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Financialised Capitalism and the Subordination of Emerging Capitalist Economies

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Abstract

The variegated experiences of financialisation in Emerging Capitalist Economies (ECEs) require a theory of *global* structural transformation in which these appearances can be located. Such a transformation can be found in the substantive completion of the internationalisation of the circuits of capital, thereby marking the passage into a new stage of *financialised capitalism*. In this new stage, finance has taken the concrete form of a US dollar market-based system, while production is carried out through global production networks. The confluence of these new realities has impacted both the size and the nature of the transfer of value from subordinate regions. An increasing share of this transferred value is captured by finance, both as reward for services rendered and as opportunities for expropriation have proliferated. In financialised capitalism, ECEs are cast in a subordinate position in relation to the extraction, realisation, and 'storage' of value, and the agency of their public and private agents is severely constrained.

JEL codes: F36, F62, P16, O11

Key words: Financialisation, subordination, global production networks, market-based finance, value transfer

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INTRODUCTION

As discussed in the opening chapter of the recently published handbook of financialisation (Mader et al., 2020), there is growing recognition of the importance of studying the phenomenon in emerging capitalist economies (ECEs). While the attention to country-specific detail which this has brought is welcome, what is needed is a theory of *global* structural transformation in which these variegated appearances can be situated. This paper will outline a theory of the current stage of mature capitalism, that is, financialised capitalism, the inherently *global* and *uneven* nature of which provides insight into the shared experience of subordination of ECEs in the contemporary period while allowing for spatial variegation.

As we have previously argued (Bonizzi et al., 2020) there is an important distinction to be made between financial phenomena which are cyclical and often speculative in nature, and a secular increase in the relative size and weight of finance. The former are spatially- and temporally-limited processes, and therefore can be subject to 'de-financialisation'—a particular bubble can burst and/or be quelled by regulation; the latter marks the emergence of a new stage of mature capitalism, in which the expansion and transformation of finance is both underpinned by and crucial to the process of accumulation. Financialised capitalism, at a higher level of abstraction, has emerged following the substantive completion of the internationalisation of the three circuits of capital: money, commodity and productive. The passage of capital through its various forms now takes place at the global level, rather than within any single nation-state. Whereas the internationalisation had previously been limited to financing and commodity circulation, in the last three decades it has come to include the internationalisation of production itself, a process first theorised in the 1970s with the emergence of the multinational corporation (Palloix, 1975). This internationalisation of production has allowed a greater extraction and transfer of value from workers in ECEs to agents disproportionately located in advanced capitalist economies (ACEs). Importantly, an increasing share of this value is captured by financial capital, thanks to its supporting role and strategic position with respect to the internationalisation of capital.

At a more concrete level, two key changes characterise financialised capitalism as a new stage. The first is the highly disaggregated nature of global production in the form of global production networks (Coe & Yeung, 2015). The transfer of value occurs through networks of production that are global and flexible, but are controlled by a relatively small number of large powerful firms, mainly located in ACEs. The second key change has been the transformation of finance into a globalised US dollar market-based system, as highlighted in the recent critical

macro-finance (CMF) literature (Dutta et al., 2020). These two transformations emerge from dynamics within productive and financial capital respectively, but are also deeply intertwined. Market-based finance plays a crucial role in the international extension, expansion and intensification of capitalist accumulation and its monetary realisation at the global level; at the same time, global production networks have intensified global movements of value, both legal and otherwise, which have enabled the unprecedented expansion of finance and its transformation to increasingly market-based forms.

In the current paper, we set out to theorise the distinctive nature of financialised capitalism as experienced in ECEs. Our key argument is that ECEs' subordinate[1] position in the circuits of capital is both a constituent feature of and shapes the forms taken by financialised capitalism. Thus, where financialisation is used more generally to denote an increasing weight of finance, the systemic nature of financialised capitalism can be understood to denote (a) what role subordinate units play in this system and consequently (b) how this is experienced and in what forms it appears. The restructuring of production around global production networks and finance around a US dollar market-based system both require and sustain ECEs' subordinate positions in global capitalism, but also reshape them and create new forms of subordination, apparent in both production and finance, and the sources of aggregate demand. This subordination brings with it both a structural value transfer from ECEs to the core and constraints on the agency of actors in ECEs.

In the next section, we further elaborate our theory of (subordinate) financialised capitalism. In the third section, we discuss the key transformations of the financial sector in this period and ECEs' subordinate position therein. This is followed by an examination of the mechanisms through which value is transferred from the site of its creation, with an eye to the key role of the internationalisation of the circuit of production and ECEs' subordinate position in this circuit. In the fifth section, we connect global production to market-based finance, drawing attention to the ways in which finance expropriates value from the internationalisation of capitalist accumulation, examining its relationship with the landscape of finance that we are currently witnessing, and highlighting how this is both shaped by and reinforces ECE's subordinate position. The final section concludes.

[1] Subordinate financialisation—as opposed to subordinate financialised capitalism—can be analysed from any number of levels (intra-household, sub-national, etc.) or vectors of power (class, gender, race). However, where we want to distinguish financialised capitalism as a distinctive global stage, the dimension of the state, and the unequal relations among states, must be considered.

A THEORY OF FINANCIALISED CAPITALISM AND SUBORDINATION

While this is not the place to enter into a long elaboration of how the concept of financialised capitalism sits within the large and growing literature which falls under the broad heading of financialisation (see Powell, 2019, for such a discussion), it is germane to the present discussion to situate financialised capitalism, which we will argue is necessarily super-/sub-ordinate in nature, within the growing literature on financialisation in ECEs. Seminal pieces surveying the literature on financialisation in ECEs include Bonizzi (2013), Karwowski and Stockhammer (2017), and Karwowski (2020). A large part of the existing literature on financialisation in ECEs focuses on the diversity of the financialisation experiences across different sectors, focusing on non-financial corporations (Demir, 2009; Powell, 2013; Sen & Dasgupta, 2018; Bowman, 2018), financial institutions (Painceira, 2010; Lee, 2012; Rethel, 2018; Petry, 2020), and households (Karacimen, 2015; Settle, 2016; Fernandez & Aalbers, 2020). However there is no consensus about the relative importance of subordination in the financialisation process. A part of the literature, influenced by regulationist, Marxist and structuralist theory, maintains that financialisation in ECEs is primarily characterised as a subordinate, or peripheral process, where the role of external actors is fundamental to the process of domestic financialisation (e.g. Becker et al., 2010; Powell, 2013; Kaltenbrunner and Painceira, 2018; Bonizzi et al., 2019). Karwowski and Stockhammer (2017), on the other hand, argue that financialisation trajectories should not be seen as externally-driven, but shaped by domestic institutions and internal dynamics. They document the variegated outcomes along a number of variables, including financial liberalisation and deregulation, foreign financial inflows, the shift from bank-based to market-based finance, levels of indebtedness, and household involvement in finance, showing the importance of domestic factors in shaping these dynamics.

Any suggestion of a dichotomy between external pressure and internal dynamics should be rejected as reflecting a nation- rather than world-centric epistemology. The implicit understanding in much of the literature is one of discrete nation-state units interacting (with disagreement over the degree and direction of influence), rather than that of integrated parts of a totality co-evolving. Financialised capitalism should be understood as a global phenomenon, in which ECEs adopt a specific subordinate role which is both immanent to and shapes their experience and empirical appearances of that global process. The lived experiences of financialisation differ based on where one sits in an uneven hierarchy of classes and nation-states. From the perspective of actors in ECEs, agency is neither absent nor absolute, but circumscribed by their position in global capitalism.

Important to our concept of subordinate financialised capitalism is our distinction between a cyclical process ('financialisation') and a secular stage ('financialised capitalism'). While speculative gains may sustain themselves purely through the expansion of interest-bearing and fictitious capital for a time, long-term expansion in the relative weight of finance must ultimately locate the source of the value thus appropriated. This raises the first significant contribution of our understanding of subordinate financialised capitalism, namely the central role given to an understanding of value creation and appropriation. Bernards (2019, p. 7) rightfully questions the failure of much of the financialisation literature to sufficiently interrogate the material basis for observed changes in financial behaviour. Indeed, most of the literature fails to engage with the question of the source of the value which is captured by finance. For example, the Post Keynesian literature on currency hierarchy and subordinate financialisation emphasises the severe constraints on domestic agency as a result of financial integration, but fails to consider the persistent value transfer underpinning global capitalism (e.g. Ramos, 2017; Kaltenbrunner and Painceira, 2018).

We argue that critical to the 'sustainability' of the financial turn in this latest stage of mature capitalism is the subordinate integration of the periphery into the world economy; the transfer of surplus value has been facilitated and amplified by the completion of the international circuit of productive capital. The latter has been accompanied by the emergent and uneven operation of the law of value on the world market, which has played a key role in the transformation and acceleration of the geographic transfer of value from the working classes of subordinated regions to the core, the subject of section four. The proliferation of circuits of capital across time and space has *demanded* a vastly increased role for market-based finance in the funding and governance of accumulation, while *affording* finance lucrative new opportunities for capturing a greater share of value created through a variety of methods.

At a more concrete level, financialised capitalism is characterised by two changes involving the restructuring of production and finance at the global level. Firstly, production has restructured itself into disaggregated hierarchically-structured global production networks, with ECEs playing a subordinate role. Explicit consideration to the role of working classes in ECEs is given in the work of Milberg & Winkler (2013), Labour Process Theorists (Parker et al., 2018), and the Monthly Review school (Foster, 2015; Suwandi, 2019). Multinational firms headquartered in ACEs are understood to occupy a monopsonistic position in global production networks, from where they are able to exploit wage differentials and strategic control of assets. Within these networks, finance is increasingly understood as playing an essential supporting

role in controlling the financial mechanisms through which value is transferred and stored (Coe and Yeung, 2019; Seabrooke and Wigan, 2017).

Conceptually, however, these contributions have largely focused on the changing relations of non-financial actors with finance, rather than the structural changes in financial systems themselves. This is also true of more general conceptualisations of financialisation itself. Seminal studies (e.g. Stockhammer, 2004; and Krippner, 2005) were mainly preoccupied with the changing relationship between finance and real accumulation. As Mader et al. (2020) describe it, financialisation is usually theorised as affecting the real economy at the macro-level (as a regime of accumulation), at the corporate governance level (shareholder value), or the micro level ('everyday life' financialisation). Although the 'financial services revolution' is mentioned by Aalbers (2019) as one of the key themes of financialisation, the literature is less detailed on the key changes in financial systems in the era of financialised capitalism[2].

Drawing on the emerging literature on Critical Macro Finance (CMF), we argue that a second key change marking the stage of financialised capitalism is the transformation of finance into a globalised US dollar market-based system. This system allows financialised capitalism a flexible and elastic supply of credit and hedging mechanisms, as well as mechanisms to govern production through its ability to move and store financial wealth offshore. It also exerts an attractive pull over different financial systems across countries, which become financially connected through it, and are transformed by it. The concurrent rise of global market-based finance thus represents the other side of the coin of financialised capitalism to global production, offering the instruments to support the restructuring of production and the transfer of value.

As will be shown in this paper, in both finance and production, ECEs assume a subordinate position which is both inherent to the working of financialised capitalism and shapes the experience of ECE actors therein; whereas subordination in production creates the value, subordination in finance ensures its safe transfer to, realisation and storage as financial wealth, primarily (but not only) in ACEs and their offshore centres. This systemic view allows for a framing of different financialisation experiences, but does not in itself fully capture their specificity, and variegation across different ECEs persists.

[2] See Dutta et al. (2020) for a similar critique. There are some important exceptions which we will dicuss in the next section.

GLOBAL DOLLAR MARKET-BASED FINANCE

In the literature on financialisation, there are two important exceptions to the lack of direct focus on the changes within the financial sector. First, there is work focusing on the transformation of banking (i.e. Erturk and Solari, 2007; Lapavitsas, 2013; and Caverzasi et al, 2019), highlighting the shifting source of bank profits, from lending to firms, to fees and commissions, trading, and lending to households. Important to this change has been the engagement of banks with the 'shadow banking' sector, a network of financial institutions dedicated to the production and trading of securities. Second, there is a literature focusing on the rise of institutional investors: the growth of pension funds, insurance companies and asset managers, as new key agents, alongside banks, of modern financial markets. This has been argued to be partly the result of growing wealth inequalities whereby richer households accumulate wealth that needs managing through financial markets (Lysandrou, 2018), and partly the result of the changes in welfare policies, which have expanded the scope for privatised management of income security through pension and insurance companies (Engelen, 2003). These agents are seen as central to the 'assetisation' process, i.e. the transformation of income streams into tradable financial assets, itself a process characterising financialisation (Leyshon and Thrift, 2007; Fernandez and Aalbers, 2016).

Outside the explicit financialisation boundaries, Critical Macro-Finance (CMF) has located the key structural change in the financial sector in the turn to market-based finance, at the core of which stands the reconfiguration of money markets and the extent to which this mirrors US institutional structures and is embedded in US dollar funding markets (Gabor, 2016; 2020). A particularly crucial development here has been the turn to market collateral as a way to back banking transactions and credit creation (Sissoko, 2019). Market-based banking, where assets and liabilities are mainly traded market instruments rather than deposits and loans, had become widespread by the 2000s (Hardie et al., 2013).

Besides money markets, market-based finance is heavily reliant on derivatives, which are used to both finance positions and hedge the risks of market-based credit creation (Gabor, 2020). Derivatives are subject to constant price fluctuations, thus requiring trading strategies that employ complex mathematical modelling, and are increasingly backed by collateral through central counterparty clearing (CCP) systems (Lindo, 2018; Spears, 2019). It is the constellation of financial institutions outside traditional commercial banks involved in derivative trading, as well as repo markets and securitisation, which constitutes the modern 'shadow banking' system (Caverzasi et al., 2019; Braun and Gabor, 2020). Development of

long-term securities markets is also crucial to the system, as the balance sheet of institutional investors grows, these securities are needed as collateral. In this process, the asset management industry has assumed an important position, as providers of an array of financial products for its worldwide clients, which include pension funds (Bonizzi and Kaltenbrunner, 2019) and high-net-worth individuals (Lysandrou, 2018).

In time, market-based finance has become international, if—as will be discussed further below—in an uneven and hierarchical way. On the one hand, this can be seen in the export of the US model of market-based finance to other countries, based on the pressure of the financial sector, which remains largely concentrated among a few players in New York and London (Gowan, 2009; Fichtner, 2017; Gabor, 2018). On the other hand, it can be seen in the growing internationalisation and dominance of US dollar markets, whose offshore dimension represents a key characteristic of the international monetary system in the current stage (Murau et al., 2020).

CMF stresses how these transformations of finance were not just a spontaneous product of deregulation and liberalisation, but partly the outcome of explicit institutional and policy design. As Gabor (2020) argues, these key transformations can be traced back to Volcker's turn to monetarism and financial innovation focused on developing liquid securities markets (Konings, 2009). The new financial system that emerged in the 1970s and was consolidated in the 1980s was favoured by private financial actors, but was crucially supported by public authorities, particularly central banks, which need it to exercise their policy-making powers (Braun et al., 2020; Wansleben, 2020).

These transformations in global finance, while complex and uneven, must have a visible empirical manifestation. We provide a summary of the key characteristics of finance in the current stage of financialised capitalism in Table 1, as well as data in the subsequent figures.

<Table 1>

The first key characteristic is the institutionalisation of wealth, embodied by the growth of institutional investors. This has outpaced the growth of global GDP, and the total wealth invested in financial markets at the end of 2018 is close to $115 trillion, or 132% of GDP (Figure 1). This growth mirrors the expansion of long-term securities markets (Figure 2), which exceed $180 trillion in 2018, or 200% of GDP, up from 40% in 1980. In both cases the US accounts for about 40% of the total. The growth of securities markets is also a product of the collateralisation of transactions, which brings us to the second change.

<Figures 1 and 2>

Figure 3 illustrates the transformation of banking. Commercial banks in the US, Germany and Japan have dedicated a decreasing share of their portfolio to business loans, whereas other assets, such as household loans, securities or inter-bank lending have increased. Deposits are no longer the only funding source, as wholesale funding and other market liabilities increased (Hardie et al, 2013). Despite some reversal of these trends since the Great Recession, most notably the decline in wholesale funding, Figure 4 shows how the markets for repos and securitised assets, two key elements of market-based banking, are as large or larger than in 2007, with the US still accounting for the lion's share.

<Figures 3 and 4>

A third key feature has been the substantial innovation in the production of new traded financial instruments. This includes securitisation and the creation of new asset classes, which fill the balance sheets of global investors, by connecting new revenue streams to tradable assets. It also includes the expansion in market-based strategies to deal with risks. Two particular sources of risk, interest rate and exchange rate volatility, have led to a rapid growth in derivatives markets. Daily interest-rate and exchange-rate derivative transaction volumes have reached $4.6 and $6.5 trillion respectively in 2019 (Figure 5).

<Figure 5>

The fourth key characteristic has been the progressive internationalisation of finance. This has given rise to a dramatic increase in cross-border asset positions and capital flows: financial integration has proceeded steadily, reaching 250% of GDP in ACEs and 75% of GDP in ECEs, with the only noticeable dip coming during the 2008 financial crisis (Figure 6). This large growth of cross-border financial claims has resulted in an explosion of exchange-rate related transactions noted above. The importance of the US dollar in this internationalised, market-based system is reflected in its share of foreign exchange-related transactions, exceeding 85% in 2019. In 2018, nearly 50% of global debt securities were denominated in US dollars (BIS, 2018).

<Figure 6>

A final important characteristic is the tighter interconnection between financial markets and governance. Financial markets have become a key vehicle to conduct economic policy, making government institutions embedded deeply into private financial markets (and vice-versa). This is evident in the case of monetary policy, which is itself conducted through market-based transactions in repo markets, and increasingly seeks to influence the economy through its provision of liquidity in the hope of affecting the full range of asset prices. More broadly, states pursue a variety of objectives through market-based finance, from monetary integration as well as social and public policy (Lagna, 2016; Karwowski, 2019).

In sum, these five interconnected characteristics represent different aspects of the restructuring of the global financial system around US dollar market-based finance. Although not as widespread and often only incipient, many ECEs have seen similar transformations to market-based systems over recent years. Our argument is that these transformations have been conditioned by the needs and imperatives of ACE financial, and indeed non-financial actors as discussed in section five, to generate high returns at the lowest risk possible and transfer and store them as financial wealth.

The Post Keynesian literature on currency hierarchy has pointed to ECEs' need to offer higher returns in the form of higher interest rates, and security, for example through the accumulation of foreign exchange reserves, to compensate for the lower liquidity premium of these countries' currencies (e.g. Herr and Hübner 2005; Prates and Andrade, 2013; Kaltenbrunner, 2015; Bonizzi, 2017; de Paula et al., 2017). However emphasis has been on the constraints financial integration creates for economic agency in ECEs rather than the persistent value transfer underpinning global capitalism which financial integration facilitates. In contrast, classical to post-colonial Marxist literature on imperialism (e.g. Luxemburg, 1913; Lenin, 1916; and Baran, 1952; Frank, 1967) has debated the nature of value transfer, while paying less attention to the role played by specific institutional arrangements of finance in that transfer.

Whereas financial subordination has always been a constituent feature of capitalism (even pre-dating it), it has assumed new forms in the stage of financialised capitalism. Given the changes in core financial systems discussed above, the 'security' to realise returns is provided by ECEs adopting market-based systems and the institutional structures underpinning them. Whereas in bank-based systems direct relationships between lenders and borrowers supported the realisation of financial returns, in market-based systems the provision of

liquidity, that is the ability to sell an asset at any time and at little cost, becomes essential to investor security. As a result, the assets sought by foreign investors have become more varied and dominated by tradable instruments, such as different types of bond market securities, equities, exchange traded funds, and derivatives. Many ECEs are now included in internationally traded indices and exchange traded funds (Converse et al. 2020; Gabor, 2020). The domestic corollary has been the push to develop domestic bond and equity markets for government and firm financing and derivatives markets to hedge interest and exchange rate risk. On the production side, as will be discussed in more detail in section five, the increased marketization of ECE financial systems according to ACE blueprints has ensured the safe repatriation of profits and remittances, and facilitated the flexible internationalisation of production through a variety of modes.

In addition to the shift of domestic institutional structures to market-based financing, risk to global financial capital has been reduced by the institution of similar macroeconomic regimes and governance standards. Inflation-targeting has maintained low inflation and thus higher real returns. The widespread adoption of officially floating exchange rate regimes has made changes in the domestic currency a crucial element of returns; to reduce the accompanying risks for global investors, interventions in the forex market (in the form of managed or 'dirty' floats) and massive reserve accumulation have become commonplace (Kaltenbrunner and Painceira, 2015). Capital account deregulation and the removal of capital controls, in turn, have ensured that financial returns can be safely transferred abroad. Standardisation according to Anglo-American governance blueprints reduces risk for global investors, and embeds states and societies further in the system of 'market rule', thereby converting ECE assets into 'investables' (Soederberg, 2003; 2007). Ensuring legal and property rights is crucial to guarantee global financial actors that they can repatriate their investments and have their property rights secured. Familiar accounting, governance, and regulatory structures reduce uncertainty and information costs for core actors, further increasing the liquidity of their investments (Hebb and Wójcik, 2005)

The role of ECEs in the stage of financialised capitalism is subordinate on two counts. First, the returns constitute a claim on future value creation, the realisation of which demands a transfer of value. Whereas traditionally these financial returns have been constituted by interest rates on foreign currency debt, as ECEs found themselves unable to borrow in domestic currencies, recent transformations to market-based systems have added trading gains and processes of asset market inflation to these returns. Moreover, as pointed out above, given the move to floating exchange rate regimes and increasing prevalence of domestic currency

denominated assets, exchange rate changes have become a crucial element of returns for international investors.

Second, the provision of liquidity to (foreign) investors and adoption of 'prudent' macroeconomic policy and governance mechanisms of the core circumscribes agency in those countries. The threat of immediate exit, often unrelated to domestic economic conditions largely exogenises key economic prices and macroeconomic variables such as the exchange rate and interest rate. Moreover, 'prudent' macroeconomic policy and reserve accumulation have done little to protect ECEs from the global financial cycle (Kaltenbrunner and Painceira, 2015), but come at a substantial cost: whereas macroeconomic discipline reduces financial resources available for development, reserve accumulation has been identified as another mechanism of global value transfer as ECEs' high return liabilities are matched by low-yielding US Treasury bills (Painceira, 2008). Global governance standards, furthermore, might be unsuitable for the stage of development and financial structure of ECEs, while many of the key infrastructures, for example exchanges for ETFs, are located and governed in ACEs.

As will be discussed in detail in section five, subordinate financialised capitalism is not only an issue for policy makers, but also circumscribes the daily financial practices of private economic actors, siphoning domestic profits abroad in the form of financial payments such as dividends, share buy-backs, and interest payments. Evidence shows that non-financial corporations (NFCs) in several ECEs have borrowed increasingly from financial markets rather than banks (BIS, 2020). However, this borrowing was either at substantially higher interest rates as those observed for core NFCs or, more frequently, denominated in foreign currency, which has made these companies very vulnerable to (expected) exchange rate changes. Moreover, a large part of this borrowing has taken place not domestically but on international financial markets, making those companies subject to international law and governance rules (Coppola et al., 2020).

In sum, global financial markets have seen a structural shift to market-based financing centred around (offshore) US dollar funding markets which aid core financial actors to realise and transfer financial returns safely across the globe. We turn in the next section to the restructuring of global production and how this has impacted the geographic transfer of value, before going on in section five to look in more detail at the relationship between the two.

VALUE TRANSFER, THE INTERNATIONAL CIRCUIT OF PRODUCTIVE CAPITAL, AND FINANCE

The last half century has been indelibly marked by a transformation in the nature of global production. What began as a collection of cross-border initiatives by MNEs to source low-cost inputs abroad or find additional end markets, has evolved into diverse, often complex, multi-layered GPNs, which slice production processes into constituent steps and relocate them geographically in an effort to exploit differences in labour costs and productivity (this is necessarily a simplification, as the length, geographical dispersion and governance of GPNs varies significantly by sector). As a result, MNEs, overwhelmingly headquartered in ACEs, have become much more international with an increasing share of assets, sales and employment emanating from foreign operations (UNCTAD, 2020). From a macroeconomic perspective, this meant not only rapidly rising global trade volumes (at least until the Great Recession starting in 2008-9 and now the global coronavirus pandemic), but an increase in the number of countries' bilateral trade relations and a proliferation of sectors which have so diversified.

In this section, we will examine the mechanisms of the transfer of value from the working classes of the periphery to the capitalists of the core, and how the size and nature of that transfer has been shaped by the transformation in the nature of global production, namely by the effective completion of the internationalisation of the circuit of productive capital. Following Ricci's (2019) framework, we can distinguish *inter*- and *intra*-industry transfer of surplus value from its site of creation to a distinct site of realisation. Interindustry transfers, a differential rent, emerge out of differences between industries which dominate in the core versus those prominent in the periphery; these differences can be in wages, profit rates and capital intensity. Intraindustry transfers, an absolute rent, reflect differences between firms in the core and those in the periphery in the same industry, either in wages adjusted for labour productivity or profit rates owing to the growth of monopoly.

The first model of inter-industry transfer is that of Lewis (1954), wherein competitive pressures from workers in the traditional sector keep wages in the modern sector below their productivity level. Given pressures towards the equalisation of profit rates, productivity growth in the periphery results in lower export prices to the benefit of core consumers. The result is declining terms-of-trade for ECEs, and a value transfer to ACEs. Persistence in the core-periphery gap in unit labour costs suggests that where labour productivity in the periphery is rising, nominal wages are being restrained (through manipulation of the reserve army of labour, anti-union activities, etc.). Suwandi (2019, p. 48) shows that the gap in unit labour

costs between core countries (US, UK, Germany and Japan) and emerging capitalist economies (China, India, Indonesia and Mexico) has "been in the order of 40-60% during most of the last three decades."

Perhaps the best known work on unequal exchange is that of Prebisch (1950) and Singer (1950) which linked declining terms of trade not to wage differentials, but to the tendency for ECEs to specialise in primary exports while ACEs export industrial goods. Due to lower income and price elasticity of demand for primary products, and assisted by monopolistic competition in the markets for industrial goods, ACE firms are able to capture greater benefits from trade. Criticism of this argument has been made that it does not reflect the exploitation of one nation by another, but the exploitation of labour and the transference (not creation) of value in the competition between different bourgeoisies. Nonetheless, "… the bigger the transfers of surplus value to the country with a superior organic composition of its global national capital, the bigger this force is against the fall of the rate of profit in the country." (Miranda, 2019, p. 676) While inroads into manufacturing sectors have been made by ECE firms in the period of globalisation, some two-thirds of the profits of the top 2000 TNCs accrue to firms headquartered in ACEs (UNCTAD, 2018, p. 58), dominating what are today's highest profit industries such as pharmaceuticals, media and ICT (UNCTAD, 2017, p. 126). Firms in these industries enjoy barriers to entry from economies of scale, network effects, technological advantage, and institutional or regulatory factors. UNCTAD research covering ICT, chemicals and pharmaceuticals revealed that increasing patent protection was associated with increased sales per worker of US MNE affiliates, but not for local companies (UNCTAD, 2017, p. 134).

From a distinctively Marxian perspective comes the related argument that surplus value transfer may arise out of inter-industry differences in capital intensity. Grossman (1992, p. 170 [1929]) showed how a higher organic composition in the advanced countries means that a higher rate of surplus value may co-exist with a lower profit rate. The tendency for the equalisation of profit rates suggests that the advanced country commodities will sell above their price of production while the emerging country commodities will sell below it. Additional surplus value is captured by the advanced country capitalist through the exchange of non-equivalents. Importantly, Grossman, as per Marx (1867, ch.22), is assuming that the advanced country producers are not compelled by competition to lower their selling price to the price of production. Ricci (2019, p. 8) argues that "the factor preventing market prices of individual national commodities to equalize in the world market is the product differentiation between national varieties of the same commodity", supported by enormous global expenditures in marketing, and various tariff and non-tariff trade barriers.

The analysis thus far, suggesting a world where commodities from the core confront those of the periphery in the world market, gives only a partial understanding of contemporary value transfer. An increasing share of global trade is transacted by and within the production networks, affiliates and even between units of TNCs, allowing them to exploit not only inter-industry differentials, but intra-industry ones as well. TNC supply chains make up 80% of world trade, while intra-industry trade accounts for 44% (Brülhart, 2009). Intra-firm TNC trade is estimated at around one-third of global trade (Lanz and Miroudot, 2011). Evidence suggests that flows with foreign affiliates are increasingly important part of parent TNCs' revenue; they accounted for approximately 17% of US TNCs' worldwide net income in 1977, 27% in 1994 and 48.6% by 2006 (Slaughter, 2009, p. 16 in Selwyn, 2018, p. 10).

The importance of wage differentials to intra-industry transfer of surplus value was first advanced by Emmanuel (1972), who argued that the transfer was rooted in institutional factors such as trade union density. With the expansion of global labour-value production networks, a number of arguments have been put forward to explain why wages in the periphery do not grow in line with productivity gains. Smith (2016) deploys the concept of super-exploitation to describe the circumstances where workers are remunerated below their social reproduction costs. Financialisation, he contends, is "to a significant extent a materialization of surplus value extracted from super-exploited workers in low wage countries." (2016, p. 299) Bowman (2018) documents how shareholder pressures favoured downward wage pressure over productivity investments in the South African mining industry. Selwyn (2018) cites case studies of both Cambodian garment workers whose wages are insufficient to avert malnutrition and electronics workers in China where vast amounts of overtime work are required to meet individual reproduction needs. This highlights the gendered basis of surplus value transfers, both through women's direct exploitation (Mezzadri, 2017) and the indirect exploitation of women's role in social reproduction activities which determine socially necessary labour time.

Another line of argument emphasises the importance of the ability to hold down wages in the periphery in the face of productivity levels which are approaching those of the core. As Chesnais puts it, the "trend towards global homogenisation of productivity levels through the diffusion of equipment, technology and on-site management methods, while the socio-political context is that of strong or very strong national differences in necessary labour time." (2016, p. 166) Kerswell (2013), echoing Emmanuel's arguments regarding the importance of institutional factors in determining wages, provides evidence of sectors where periphery productivity outstrips that of levels in the core: Mexico and India, for example, have higher productivity rates than the US and Germany in autos, while Brazil, Thailand and Mexico have

higher productivity rates than the US and Germany in textiles. Grinberg (2016, p. 270) documents how lower-value-adding activities are taken over by capitals located in lower wage locations in the semi-conductor industry, thereby increasing "the mass of surplus-value available for its process of valorization on a global scale." This has not been accomplished through increasing intensification of the division of labour, but due to the increasing automation of manufacturing equipment. The share of capital income in manufacturing GVCs increased by 3% between 2000 and 2014, while the income share of workers in the 'fabrication stages' declined by 3.7% in HICs and 1.3% in G20 countries (except China) (UNCTAD, 2018, p. 51–2).

Complementing the arguments which emphasise wage differentials are those which put stress on profit differentials, often drawing upon the initial work on monopoly capitalism of Baran and Sweezy (1968). Evidence abounds of the growing concentration of contemporary global capital accumulation: The top 1% of exporting firms, for example, accounted for 57% of country exports in 2014 (UNCTAD, 2018, p. 53). As documented in a growing body of labour process theory literature, global labour-value production networks allow lead firms to secure strategic assets including "technology, human resources, forms of production organisation, intellectual property, and marketing and design" (Parker et al., 2018, p. 52). Capture of these often intangible assets allows the formation of barriers to entry and the extraction of technological and financial rents (Aguiar de Medeiros and Trebat, 2017, p. 401). Lead global firms profit from management fees charged for the trading of intangible services (Serfati, 2011), and the use of branding, design, and marketing (Froud et al., 2012; Soener, 2015). At the global level, charges for the use of foreign IPR rose from less than $50 billion in 1995 to $367 billion in 2015; a growing share of these charges represent "payments between affiliates of the same group often merely intended to shift profit to low-tax jurisdictions" (UNCTAD, 2018, p. 55).

Within the production process proper, Milberg & Winkler (2013) have argued that lead firms enjoy monopsony power vis-à-vis their suppliers, allowing them to push down on costs in order to maintain high mark-ups. Rather than re-investing these gains, econometric evidence suggests that there is a tendency to pay higher dividends, buyback shares and pursue mergers and acquisitions. Suwandi (2019) describes the process by which lead firms in labour-value chains exert control over their suppliers as 'systemic rationalization'. This might involve such measures as: requiring suppliers to reveal their cost structure, the application of international price benchmarks, direct control of overheads (and therefore profit margins), pressure on delivery times (JIT) and flexibility in product changes (which may force suppliers to engage in

outsourcing – *numerical flexibility* – themselves), forcing supply chain firms to hold buffer stock which allows the core firm to avoid such a necessity, forcing costs of compliance with international certification onto suppliers. These arguments provide support to the Starosta (2010) thesis regarding the ability of lead firms to capture surplus value created by small capitals which do not take part in the equalisation of the rate of profit at the general level. Lead firms have been able to leverage their position in global labour-value production networks for increased total profits and higher profit rates. Ten percent of the world's publicly listed companies account for 80% of total profits (McKinsey Global Institute, 2015). The profit-to-revenue ratio of the world's biggest 2000 companies rose from 5.7% in the mid 90s to 7% in recent years (UNCTAD, 2018, p. 56). In turn, those countries that host apex firms are able to capture a greater share of overall value added (Aguiar de Medeiros and Trebat, 2017, p. 406).

In response to this discussion of the mechanisms of the geographical transfer of value (GTV) one might reasonably ask what is new? The history of GTV is a long one indeed, certainly pre-dating capitalism. Within the capitalist mode of production, Braun (1977, cited in Cope, 2019, p. 21) distinguishes forms of GTV specific to the periods of colonialism (16th to 19th centuries), commercial expansion (19th century), capital export (20th century to the world wars) and unequal exchange (post-war but accelerating from the 1980s). We raise this not to enter into a debate over periodisation, but to posit that the completion of the internationalisation of the circuit of productive capital has both quantitatively and qualitatively transformed the GTV. Ricci's (2019) empirical work suggests a doubling of the GTV between 1995 and 2007; a period during which intraindustry transfers increased from less than half to two-thirds of the total transfer. This highlights the growing importance of GPNs in channelling surplus value from its site of creation in the global periphery to its realisation predominantly in the core. Importantly for the larger argument of the paper, this has demanded of and afforded to finance a qualitatively different place within the circuits of capitalist accumulation, the changing appearances of which were described in section three. In the next section, we will look more closely at the underlying connection between global finance and production, and ECEs' subordinate position therein, to better understand how finance supports the operations of the transfer of value, and is itself rewarded for the same.

US DOLLAR MARKET-BASED FINANCE AND GLOBAL PRODUCTION NETWORKS

So far we have discussed the restructuring of finance and production in parallel. However, as argued in section two, these two are immanently intertwined, shaping and reinforcing each other. In this section, we look first at the involvement of finance in the hierarchical process of global production and value creation, its realisation as profits, and its transfer and 'storage' as financial wealth; subsequently, we outline how this connection between GPNs and globalised US dollar market-based finance shapes and reinforces ECEs' subordinate position in production and finance.

First, with regards to value creation/extraction, globalised US dollar market-based finance has been necessary to establish and support GPNs. In the most direct way, GPNs require substantial financing to be established and maintained. Capital markets and financial intermediaries are required to mediate FDI, the vast majority of which is mergers and acquisitions (Andrenelli et al., 2019). Evidence for Austrian firms shows that whereas still largely bank-based, large internationalisation moves are often financed through IPOs or an increase in equity capital to avoid a deterioration of financial/debt ratios (Castillo et al., 2019). With regards to the maintenance of GPNs, as production is spread across countries and regions and the time and/or distance between production and payment is lengthened, firms in networks build up claims on each other and have greater working capital needs. Recent estimates suggest that, while the working capital in the domestic component of supply chains mostly takes the form of trade credit, i.e. trade payables and receivables between firms, 80% of the international component of deferred payments is mediated by the financial sector (Boissay et al., 2020). This trade finance mostly takes the form of bank intermediation and insurance, contributing to the rise of global megabanks which can offer services across the globe and manage the risk in-house.

US dollar funding markets dominate these relationships and benefit a system of global production organised by large lead firms predominantly located in ACEs. As Gopinath (2015) shows, global production has given rise to an international price system for most commodities, which is reflected in the dominance of the US dollar in trade invoicing and subsequently funding. The dominance of one global currency reduces the transaction costs and exchange rate risk for US capital and those fractions of global capital with easy access to dollar funding markets (Feygin and Leusder, 2020). Additionally the functional flexibility of a market-based financial system supports the internationalisation of production: the world economy, while

relying on US dollars, does not need to rely directly on US banks at all times to access them. Indeed, while US banks have contained their borrowing and lending since the global financial crisis, dollar money and securities markets continued to be crucial in providing, among other things, the funding for GPNs; either indirectly as foreign financial institutions access US dollars to fund the activity of global firms (BIS, 2020); or directly as global corporations finance themselves in US markets. Despite the collapse of the asset-backed commercial paper frenzy post-2008, issuances of commercial paper by non-financial corporations, including non-US ones, increased during the past decade, as did corporate bond issuance (BIS, 2020).

The production of new financial instruments is also important to the evolving GPN risk mitigation strategies. The new risks associated with international production, chiefly those emerging from foreign exchange and interest rate volatility, can also be hedged through derivative markets. The explosion of foreign exchange swaps in the last decade, for example, has been a key way to access US dollars by foreign financial institutions, as they act effectively as short-term dollar loans secured against foreign currency collateral (Borio et al., 2017). Furthermore, by connecting GPNs to owners in ACEs through financial mechanisms, the imperative of (short-term) financial profitability is maintained. Lead firms can exploit their favourable financial positions to leverage their power over their suppliers. Baud and Durand (2012) argue that the increased importance of working capital and financing within GPNs enhances the power of downstream core firms with better access to finance, and who can exert their power over suppliers by delaying payment. Furthermore, shareholder pressures reinforce globalised production to ensure higher and more geographically diversified revenue streams (Palpacuer et al., 2006; Coe and Yeung, 2015). This is particularly so where financial markets impose themselves in productive networks directly, by reshaping commodities as standardised tradable financial securities (Palpacuer, 2008; Newman, 2009; Purcell, 2018). The impersonal force of market-based financial mechanisms compresses time and standardises return and profit expectations (and their distributions to asset owners) in a way that greatly enhances the disciplining role of finance.

Second, globalised US dollar market-based finance is fundamental for the realisation of profits of financialised capitalism. The restructuring of global production and its interconnection with global market-based finance allows for the extraction of an increased surplus from the working classes of ECEs. However, the very nature of global production makes it impossible for surplus value (in the form of profits) to be realised in the location of its creation in its entirety because, as described in the previous section, the share of value captured by residents in ECEs (and workers especially) is small. In ACEs, some of the

traditional sources of demand have been weakened: public investment has declined across OECD countries, and the mass production/mass consumption Fordist model has been itself undermined by the globalisation of production and the weakening of trade unions, and the consequent rise of inequalities (Sweezy and Magdoff, 1987). Therefore, before value reaches its 'end-point' as accumulated financial wealth, financialised capitalism, like all stages of capitalism needs to confront its own systemic realisation problem.

Global market-based finance has addressed this realisation problem by significantly enhancing the elasticity of the financial system to sustain aggregate demand in excess of current income. This takes the form of substantial accumulation and accommodation of debt, validated by growing asset prices. This debt, both private and public, has grown in waves interrupted only temporarily by financial crises, increasing from about 100% of global GDP in 1970 to 230% in 2018 (Kose et al., 2020). Market-based banking allows for increasing elasticity in (especially US dollar) credit creation, compared to a system where banks only extend long-term loans which they keep on their balance sheet, and fund with deposits. The collateralisation of lending shifts power to creditors from debtors, and the securitisation of credit offloads the risk to external investors (Sissoko, 2019), thus allowing banks to generate credit more easily.

The parallel secular rise of financial asset prices, so-called "capital market inflation" (Toporowski, 2000), has seen bond yields declining dramatically from their peak in the early 1980s, and dividend yields similarly declining, if less dramatically (Figure 7). This has allowed firms, government, and issuers of securitised assets, to issue debt and equity securities cheaply. In other words, the secular accumulation of debt, has gone hand in hand with rising asset values, and as such, cheaper financing costs. This system is sustained by demand for securities, as the institutionalisation of wealth generates pools of investors in constant need of assets to fill their balance sheets. Finally, the role of public institutions underpins the whole system, in particular the central banks that are always ready to put a liquidity floor under financial markets, asset prices (cf. the Greenspan put), and thus aggregate demand (Dafermos et al., 2020). A paradoxical form of privatised Keynesianism is a necessary component of debt accumulation within financialised capitalism.

<Figure 7>

Therefore global realisation of profits relies on debt accumulation, validated by asset price inflation and liquidity support from central banks. Indeed, evidence shows how debt-driven growth has been a phenomenon characterising many countries (Stockhammer and

Wildauer, 2016). Its epicentre is the US, as both the largest consumer market, hence at the end of many value chains, and the major node of global finance. The alternative is to rely indirectly on this debt accumulation, by relying on exports. Thus in financialised capitalism, debt-driven and export-oriented growth appear as the only viable regimes for sustained capital accumulation (Stockhammer, 2012; 2016).

Finally, with regards to the transfer of value and its accumulation as financial wealth, as argued above, the increasingly market-based nature of financial systems in ECEs and the focus on capital account liberalisation, international governance standards, and macroeconomic discipline have bolstered the realisation and transfer of value to global financial centres. Parallel to GPNs, global wealth chains have been established, which govern the transfer of value downstream (Coe et al., 2014; Seabrooke and Wigan, 2017; Quentin and Campling, 2018). These take different forms and do not simply follow the structure of the productive networks, but extract value from them at various points, to channel profits to where they can be 'stored' as financial wealth minimizing taxation. Offshore financial centres play an important role in this, especially as the nominal location of intangible assets (Haberly and Wójcik, 2015; Bryan et al., 2017). The production of new securities allows for 'storage' of wealth by the owners of capital, who need stores of value as their profits accumulate (Lysandrou, 2018). Asset price movements also allow for the possibility of increasing profit opportunities within financial markets themselves by lead firms, in the form of merger and acquisition activities (Milberg, 2008; Baud and Durand, 2012). The financial sector is itself able to capture a larger share of value through fees and other charges that it receives in exchange for its role in these wealth chains.

For ECEs, the connection between GPNs and globalised US dollar market-based finance is both shaped by and reinforces their existing subordinate position in production and finance. At the point of value extraction, as ECEs become embedded into GPNs, they simultaneously become exposed to the dollar-based financing system behind them. Foreign currency financing – increasingly on international financial markets and in market-based forms as discussed in section 3 - becomes, in this way, a necessary feature of participating in financialised capitalism. As a result, the operations of ECE firms and the dynamics of production become even more constrained by the liquidity cycles that characterise global financial markets. Moreover, as highlighted above, access to dollar funding markets and having a convertible currency becomes a key lever of international power and positioning within and between GPNs.

At this level particular balance sheet asymmetries and vulnerabilities can emerge in ECEs. Assemblers and suppliers in ECEs depend on foreign (US dollar) payments from retail firms in ACEs, to pay their own suppliers, creating a vulnerability of domestic activity and employment on the smooth working of external financial systems. Large non-financial corporations in ECEs access US dollar funding through money and capital markets, and in turn extend trade credit and finance to companies and customers in domestic currency (Hardy and Saffie, 2019). This type of mechanism, while representing a profitable form of 'speculative' activity, exposes ECEs to global liquidity shocks. When global liquidity contracts, and foreign financing becomes scarce, ECEs can be forced not only to cut back on their investment but also their extension of trade credit to domestic suppliers.

Crucially, the configuration of global realisation given by the GPN-global finance nexus, significantly constrains the development options of ECEs. Increased dependency on cost competitive exports and capital-intensive extractive industries limits wage-powered consumer demand. In some countries this generates various forms of export-oriented regimes, some more successful such as the East Asian "exportists" models (Jessop and Sum, 2006), others less successful and fragile (Levy-Orlik, 2014; Stockhammer, 2016; Guevara et al., 2018). Domestic forms of debt-led growth are also possible, although this is constrained by limited wealth and incomes, especially where this is highly unequally distributed.

The policy space within such subordinate growth regimes is limited. As financing and trade are US-dollar denominated in GPNs, a domestic currency depreciation does not have expansionary effects on exports, but simply makes imports more expensive (Bruno and Shin, 2019). Exports therefore mainly depend on global demand, channelled through GPNs, and global liquidity, channelled to global market-based finance, but exchange rate stability remains paramount as it allows access to necessary goods and foreign currency debt servicing. Monetary policy is therefore severely constrained by the volatility of financial flows responding to global liquidity conditions, forcing ECEs' central banks to react to central bank decisions in the core to keep some degree of exchange rate stability (Rey, 2013; Kaltenbrunner and Painceira, 2017; Kaltenbrunner and Painceira, 2018). In sum, the business cycle in ECEs is dependent on the global financial cycle, over which ECEs have little control (Aldasoro et al., 2020).

Finally, with regards to the transfer and storage of financial wealth, we have seen that profits are either transferred into core/offshore financial centres or re-channelled into high yielding, but short-term and volatile financial assets in ECEs. ECEs are in competition with each other, and are disciplined by both lead firms directly, and through financial institutions

which set global portfolio investment standards and facilitate foreign direct investment. The ostensibly low value-added of ECEs within GPNs (according to orthodox calculation) reflects both this competition and the high capital mobility allowed by global finance. The institution of market-based finance in ECEs, whilst further deepening the constraints on domestic economic policy making, has been crucial to secure the transformation of the profits generated in ECEs into financial wealth and – in most cases – transfer it into core financial centres. The possibility to retain value created through taxes too is limited, by the complex arrangements set up by global financial services to minimise tax costs.

CONCLUSION

Increasing attention in the financialisation literature to diverse manifestations of the phenomenon in ECEs requires us to theorise the *global* structural transformation in which these variegated appearances can be situated. We have argued that such a transformation can be found in the substantive completion of the internationalisation of the circuits of capital within the last half century. The internationalisation of money capital, which in the contemporary period has taken the form of US dollar market-based finance, is characterised by the institutionalisation of wealth, the transformation of banking, the proliferation of new financial instruments and an increased governance role for finance. The completion of the internationalisation of productive capital, taking the form of GPNs, has both quantitatively and qualitatively altered the geographic transfer of value from subordinate regions and actors to superordinate ones, increasing the size of the transfer and placing greater emphasis on intraindustry channels. These systems have co-evolved, reinforcing the subordinate role of ECEs in the extraction, realisation, and transfer of value, and constraining the agency of both public and private actors from subordinate regions, and ultimately undermining the possibility of more autonomous and broad-based development strategies.

Theorising the phenomenon in this way has important implications for policy in a world where even orthodox analyses increasingly view the unchecked growth of finance with suspicion (Sahay et al., 2015). Understanding financialisation as cyclical process resulting from national, or even international, policy failures suggests that we devote our energies towards regulation of the financial sector itself, adopting rules which may be ill-suited to the realities of ECEs. While possibly necessary, these policies are certainly not sufficient. The history of such efforts offers little hope for either an effective or lasting solution. However, if our focus is on financialised capitalism, and its inherently super-/sub-ordinate dynamics, it

foregrounds very different priorities. Instead it suggests the need to address workers' struggles over wages and working conditions in the periphery, inequalities in income and wealth in both ACEs and ECEs, and the expansion of the public over social reproduction.

Finally, it might be suggested that the Covid-19 global pandemic spells the end of GPNs and/or the current configuration of global finance, and therefore fatally undermines our arguments over the foundations of financialised capitalism. Undeniably, the coming years will see changes in technology and industrial organisation, but as argued by UNCTAD (2020), these changes variously push and pull towards differing trajectories of reshoring, diversification, regionalization and replication. And, while financial markets were heavily stressed in March 2020, the scale and speed of liquidity provision globally makes it clear that US dollar market-based finance is likely to stay as the fundamental infrastructure of global finance. Some future trajectories may even see a strengthening of the size and influence of global finance and its role in the subordination of ECEs. Perhaps the greatest challenge to the 'sustainability' of this stage of financialised capitalism will instead come from a greater unfolding crisis, that of climate breakdown which threatens to undermine the foundations of capitalist accumulation itself.

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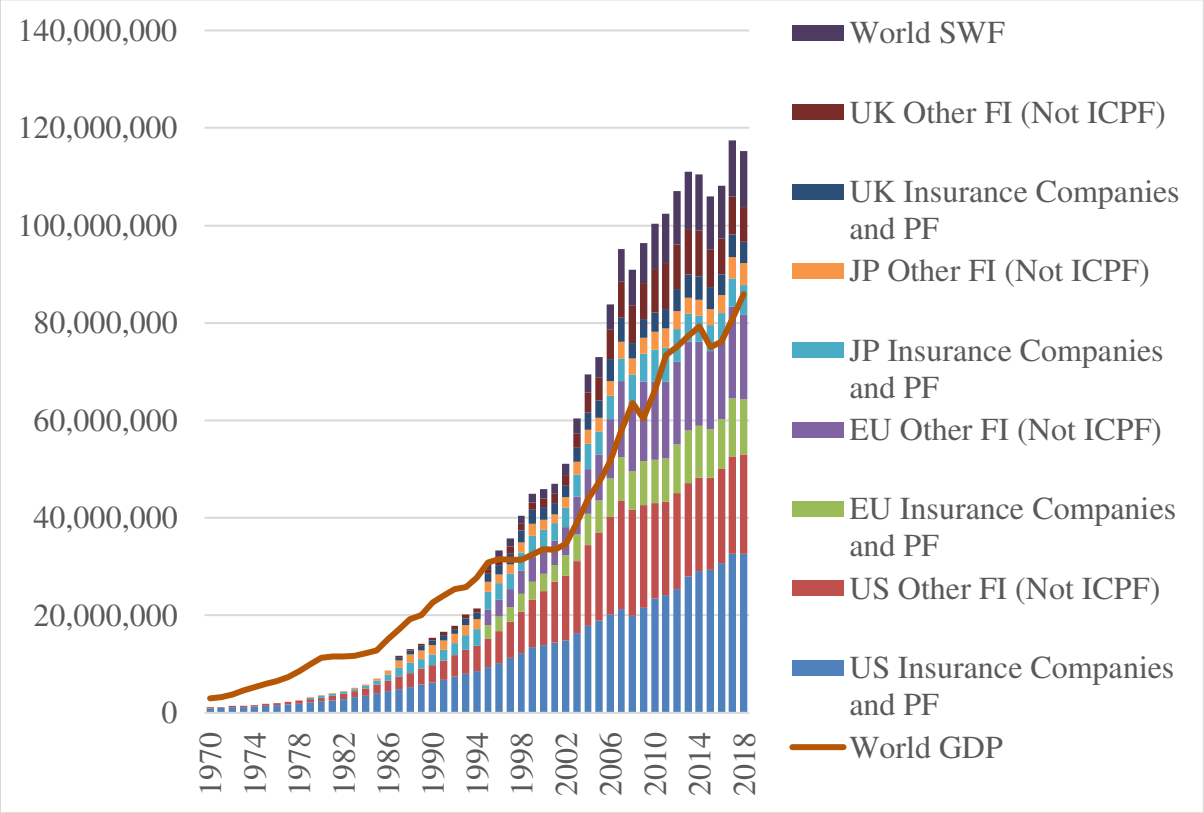
FIGURES AND TABLES

Table 1. *Key financial sector characteristics of financialised capitalism*

Characteristics	**Main location**	**Empirical manifestations**
Institutionalisation of wealth	Long-term securities markets	Expansion of long-term securities markets Growth of institutional investors
Transformation of banking	Money and credit markets	Collateralised lending and borrowing Credit to households Originate to distribute
Production of new securities	Derivative and 'alternative asset' markets	Securitisation Growth of interest rate and exchange rate derivative markets
Internationalisation of finance	Foreign exchange markets	Growth of cross-border transactions and positions Currency trading volumes
Governing through financial markets	Public finance and monetary policy	Dealer of last resort function Rise of public debt through bond markets

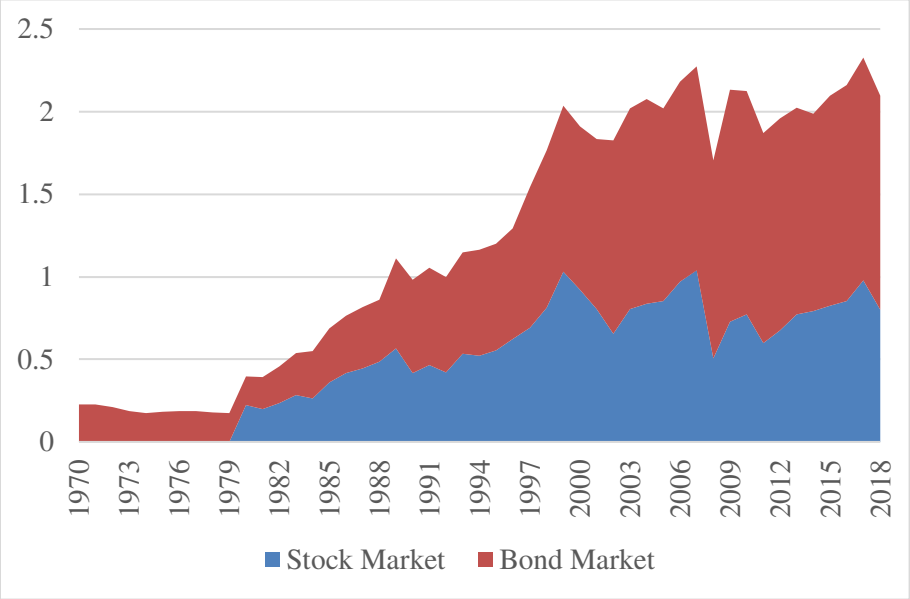
Figure 1. *Institutional investors*



Source: Authors' elaboration based on FED Financial Accounts of the United States, Eurostat sectoral balance sheet accounts, Bank of Japan Flow of Funds Accounts, ONS UK Economic Accounts, and Sovereign Wealth Research at IE Center for the Governance of Change[3] (2020). Data in millions of US dollars, converted through BIS exchange rate statistics if originally in different currency. Other FI comprise all non-bank financial institutions except ICPF.

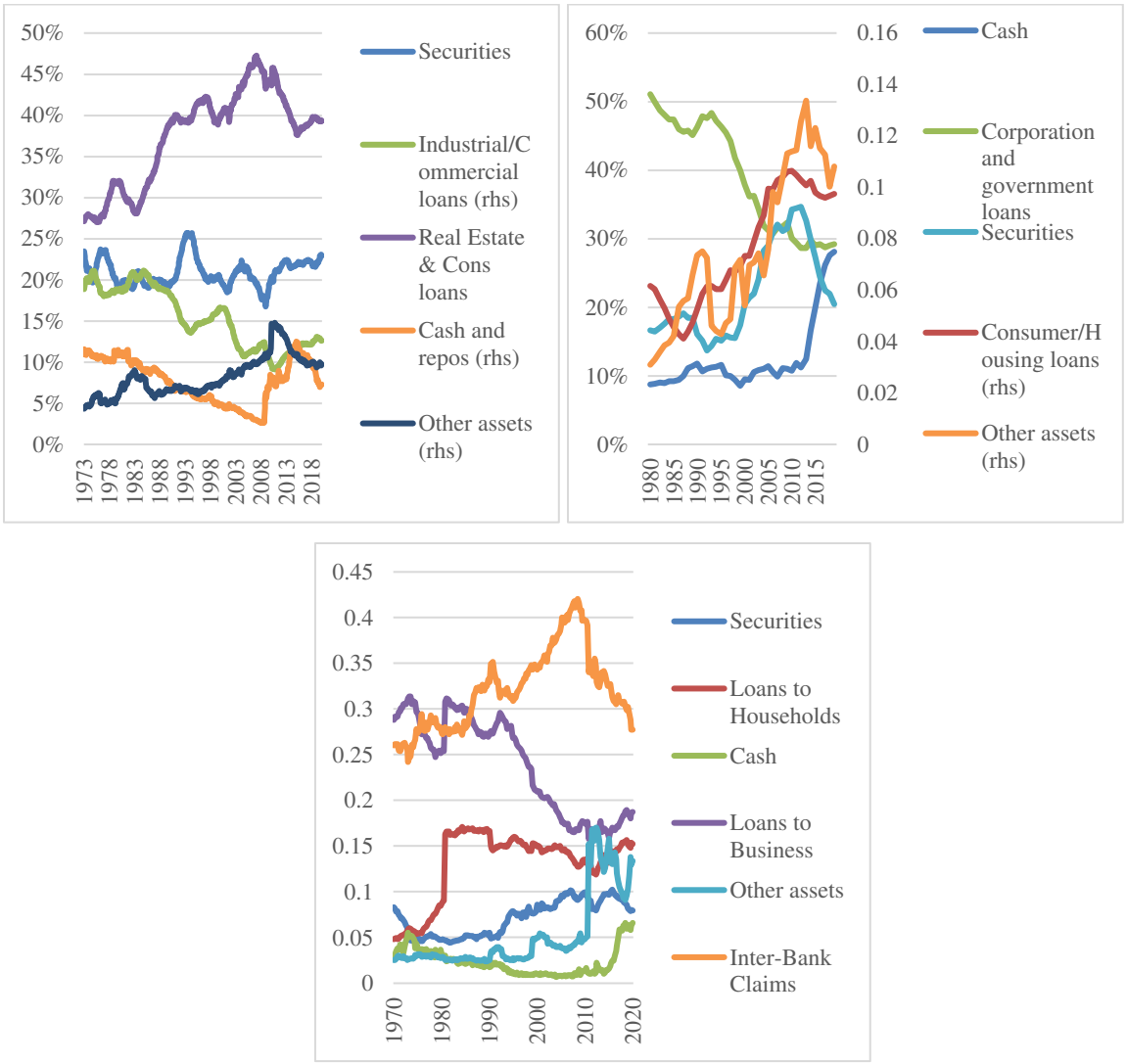
[3] We thank Javier Capapé for providing this data to us.

Figure 2. *Total long-term securities market size, proportion of global GDP*



Source: authors' elaboration based on BIS Debt Securities Statistics and World Bank World Development Indicators

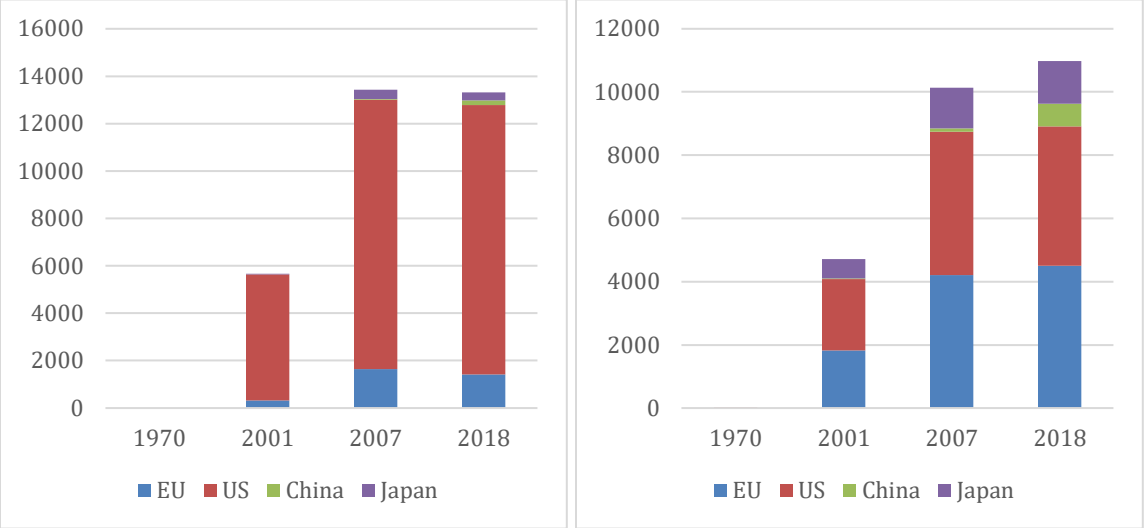
Figure 3. *Various bank assets as a proportion of total assets*



From top left: United States, Japan and Germany.

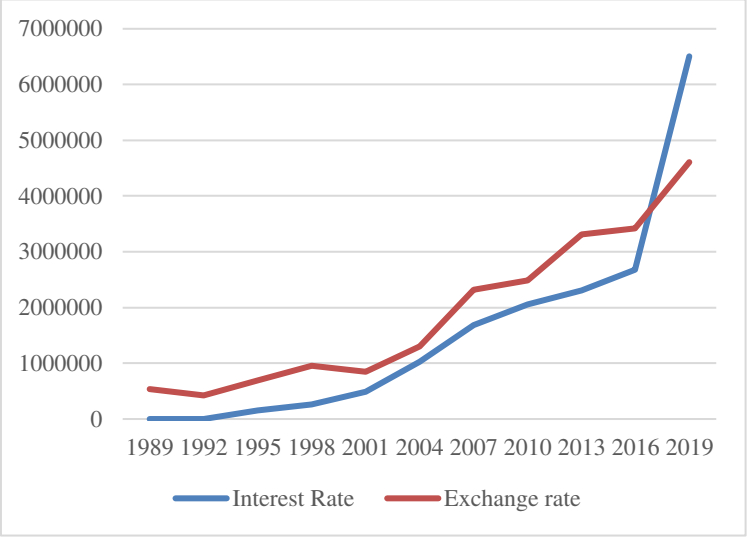
Source: Calculations based on Federal Reserve System H8 account, Bank of Japan Flow of Funds account, and Bundesbank.

Figure 4. *Securitisation and repos*



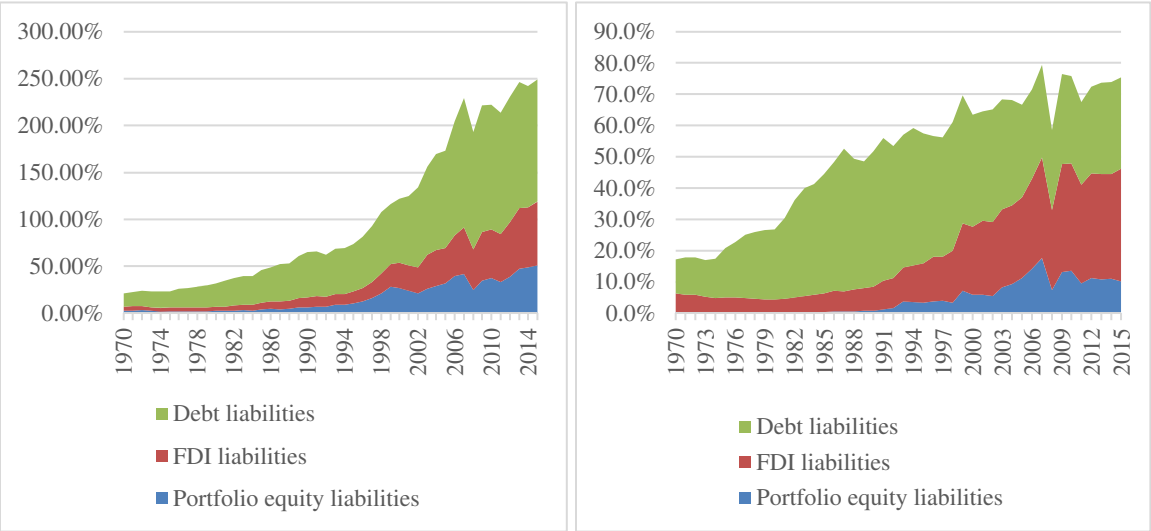
Source: ICMA (2020), FED Flow of funds of the United States, ChinaBonds, Sifma statistics on ABS and MBS, and Bank of Japan flow of funds accounts. Figures are in USD billion, and converted through BIS exchange rate statistics when originally in non-USD.

Figure 5. *Daily derivative average turnover value. $ million*



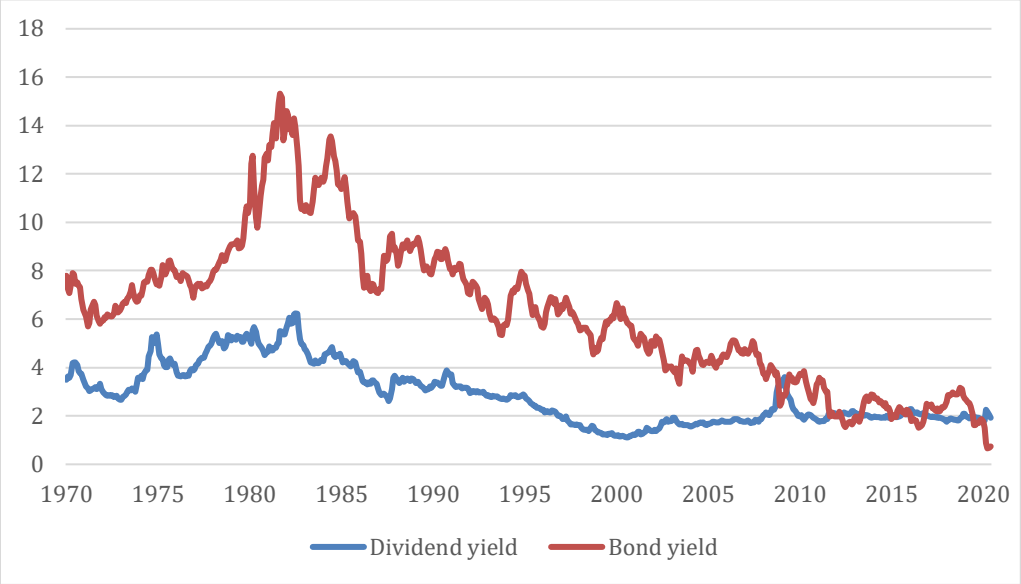
Source: BIS Triennial Survey Triennial Survey of FX and OTC derivatives trading

Figure 6. *Total cross-border assets and liabilities*



Source: authors' calculations based on Lane and Milesi-Ferretti (2018). Left graph shows Advanced Economies (US, Japan, EEA, Canada and Australia), the right graph shows ECEs

Figure 7. *Secular yield decline*



Source: Authors' calculation based on Shiller (2015), data available from http://www.econ.yale.edu/~shiller/data.htm. Data refer to the S&P 500 and US 10-year government bonds