# Financialised Capitalism and the Subordination of Emerging Capitalist Economies

## 1. Introduction

There is growing recognition of the importance of studying financialisation in emerging capitalist economies (ECEs) (Mader et al., 2020). Indeed, a significant literature has analysed the changing financial relations and practices of economic actors in ECEs, including non-financial corporations, financial institutions, and households (for reviews of that literature see, e.g. Bonizzi, 2013 and Karwowski, 2020). A key faultline in this literature has been whether financialisation processes in ECEs are fundamentally determined by external pressures, or whether internal factors, such as domestic institutions and class dynamics drive the experiences. This paper will argue that what is needed is a theory of *global* structural transformation in which the variegated appearances of financialisation can be situated. Rather than a nation-centric dichotomy between external and internal determinants of financialisation, this paper adopts an understanding of the current stage of mature capitalism as *financialised capitalism (FC)*, the inherently *global* and *uneven* nature of which accounts for the shared experience of subordination of ECEs while, at the same time, allowing for spatial variegation.

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'; 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. FC, at a higher level of abstraction, has emerged following a qualitative change in the degree of 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 created channels for the 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 in relation to the international circuits.

The current paper makes four contributions to the literature on financialisation in ECEs and beyond. First, where 'financialisation' is used more generally in the literature to denote an increasing weight of finance in specific national contexts, we highlight the *systemic* nature of FC. This systemic view better explains (a) the role subordinate units play, and consequently (b) how this is experienced and in what forms it appears. ECEs' subordinate position in the three circuits of capital (money, commodity and productive) is both a constituent feature of and shapes the peculiar forms taken by FC in those economies.

Second, in contrast to large parts of the existing, mainly Post-Keynesian literature on monetary subordination which has emphasised the constraints on domestic policy agency, we place particular emphasis on the value creation and extraction in ECEs underpinning FC. ECEs' subordination in FC brings with it both a structural value transfer from ECEs to the core, and constraints on the agency of actors in ECEs.

Third, at a more concrete level, we argue that two key changes distinguish FC as a new stage. The first is the reorganisation of production through global production networks (GPNs) (Coe & Yeung, 2015). The transfer of value occurs through networks 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 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. Thus, we attempt to bring together the lessons of GPN, CMF and financialisation. 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, GPNs 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.

Finally, we show how the restructuring of production (around GPNs) 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.

In the next section, we elaborate our theory of (subordinate) financialised capitalism and elaborate on our contributions vis-a-vis the existing literature. In the third section, we discuss the key transformations of the financial sector in this period to one dominated by the US dollar and market-based operations and ECEs' subordinate position therein. This is followed by an examination of the changes in global production and 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 productive capital and ECEs' subordinate position in this circuit. In the fifth section, we connect global production to US dollar-dominated market-based finance, drawing attention to the ways in which finance, and its recent transformations, are essential to facilitate the creation and expropriation of value in ECEs, its transfer and storage as financial wealth, and its realisation as profits on the global level. Section 6 then shows how this interdependence between market-based finance and global production is both fundamentally reliant upon and reinforces ECEs' subordinate position in financialised capitalism. We illustrate some aspects of this subordination with three brief sectoral examples.

## 2. A theory of financialised capitalism and subordination

While this is not the place to elaborate how the concept of financialised capitalism sits within the literature on financialisation (see Powell, 2019, for such a discussion), it is germane to the present discussion to situate FC within the 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 literature on financialisation in ECEs focuses on the diversity of the financialisation experiences across different sectors,

including 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. 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., 2020). 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 co-evolving totality. FC should be instead 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 FC 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 the concept of subordinate FC is a 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 second contribution of our understanding of subordinate FC, namely the central role given to an understanding of value creation and appropriation. As rightfully raised by Bernards (2019, p. 7) most of the literature fails to

interrogate the material basis for observed changes in financial behaviour. For example, 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). The inequity which this highlights has long been a focus of international political economy (e.g. Strange, 1986) and has been increasingly recognised by mainstream economic analysis (e.g. Gourinchas et al., 2019). However, in all these literatures emphasis has been on the constraints financial integration creates for agency in ECEs rather than the persistent value transfer. In contrast, classical to post-colonial Marxist literature on imperialism (e.g. Luxemburg, 2003 [1913]; Lenin, 2010 [1916]; 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 the creation, transfer and realisation of that value.

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 increasing internationalisation 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 proliferation of circuits of capital across time and space has *demanded* a vastly increased role for 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, FC is characterised by two changes involving the restructuring of production and finance at the global level. First, production has restructured itself into disaggregated hierarchically-structured GPNs, with agents in ECEs mostly 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 GPNs, from where they can exploit wage differentials and strategic control of assets. Within these networks, finance is increasingly

understood as playing an essential supporting role in controlling the mechanisms through which value is created, 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. Moreover, existing studies have focused on specific points in the chain/network, rather than theorising the systemic role of finance in facilitating the extraction, transfer, storage, and realization of that value. 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). The literature is less detailed on the key changes in financial systems in the era of FC.

To address this, we draw on the emerging literature on Critical Macro Finance (CMF) to argue that a second key change marking the stage of FC is the transformation of finance into a globalised US dollar market-based system. This system ensures a flexible and elastic supply of credit and hedging mechanisms, as well as mechanisms 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. However, as with the financialisation literature more generally, the CMF literature does not elaborate the material basis for these financial transformations. We show that the concurrent rise of global market-based finance represents the other side of the coin of FC to the reorganisation of global production.

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 extraction, transfer, storage as financial wealth (primarily, but not only, in ACEs and their offshore centres), and realisation. This systemic view allows for a framing of different experiences of FC, but does not in itself fully capture their specificity, and spatial variegation persists.

# 3. Global dollar market-based finance and financial subordination

Pathbreaking work in International Political Economy established the importance of deregulated financial markets as a form of infrastructural global power (Strange, 1986; Cohen, 2000). Following in these footsteps, CMF authors locate the key structural change in the financial sector in the turn to market-based finance., At its core 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 switch 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), and reflects the more general transformation of banking (i.e. Erturk and Solari, 2007; Lapavitsas, 2013) from lending to firms, to fees and commissions, trading, and lending to households.

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 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. This is 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). In this process, the asset management industry has assumed an increasingly important position (Braun, 2021), as providers of an array of financial products for its worldwide clients. Demand for new securities also fuels the 'assetisation' process, i.e. the transformation of income streams into tradable

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"Repurchase agreements (repos) are a form of collateralised lending, involving the sale and repurchase of a security"

financial assets, itself a process characterising financialisation (Leyshon and Thrift, 2007; Fernandez and Aalbers, 2016).

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 US Federal Reserve Chair Paul 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 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). It is clear that bank-based financial systems remain, especially in ECEs which in some cases feature dominant state-owned banks (Karwowski and Stockhammer, 2017; Cull et al., 2018). Nevertheless, pressures to adopt market-based institutions and practices emanating both from competitive forces and bi-/multilateral political pressure suggest that this will continue to be the direction of travel for the foreseeable future.

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

***[Insert table 1 here]***

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 2019 exceeded $120 trillion, or 145% of world 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.

***[Insert figures 1 and 2 here]***

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 and securities 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.

***[Insert figures 3 and 4 here]***

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.

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Daily interest-rate and exchange-rate derivative transaction volumes have reached $4.6 and $6.5 trillion respectively in 2019 (Figure 5).

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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, with external liabilities reaching 270% of GDP in ACEs and 90% of GDP in ECEs in 2020, 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).

***[Insert figure 6 here]***

A final important characteristic is the tighter interconnection between financial markets and governance. Financial markets have become a key vehicle to conduct economic policy, embedding government institutions 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, a key pillar

of FC. 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 - reflecting ECEs' subordinate position in international monetary and financial markets - 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.

Financial subordination has always been a constituent feature of capitalism, but has assumed new forms in FC. For instance, high financial returns are no longer primarily in the form of high interest rates on foreign currency loans but increasingly also currency and capital gains. 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.

Given the changes in ACE financial systems discussed above, the 'security' to realise these returns, in turn, is increasingly provided by ECEs adopting similar 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 becomes essential to investor security. As a result, the assets sought by foreign investors are tradable instruments, mainly bonds, equities and derivatives. Many ECEs are 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, the increased marketization of ECE financial systems according to ACE blueprints has supported the safe repatriation of profits.

In addition to the shift of domestic institutional structures to market-based financing, risk to global financial capital has been reduced by the continued liberalisation of financial accounts and the institution of 'familiar' macroeconomic regimes and governance standards. The widespread adoption of inflation targeting together with floating exchange rate regimes has created predictability in macroeconomic management and added exchange rate movements as an important 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). The

liberalisation of the balance of payments allows financial returns to be safely transferred abroad. Standardisation according to Anglo-American governance blueprints further reduces the risk for global investors and embeds states and societies in the system of 'market rule', thereby converting ECE assets into 'investables' (Hebb and Wójcik, 2005; Soederberg, 2003; 2007; Pistor, 2019). Ensuring legal and property rights is crucial to guarantee global financial actors that they can repatriate their investments and have their property rights secured.

In sum, the key financial transformations reshape the financial subordination of ECEs according to the logics of US-dollar market-based finance. An important qualification is in order here: while FC is characterised by these transformations globally including their subordinate form in ECEs, their country-specific manifestations will differ and be contingent on the specific political and institutional context at the national and regional level, as the emerging literature on variegated financialisation suggests (Bonizzi et al., 2021; Ward et al., 2019). For example, banks can well remain the dominant financial institutions, even in a context of greater internationalisation and market-based transactions (Cull et al., 2018; Lai and Daniels, 2017). Therefore, these transformations represent a global tendency rather than a state of full convergence of all national financial systems.

# 4. GPNs and value transfer

The last half century has been indelibly marked by a transformation in global production. What began as a collection of cross-border initiatives by transnational corporations (TNCs) 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 to exploit differences in labour costs and productivity. As a result, TNCs, 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, but an increase in the number of countries' bilateral trade relations and a proliferation of sectors which have so diversified.

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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 significant advancement of the internationalisation of the productive capital circuit. 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. Inter-industry 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. Intra-industry 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. 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 works on unequal exchange are those of Prebisch (1950) and Singer (1950) which linked declining terms of trade not to wage differentials, but to the pressures 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 can capture greater benefits from trade. This argument has been criticised for being nation-centric, rather than highlighting the exploitation of labour in the competition between different bourgeoisies. 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 transfer (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 information and communication technology (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 information and communication technology, chemicals and pharmaceuticals, revealed that increasing patent protection was associated with increased sales per worker of US TNC affiliates, but not for local companies (UNCTAD, 2017, p. 134).

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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 [1929], p. 170) 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. Ricci (2019, p. 8) argues that "the factor preventing market prices of individual national commodities to equalise 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 and intra-firm 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 GPNs, 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). 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 value chains increased by 3% between 2000 and 2014,

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while the income share of workers in the 'fabrication stages' declined by 3.7% in high-income countries 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). Furthermore, GPNs 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 allow 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., 2014; Soener, 2015). At the global level, charges for the use of foreign intellectual property rights 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).

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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 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 GPNs 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 ('Just In Time') 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 GPNs 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 can 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. 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 a debate over periodisation, but to posit that the internationalisation of the productive capital circuit 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 intra-industry 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, but also given, 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 to better understand how finance supports the operations of the transfer of value, and is itself rewarded for the same.

# 5. The interdependency of 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 above, these two are immanently intertwined, shaping and reinforcing each other. In this section, we look at the involvement of finance in the hierarchical process of global production and value creation, its transfer and 'storage' as financial wealth, and its realisation as profits.

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 foreign direct investment (FDI), the vast majority of which is mergers and acquisitions (Andrenelli et al., 2019). Evidence for Austrian firms, for example, shows that whereas still largely bank-based, large internationalisation moves are often financed through initial public offerings 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).

The US dollar dominates these relationships. 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 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 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 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 new risks associated with international production, chiefly those emerging from exchange and interest rate volatility, can be hedged through derivative markets. The explosion of forex swaps in the last decade, for example, has been a key way to access US

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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. As argued by Palpacuer et al. (2006) and Coe and Yeung (2015), shareholder pressures reinforce globalised production to ensure higher and more geographically diversified revenue streams. This is particularly so where financial markets impose themselves in GPNs 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, resulting in downsizing, outsourcing, the increased use of precarious contracts and a decline in union density (Dupuis et al., 2020; Kollmeyer & Peters, 2019). Bowman (2018), for example, documents how shareholder pressures favoured downward wage pressure over productivity investments in the South African mining industry.

Second, with regards to the transfer of value and its accumulation as financial wealth, the US dollar denominated, market-based nature of financial systems has bolstered the 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 GPNs, but extract value from them at various points, to channel profits 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, denominated in a dominant currency, allows for the safe 'storage' of the extracted value in the form of financial wealth (Lysandrou, 2018). This accumulated wealth can also be used for more speculative ventures, either directly through the investment in riskier assets and merger and acquisition activities by large corporations (Milberg, 2008; Baud and Durand, 2012), and indirectly as corporate excess cash is placed with global financial investors that contribute to global liquidity (some of it re-channelled into ECEs as we will see below) (Howell, 2020). 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.

Finally, globalised US dollar market-based finance is fundamental for the realisation of profits of FC. The restructuring of production and its interconnection with 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 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, weakening of trade unions and the consequent rise of inequalities. Therefore, before value reaches its 'end-point' as accumulated financial wealth, financialised 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. 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 FC. The global realisation of profits relies on debt accumulation, validated by asset price inflation and liquidity support from central banks.

# 6. The subordination of emerging capitalist economies in financialised capitalism

Whereas financial subordination has always been a constituent feature of capitalism, it has assumed new forms in FC. First, with regards to value extraction, as ECEs become embedded into GPNs, they become exposed to the dollar-based financing system behind them. Foreign currency financing – increasingly on international financial markets and in market-based forms - becomes a necessary feature of participating in GPNs. Non-financial corporations (NFCs) from several ECEs have substantially increased their US$ borrowing from (international) financial markets (BIS, 2020), at times intermediating it to local suppliers and customers in the form of domestic currency denominated trade credit (Hardy and Saffie, 2019). However, whilst dollar-denominated, market-based finance reduces the risk for ACE operators, it further reinforces ECEs' monetary and financial subordination.

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For one, dollar dependence creates particular balance sheet vulnerabilities, which constrain the operations of ECE firms, and make the dynamics of production even more dependent on the liquidity cycles that characterise global financial markets. 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 to the smooth working of external financial systems. The financial intermediation activities of large ECE NFCs with access to international funding markets, while representing a profitable form of 'speculative' activity, expose those firms to global liquidity shocks. Moreover, in this system access to dollar funding markets and/or having a widely accepted international currency become key levers of international power and positioning within and between GPNs.

With regards to the transformation of that value into financial wealth and its safe storage and transfer, section 3 has shown that ECEs experience similar transformations to market-based financial structures as those observed in ACEs to (a) provide a wider array of (domestic currency

denominated) tradable assets, and (b) ensure the safe transformation and transfer of the value generated in production and the returns generated on financial assets. The value extracted in ECEs is channelled into ACE financial/offshore centres to be stored as financial wealth and/or reinvested in the form of more speculative ventures by global financial investors. These speculative ventures increasingly include ECEs assets. Equally, rather than being re-channelled through global financial markets, the value created in ECEs might be transformed into financial wealth in ECEs themselves to be invested in high yielding assets. While the transformations to market-based systems and production of new assets are also observed in ACEs, ECEs' experience of them is subordinate on two counts. First, ECE assets are not held to store financial wealth in the long-term, but rather to provide high-yielding and/or short-term, speculative gains. The higher returns on ECEs' financial assets constitute another way of transferring value from ECEs to ACEs.

Second, the rising importance of tradable assets based on speculative gains, and the provision of liquidity through financial structural transformations and liberalisation, ACE governance mechanisms, and 'prudent' macroeconomic policy, circumscribe agency in ECEs (both public and private). For example, 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. '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 political systems in ECEs, while the structural transformations to market-based systems are unsuitable for countries needing high-risk often uncertain capital ventures. Patient, long-term (development) banking has been essential for late industrialisers such as Germany and Japan.

Finally, the configuration of global realisation given by the GPN-global market-based finance nexus, significantly constrains the sources of aggregate demand of ECEs. Increased dependency on cost competitive exports and capital-intensive extractive industries limits wage-powered consumer demand. Their subordinate position in global finance makes conditions for

domestic investment as well as working capital more volatile and reliant on the cycles of global liquidity.

The implication of this is that growth regimes in ECEs are subordinate to the global dynamics of FC. The 'debt-driven' vs 'export-driven' dichotomy, while remaining a useful approximation, needs to be put in the context of such subordination. In some countries this generates various forms of export-oriented regimes, some more successful such as the East Asian "exportist" 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 to control aggregate demand is therefore more limited in these subordinate growth regimes. 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. This reinforces the dependence of ECE monetary policy on 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).

While it is impractical to investigate herein detailed examples of the subordination of the agents of ECEs in FC, particularly as this spans the firm, sector, nation-state and supra-nation-state levels, we can point to some indicative examples across different sectors (agriculture, services, and manufacturing) that emerge from the application of this lens to the cross-disciplinary literature.

In GPNs for agricultural commodities such as coffee, cocoa and cotton, prices are increasingly determined on futures markets. Price volatility has increased as trading volumes have become driven by global financial factors, such as the entry/exit of institutional investors in new asset classes, in addition to supply and demand conditions. This increased volatility can be profitable for appropriately hedged international traders, but poses challenges for local exporters.

These subordinate firms' opportunities for 'upgrading' are circumscribed by their structurally higher financing costs, and inexperience in international derivative markets (Staritz et al., 2018). The costs of increased price volatility are then transmitted to producers (Bargawi & Newman, 2017; Newman 2009), contributing to the quantum of value created by farmers which is captured by international traders. Downstream functions in these GVCs, such as branding and retailing, where most value created in the chain is captured, are controlled by a small number of international TNCs. Increasing engagement with finance by these corporations is illustrated by the increase in shareholder value-oriented activities (dividends, share buybacks, mergers and acquisitions resulting in rising goodwill), financialised operations (offering insurance and credit to clients, and including banks, hedge funds and brokerage firms amongst their subsidiaries), and financialised investment (Van Huellen & Abubaker, 2021); all techniques by which value created in ECEs can be transferred to agents and investors located predominantly in the core.

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In the services sector, Baud & Durand (2012) have documented a wave of mergers & acquisitions amongst food and merchandise retailers that yielded rising profits all the while revenue growth stalled. This was made possible by a global re-structuring and the accompanying adoption of new technologies that strengthened retailers' market power relative to both suppliers and employees, facilitating greater value extraction from workers in both ACEs and those employed by suppliers in ECEs. This was accompanied by a turn towards the extension of consumer credit, thereby using financial engagement to address realisation issues and helping generate profits from the expropriation of wage income. Shareholder pressures ensured that the increased profits derived from greater market power were translated into higher dividends, facilitating the transfer of value to investors. In telecommunications, Wojcik & Camilleri (2015) provide a case study of the contribution of multinational financial firms to China Mobile's rise to the position of national champion. Fundraising through an initial public offering was essential for growth, and, as *quid pro quo*, channels were created to allow the repatriation of profits and the avoidance of tax. In this case, the payment of these profits was supported by an expropriation of rents from the Chinese consumer.

In manufacturing, GPN re-structuring has allowed lead firms to capture value created by workers in suppliers located in ECEs (for example, Froud et al., 2014; Haslam et al., 2013). Do Carmo et al. (2019) document two parallel trends common to the automotive sector; first, the

transfer of the workforce to ECEs, predominantly China and Southeast Asia, and second, increasing emphasis on financial activities, namely the extension of credit and leasing arrangements. Profits from the capture of value created by workers in ECEs and the wage income of consumers have fed into a rapid increase in dividend payments to shareholders and salaries to senior executives. Such dividend payments are, in turn, increasingly captured by financial institutions, who have been the source of major share acquisitions in the sector in recent years.

# 7. Conclusion

Increasing attention in the financialisation literature to diverse manifestations of the phenomenon in ECEs should prompt us to theorise the *global* structural transformation in which these spatially variegated appearances can be situated. We have argued that such a transformation can be found in the qualitative change in the degree 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 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 intra-industry channels. These systems have co-evolved, reinforcing the subordinate role of ECEs in the extraction, realisation, and transfer of value, constraining the agency of both public and private actors from subordinate regions, and ultimately undermining more autonomous and broad-based development strategies.

To be clear, we are not arguing that this is a uniform process delivering homogenous outcomes. The history of domestic class conflict, and its mediation by the state in an increasingly global economy overdetermines the nature and institutional specificities of any one society's integration into FC. Some might argue that a number of countries, especially East Asian exporters, have successfully integrated into this system; to this we could only agree, while at the

same time pointing out that this 'success' has come at a high price in terms of workers' exploitation, and the adoption of policies which have been both expensive and, at times, perverse in their developmental impact. Nonetheless, even within this circumscribed understanding of 'success', the framework of subordinate FC focuses our attention on the accompanying financial infrastructure which facilitates more or less productive integration. This might be an area of promising future research.

Theorising FC in this systemic 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 a cyclical process resulting from national, or even international policy failures suggests that energies should be devoted towards regulation of the financial sector itself, adopting rules which may be ill-suited to the realities of ECEs or have adverse unintended consequences on the same. While possibly necessary, these policies are likely not sufficient. However, if our focus is on a global system of FC, and its inherently super-/sub-ordinate dynamics, it foregrounds 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 the architecture of finance and social reproduction.

Finally, it might be suggested that the Covid-19 pandemic spells the end of GPNs and/or the current configuration of global market-based finance, and therefore fatally undermines our arguments over the foundations of FC. 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, regionalisation 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. Perhaps the greatest challenge to the 'sustainability' of FC 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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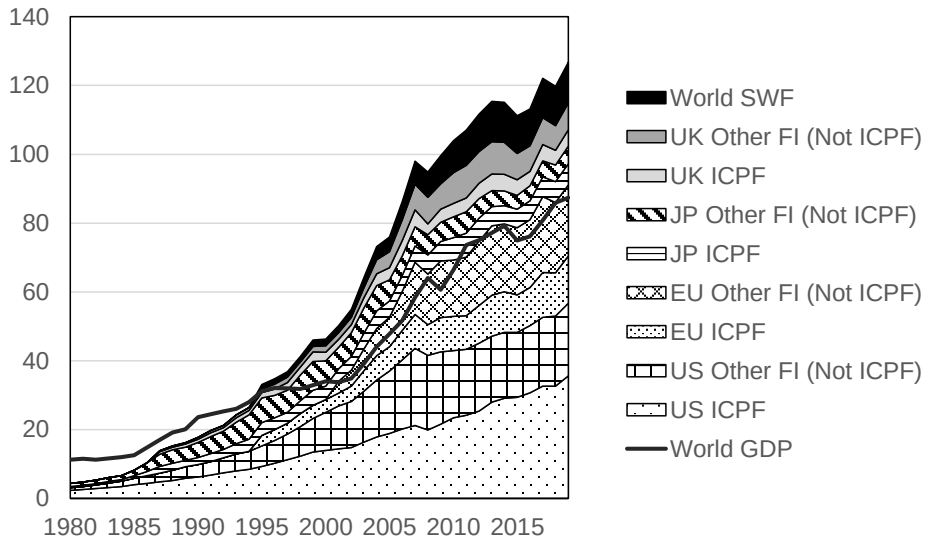
**Table 1.** *Key financial sector characteristics of financialised capitalism*

| **Characteristics** | **Main location** | **Empirical manifestations** |
|---|---|---|
| Institutionalisation of wealth | Long-term securities markets | Expansion of long-term securities markets<br>Growth of institutional investors |
| Transformation of banking | Money and credit markets | Collateralised lending and borrowing<br>Credit to households<br>Originate to distribute |
| Production of new securities | Derivative and 'alternative asset' markets | Securitisation<br>Growth of interest rate and exchange rate derivative markets |
| Internationalisation of finance | Foreign exchange markets | Growth of cross-border transactions and positions<br>Currency trading volumes |
| Governing through financial markets | Public finance and monetary policy | Dealer of last resort function<br>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[1] (2020). ~~Data in~~Figures are in ~~millions~~ of US dollar trillions~~s~~, converted through BIS exchange rate statistics if originally in different currency. Other FI comprise all non-bank financial institutions except ICPF.

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



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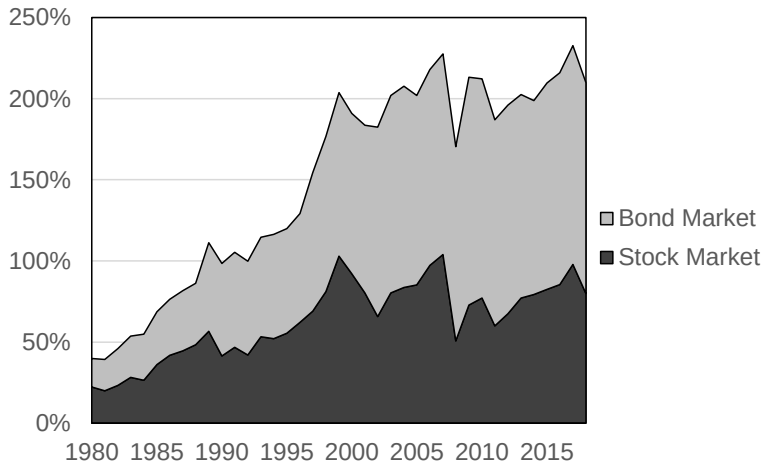
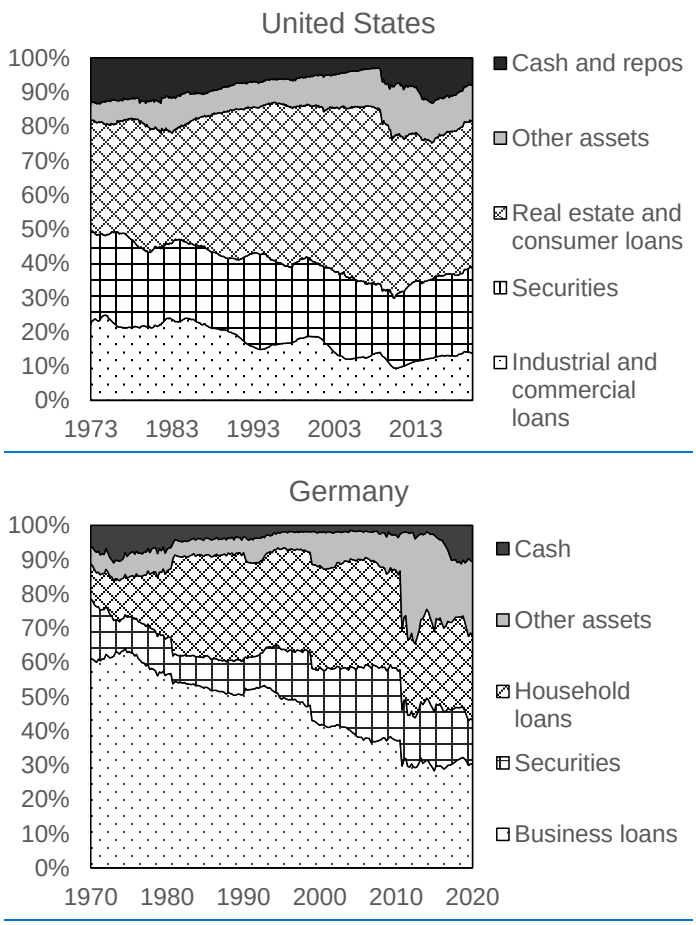
**Figure 2.** *Total long-term securities market size, proportion of global GDP*




**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*

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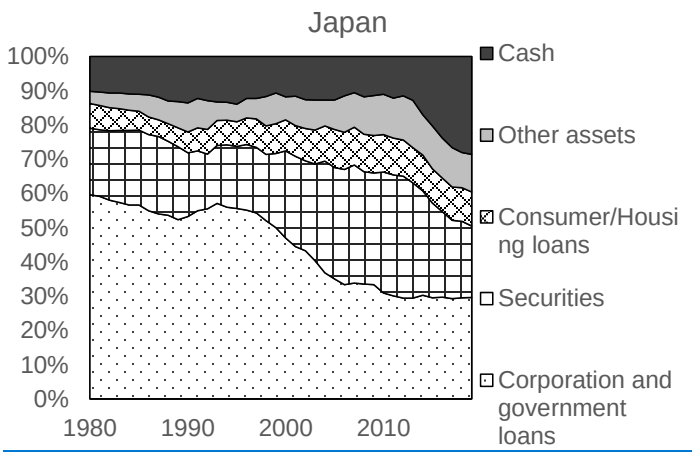
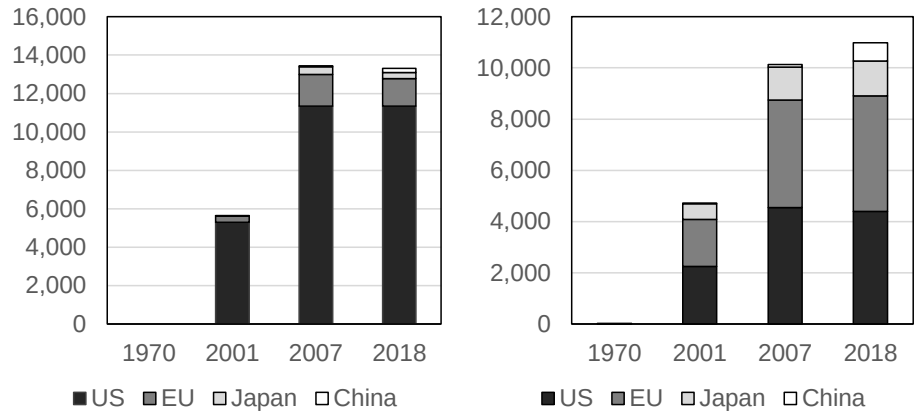



**Source:** Calculations based on Federal Reserve System H8 account, Bank of Japan Flow of Funds account, and Bundesbank.

**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 US dollar billions and converted through BIS exchange rate statistics when originally in non-USD. Left graph shows securitisation (as outstanding structured finance assets) and right panel shows outstanding repo assets.

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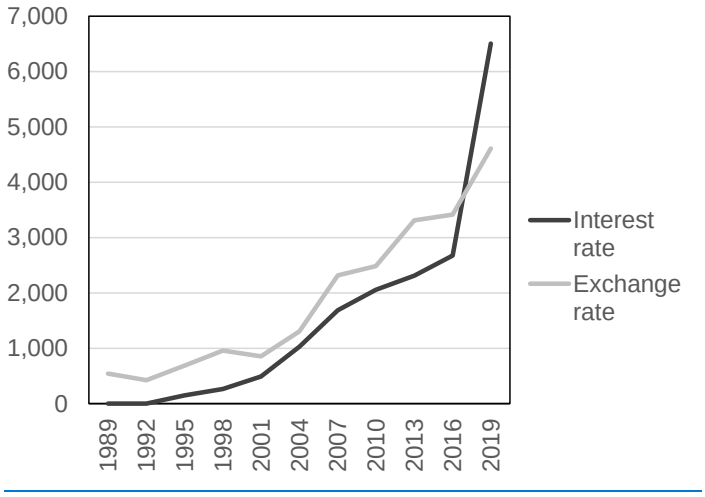
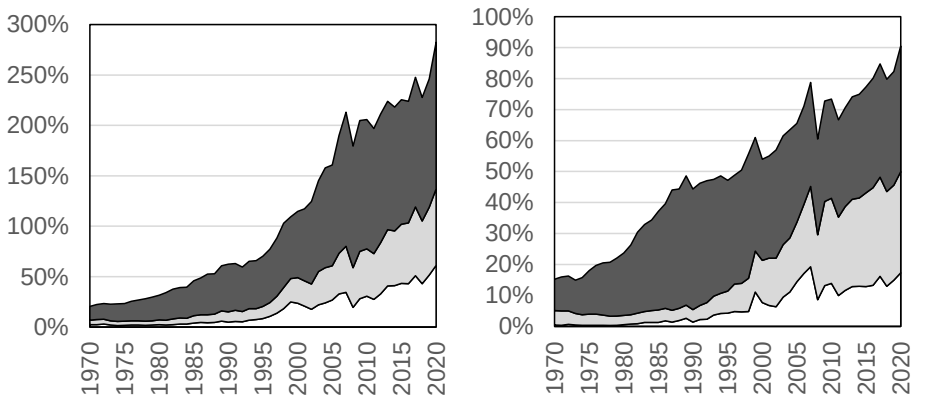
**Figure 5.** *Daily derivative average turnover value.*




**Source:** BIS Triennial Survey of FX and OTC derivatives trading. Figures in US dollar billions.

**Fig. 6.** *Total cross-border liabilities, proportion of GDP*




**Source:** Authors' calculations based on Lane and Milesi-Ferretti (2018). Left panel shows Advanced Economies (US, Japan, EEA, Canada and Australia), the right graph shows ECEs. White is portfolio equity, grey is FDI and black is debt liabilities. List of countries available in the Appendix

# Appendix

Countries included in the ECEs list: Afghanistan, I.R. of, Albania, Algeria, Angola, Anguilla, Antigua and Barbuda, Argentina, Armenia, Aruba, Austria, Azerbaijan, Bangladesh, Barbados, Belarus, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Rep., Chad, Chile, China, Colombia, Comoros, Congo, Dem. Rep. of, Congo, Costa Rica, Côte d'Ivoire, Croatia, Czech Republic, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Eswatini, Ethiopia, Fiji, French Polynesia, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, India, Indonesia, Iran, Iraq, Israel, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Korea, Kosovo, Kuwait, Kyrgyz Republic, Lao People's Dem.Rep, Latvia, Lebanon, Lesotho, Liberia, Libya, Lithuania, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mexico, Micronesia, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Nicaragua, Niger, Nigeria, North Macedonia, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Romania, Russia, Rwanda, Samoa, São Tomé & Príncipe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Slovak Republic, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent & Grens., Sudan, Suriname, Syrian Arab Republic,

Taiwan, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Turks and Caicos, Tuvalu, Uganda, Ukraine, United Arab Emirates, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, West Bank and Gaza, Yemen, Zambia, Zimbabwe

Countries included in the ACEs list: Australia, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Malta, Netherlands, New Zealand, Norway, Portugal, Slovenia, Sweden, Switzerland, United Kingdom, United States