁵ Note MEW alone understates the total value of equity extraction if we include equity extracted from home sales (see Greenspan and Kennedy, 2007).

⁶ Bank of England Quarterly equity withdrawal by individuals as a percent of their post tax income (Bank of England series LPQB3VH).

from employers. Thus MEW and 401K plans have helped to secure US GDP growth by extracting holding gains from balance sheet net worth.



Source: Bank of England, series: LPQB3VH.

Note: This series is quarterly and the above chart annualizes this data. Dotted line is the average over the period 1970 to 2011

In addition to individuals and households leveraging their financial position the corporate sector has also been busy extracting holding gains. In the US, for example, the S&P 500 group of companies deployed a significant sum of cash from operations to buy-back their own share capital, roughly \$3 trillion over the period 1990 to 2010. Share buy-backs distribute cash back to shareholders but the shares repurchased remain on corporate balance sheets accruing holding gains when (and if) stock markets inflate. As at the end of 2007 the S&P 500 had a balance outstanding on repurchased treasury stock, at cost, of \$1.04 trillion (£2 trillion having already been churned) but the market value of this treasury stock amounted to \$1.64 trillion. If fully exchanged the holding gain at this point in time would have been \$600bn, a sixty percent return on the cash invested and equivalent to generating an additional year's worth of cash from operations in the S&P 500 group of firms⁷. Repurchased treasury shares are often

⁷ http://www2.standardandpoors.com/spf/pdf/index/121307_SP500_THREE_YEARS_OF_BUYBACKS.pdf

employed as part of the financing mix for business combinations which, as we have noted earlier, helped to inflate corporate balance sheet capitalizations. In the corporate sector significant financial leverage and holding gains are extracted through the manipulation of assets and tradable financial instruments. When stock market values are appreciating corporate pension funds are often in surplus and firms able to take pension holidays and reduce the strain on current cash resources. In the US S&P 500 group of companies 326 still run defined benefit schemes and during the 1990s stock market appreciation coupled with relatively high interest rates ensured that pension funds were in surplus. However, during the last decade lower interest rates and weak stock market performance have combined to reduce the capitalized value of pension fund assets relative to liabilities forcing the US corporate sector to allocate 'real cash' to reduce pension deficits. Since 2009 the funding gap of the S&P 500 pension fund has hovered around \$300-\$400bn per annum and the most recent analysis reported in the Financial Times September 5th 2011 observes that:

A \$388bn gap has opened due to a combination of weak equity markets and falling interest rates, eliminating improvements in the funding of defined-benefit pension plans at S&P 500 companies since the end of 2008. The gap leaves pension schemes with assets worth only 77 per cent of their liabilities.

Within financialized national business models ongoing re-capitalization(s) are not simply the product of generating cash from selling product and services for final consumption. Capitalizations are also the product of brisk asset trading where buying to sell on at inflated prices generates holding gains that also act as collateral, for example, private equity and real estate. Both the corporate and household sectors in the UK and US financialized national business models have become accustomed to extracting holding gains not only to boost current income but to also to generate a cycle of ongoing re-capitalizations and holding gains extraction. This process of economic development accentuates financial oscillations because accounting systems transmit, amplify and extend the porosity of balance sheet disturbance.

National business models can be described in terms of financial flows (income / expenditure circuits) and financial stocks (balance sheet capitalizations) where accounting identities and

constraints are binding (see Figure 1). These identities and constraints reflect the dominant nature of an accounting system that operates within the confines of double entry book-keeping where income, expenditure, lending, borrowing, assets and liabilities 'balance out'. However this arithmetic neutrality disguises variability in the financial condition of institutional sectors and financial reporting entities which, as Minsky (1992) observed, can be in a: hedged, speculative or Ponzi *modus operandi*. Thus the financial calculations and condition of the various corporate and government institutional components of a national business model sector may not align with the financial condition and motivations of households. Thus the accounting identity sets assets equal to liabilities conceals variable behaviour and motivations across and within institutional sectors in a financialized national business model.

That is, within and across institutional sectors underlying liquidity, capitalization(s) and patterns of solvency will be variable. For example, the viability of the commercial and investing banking sectors in the US and UK was, in 2008 and 2009, compromised when just 2 percent of households defaulted on mortgage repayments (Heilpern et al. 2009). Investment and commercial banks are by their nature leveraged, that is, they need to turn a 2 percent return on total assets (loans) into a 25 percent (or more) return on equity. Thus shareholder equity (capital adequacy) needs to be roughly 8 percent of total assets employed (the return on equity found by dividing the capital adequacy ratio into the return on assets $[2/0.08]$). However, where a small fraction of bank loans (assets) made to households become irrecoverable the associated charge offs had a significant negative impact on bank profits. In the case of Royal Bank of Scotland (RBS), charge offs initiated a collapse in the market value of the bank (95 percent over the period 2008 into 2009 and also indirectly a significant loss also to household pension accumulations). In turn RBS was then required, by its auditors, to write down a substantial amount of goodwill accumulated on balance sheet (£32.6bn in table 4) conforming to accounting standards on goodwill impairment. It was the write down of goodwill accumulated (market to book value of acquisitions) that forced RBS towards insolvency and, in the absence of an equity cure from private shareholders, required a state bailout as the financial disturbance was displaced.

Table 4: Royal Bank of Scotland Income Statement December 2008 £mill

Net Interest	18,675
Non-interest income	7,193
Total Income	25,868
Staff costs	10,241
Premises	2,593
Other admin expenses	5,464
Depreciation and amortization	3,154
Write down of goodwill	32,581
Operating expenses	54,033
Loss before impairments	-28,165
Insurance	-4,430
Impairment	-8,072
Pre- tax Loss	-40,667
Tax	2,323
Profit from other operations	3,971
Loss for Year	-34,373

Source: [http://www.rbs.com/microsites/gra2008/downloads/RBS Annual Report 08.pdf](http://www.rbs.com/microsites/gra2008/downloads/RBS_Annual_Report_08.pdf)

Note: Data extracted and summarized from the income statement.

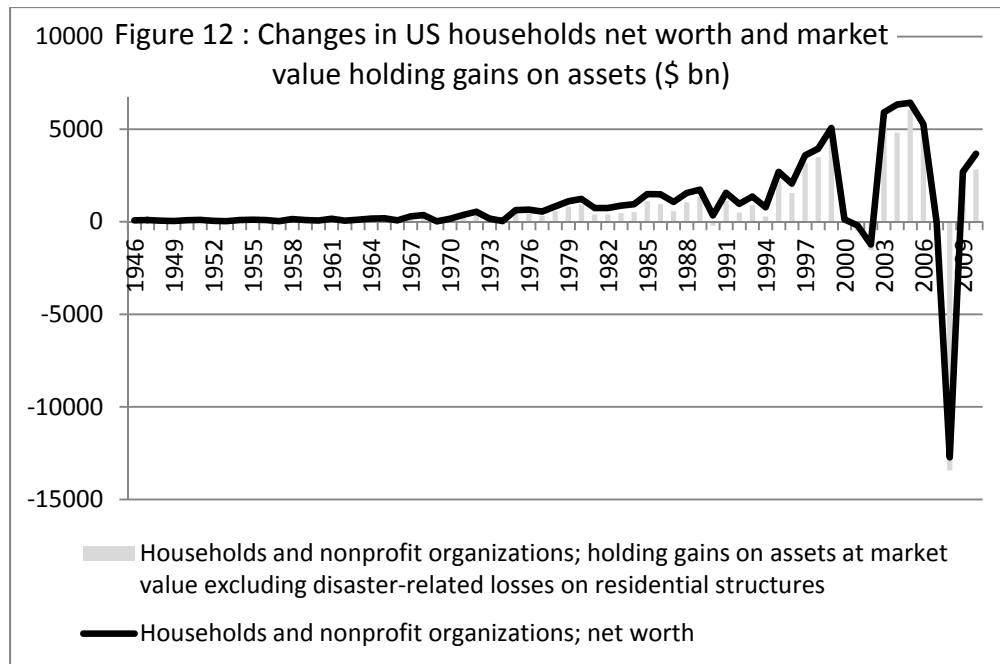
In deconstructing the US and UK financialized national business model(s) we reveal the variability of cash surplus and capitalization(s) subsumed within institutional and sub-institutional levels (Haslam et al. 2012). In the case of the UK and US national business models our argument is that financial disturbances are transmitted by the process of the double entry accounting that also maintains the balance of assets = liabilities within and across institutional sectors. These accounting transmissions can be amplified in circumstances where asset values are marked to market such as we have seen with 'goodwill impairments' at RBS.

In recent times credit rating agencies have downgraded central government debt ratings in Greece and Spain further exposing banks to sovereign risk and possibility of debt write downs. As the cost of financing central government roll-over debt increases this is putting additional pressure on finances and Governments responding with restrictive fiscal policies which, in turn,

transmit additional disturbance into the financial system. Within national business models the process of double entry book-keeping transmits an initial disturbance within and across institutional sectors. Furthermore Shin (2008, 2010) observes how these transmissions within a financial system can be amplified to generate spill-over effects.

In a tightly-knit financial system, externalities transmitted through balance sheets are unavoidable and have far-reaching consequences. A transaction in the market affects more than the parties directly involved in the transaction itself, since the price determined in the transaction is used to price other assets and obligations. As such, the transaction has a spillover effect on the balance sheets of other entities in the financial system. (Shin 2008:318)

Accounting systems amplify financial adjustments, for example, triggering adverse mark to market recalibrations even in circumstances when trading activity in some asset classes is thin or where one asset class is employed as a benchmark for another. Moreover, mark to market adjustments will switch off holding gains which previously supported higher levels of consumption or provided collateral for ongoing recapitalizations. In the UK and US national accounts the net worth of households is estimated as the difference between asset values (real estate and pension accumulations) and outstanding liabilities (debt). The net worth of household's increases over time driven by accumulated holding gains arising from increases in market value and asset prices. Yet oscillations in household net worth have become increasingly volatile and amplified as figure 12 illustrates. Over the period 2008 to 2009 the negative movement in aggregate US household net worth amounted to \$20 trillion a sum equivalent to 1.5 times annual US GDP. This movement reflecting the sheer scale of assets outstanding and volatility associated with household real estate and pension fund market valuations. To keep everything in balance the net-worth of the non-financial corporate sector also dropped by 25 percent during the same period. Whilst this change in net worth might not endanger all US households or force all US firms into insolvency many at or near the solvency margin are at risk. Large oscillations have the potential to also trigger margin-calls on counterparties that are or near the solvency margin but are not able to repay debt in full and this, in turn, forces further adverse recapitalizations.



Source: <http://www.federalreserve.gov/releases/z1/>, Table R100

In financialized national business models negative wealth effects are transmitted and amplified by accounting practice as assets and liabilities are recalibrated to lower market valuations because collateralizations are less secure. In these circumstances negative adjustments impact heavily upon balance sheet solvency and ability of firms and households to generate holding gains which have in combination helped to sustain consumption, employment and GDP growth for a number of years. This has prompted some to argue that traditional Keynesian fiscal policy may be a necessary but not sufficient condition for financial stability. That is, fiscal policy should be supplemented with 'a policy of asset market intervention to restore full employment rather than a traditional Keynesian policy of fiscal stimulus' (Farmer 2011: 1)

6. Conclusion/Discussion

A growing business evolution and complexity literature suggests that the economic system evolves and adapts within a complex pool of information (Beinhocker, 2007; Hodgson and Knudson, 2010). In this paper we argue that a national business model can be described as

arising out of adaptive stakeholder interactions, within a general econo-sphere, that generate information which congeals into and modifies reported financials (Freeman, 1984, Freeman et al. 2004, Haslam et al. 2012). Our objective, in this paper, has been to locate the US and UK financialized national business model within a broad accounting framework of analysis to reveal underlying logics as well as inherent contradictions and risks in the process of economic development. Fundamentally, economic transformation manifests as a rising imbalance between wealth creating surplus and wealth accumulating stock over the past three decades. In both the US and UK financialized national business model's the process interminable recapitalization is not simply the product of discounting future corporate cash earnings. As Minsky (1992) observed the financial system (of a national business model) is the sum of its institutional parts: corporate financial, corporate non-financial, government and households. Where asset trading is brisk capitalizations can inflate ahead of the capacity to refinance these assets and thus elements of the financial system drift from being hedged into that which are increasingly speculative and ponzi. Furthermore, the calculations, motivations and financial condition of institutional sectors that make up a national business model are also variable. Thus misalignments between counterparties will emerge and these, in turn, increase the potential for financial disturbance which, by virtue of the accounting system, will not only be transmitted but often amplified.

In this paper we suggest that the drivers of financial leverage and 'capitalization ahead of surplus' are complex and variable and include: low interest rates, financial innovations, asset churning to extract holding gains, regulatory changes and modifications to accounting standards. In the corporate sector cash surpluses from selling product and services are blended with holding gains extracted from asset inflation to secure the foundation for additional collateral and financial leverage. Whilst central governments have become dependent upon low interest rates and favorable sovereign debt ratings to lever roll-over finance to cover accumulating deficits. Households accustomed to extracting financial leverage out of holding gains from real estate and pension assets to boost current income or further inflate their capitalizations.

In the UK the current coalition government is tasking itself with rebalancing the economy and US regulators are looking forward to 'macro-prudential' management of the economy. In this article we employ a loose business model framework of analysis grounded in accounting to draw attention to: earnings/surplus capacity, balance sheet capitalization and net worth in financialized national business models. In credit based economies, when assets are traded in brisk secondary markets, goodwill becomes indistinguishable from original tangible collateral and is then incorporated into ongoing re-capitalizations. This process contributes to economic instability because the institutional sectors that constitute national business models are variably exposed to adverse movements in liquidity, capitalization and net-worth for solvency. Adjustments to capitalization initially arising out of a small financial disturbance will be transmitted and amplified by accounting systems within national business models. As Fisher (1933) succinctly observed:

Assuming, accordingly, that, at some point of time, a state of over-indebtedness exists, this will tend to lead to liquidation, through the following chain of consequences.... (1) *Debt liquidation* leads to *distress selling* and to (2) *Contraction of deposit currency*, as bank loans are paid off, and to a slowing down of velocity of circulation. This contraction of deposits and of their velocity, precipitated by distress selling, causes (3) *A fall in the level of prices*, in other words, a swelling of the dollar. Assuming, as above stated, that this fall of prices is not interfered with by reflation or otherwise, there must be (4) *A still greater fall in the net worths of business*, precipitating bankruptcies.
(Fisher, 1933: 341-342 emphasis from original)

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