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A Keynesian–Minskian perspective on the transformation of industrial into financial capitalism

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Abstract

During the past decades, industrial capitalism has been transformed into something which has been dubbed ‘Casino Capitalism’, ‘Turbo Capitalism’ or ‘Money Manager Capitalism’ by different authors: financial accumulation has outpaced real accumulation. This process of ‘financialisation’ has been discussed quite intensively in the literature with respect to its historical determinants and its macroeconomic effects, yet it has not been studied thoroughly whether the shift from the production and allocation of commodities and services towards the origination and distribution of loans and assets as the main activity of non-financial companies challenges our theoretical principles and, therefore, demands a new macroeconomic approach. The objective of this paper is to argue in a preliminary way that financialisation is not merely to be understood as the relative growth of the financial sector based on a deepening of financial intermediation but as a structural transformation of the core business of non-financial firms. This is based on an extended post-Keynesian theory of monetary production and an application of Minskian short- and long-term instability cycles.

Keywords John Maynard Keynes · Hyman P. Minsky · Monetary production economy · Industrial capitalism · Financial capitalism · Financial Instability Hypothesis

JEL classification G01 · G20 · E12 · E32 · E44 · E5 · E60 · N10 · P16

1 Introduction

In late 1932, John Maynard Keynes wrote a short contribution to the *Festschrift* for the German economist Arthur Spiethoff in which he outlined the endeavour he had embarked upon just after the publication of his *Treatise on Money* in 1930:

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“In my opinion the main reason why the problem of crisis is unsolved, or at any rate why this theory is so unsatisfactory, is to be found in the lack of what might be termed a *monetary theory of production*. The distinction which is normally made between a barter economy and a monetary economy depends upon the employment of money as a convenient means of effecting exchanges – as an instrument of great convenience, but transitory and neutral in its effects. ... That, however, is not the distinction which I have in mind when I say that we lack a monetary theory of production. An economy, which uses money but uses it merely as a neutral link between transactions in real things and real assets and does not allow it to enter into motives or decisions, might be called – for want of a better name – a *real-exchange economy*. The theory which I desiderate would deal, in contradiction to this, with an economy in which money plays a part of its own and affects motives and decisions and is, in short, one of the operative factors in the situation, so that the course of events cannot be predicted, either in the long period or the short, without a knowledge of the behaviour of money between the first state and the last. And it is this which we ought to mean when we speak of a *monetary economy*” (Keynes 1933a: 408f.; italics in original).

It is well known that the *General Theory of Employment, Interest and Money* is Keynes’s attempt to provide such a monetary theory of production and, also, that he believed his theory will transform the economic discipline – although Thomas S. Kuhn’s ‘*Structure of Scientific Revolutions*’ was not yet published at the time of Keynes’s writing, it appears beyond doubt that he intended a paradigm shift in a Kuhnian sense from a real-exchange paradigm towards a monetary production paradigm. Of course, the Great Depression – which started as a financial crisis – was the canvas upon which Keynes developed his ideas and there are some remarks scattered across the *General Theory* that suggest Keynes’s awareness of the importance of financial development for the real side of an economy. Yet, Keynes’s focus in the *General Theory* was clearly on explaining the laws of motion of a monetary economy using an asset – money – “in terms of which the factors of production are remunerated will ‘keep’ more readily than the output which they are being remunerated to produce” (Keynes 1933b: 86). Or, to put differently, in the portfolio model developed in Chapter 17 of the *General Theory* Keynes merely distinguishes between real capital expecting to earn a yield but incurring considerable carrying cost and liquid capital without any pecuniary reward, yet free of carrying cost and being bestowed with a non-pecuniary liquidity premium. The capitalism he struggled to analyse was clearly an industrial capitalism in which the investor was someone who “...is interested, not in the amount of product, but in the amount of money which will fall to his share. He will increase his output if by so doing he expects to increase his money profit, even though this profit represents a smaller quantity of product than before” (Keynes 1933b: 82).

It is particularly the post-Keynesian school of ‘monetary or fundamentalist Keynesianism’ which elaborated Keynes’s monetary theory of production into an alternative economic paradigm that replaces the exchange ontology with an ontology

based on nominal obligations denominated in the most liquid asset: money¹. For a paradigmatic approach being based on nominal obligations as primary constituent, the evolution, distribution and composition of wealth and debts must surely be important. Now, as economic history records growing (personal) income and wealth inequality, a shift in corporate governance structures from stakeholder to shareholder value orientations and a relatively higher rate of financial than real asset accumulation (see e.g. Chancel et al. 2022) – a process often dubbed ‘financialisation’ –, doubts have been raised as to whether this transformation of industrial capitalism into financialised capitalism demands a new macroeconomic approach.²

The concept of ‘financialisation’ is not yet well defined though. We have to distinguish between a mere enlargement of the financial sector due to an increase in financial intermediation on the one hand and a structural change of investment motives spurred by policies to free and feed financial markets during the age of neoliberalism on the other hand (see e.g. Palley 2021). While the former may leave the central mechanics of accumulation and growth unchanged and may even improve resource allocation by improving risk management, the latter may impact on the process of social provisioning (resource management) in a monetary production economy as described by monetary Keynesianism.

In this paper, we will set out in a very preliminary way whether the process of financialisation amends the economics of monetary production as put forward by Keynes in his *General Theory* and extended by monetary Keynesianism³. Theorizing the importance of financial structures in a post-Keynesian perspective needs to address Hyman P. Minsky’s contribution to the financial development of capitalism which permits the formation of a more dynamic outlook than Keynes’s static approach allows for. The paper is structured as follows: In Sect. 2, the process of financialisation is conceptualised and the new macroeconomics of financialised monetary production outlined. In Sect. 3, stability issues of such financialised monetary production are raised by applying Minsky’s financial instability hypothesis not just to short-term business fluctuations but also the long-term economic development of financial capitalism. The purpose of this chapter is not to put forward much

¹ See e.g. Coddington 1976, Davidson 1972, 1994, 2007, Dillard 1955, 1980, Heinsohn and Steiger 2013, Heise 1991, 2011, 2013, 2019, Kregel 1985, Minsky 1975; 52ff., Riese 1986.

² Although there are already different notions in the literature to describe this new regime of capitalism – e.g. Casino Capitalism (Strange 1986), Money Manager Capitalism (Minsky 1993) or Turbo Capitalism (Luttwak 1998) – I dare to aver that there is not yet a macroeconomic theory of a financialised economy as proposed here. The neo-Marxian regulation school handles its ‘financial-led capitalism’ (see e.g. Boyer 2000; Guttman 2008) as a new institutionalised structure (‘regime’) to restore capital profitability after the exhaustion of industrial capitalism. Thus, it locates the effects of financialisation mainly in the institutional superstructure of the capitalist economy, whereas the present paper will be more concerned about implications for the theoretical core of the macroeconomics of capitalist economies. Moreover, the Kaleckian distributional regime approach is rather concerned with the effect of financialisation on income distribution and, along this line, macroeconomic outcomes but not economic principles.

³ As noted above, other schools of post-Keynesianism, which are particularly based on Michał Kalecki’s work, have already left an imprint on the discussion about the conceptualisation of financialisation (see e.g. Karwowski et al. 2020; Michell and Toporowski 2013; van Treeck 2012) and have provided an empirical picture of the process of financialisation which will not be reproduced here (see e.g. Orhangazi 2008; Epstein 2005), yet have neglected broader theoretical considerations.

novel insight into Minsky's approach but, rather, to complete the theory of financialised monetary production. This is needed in order to better understand whether the process of financialisation is systematically built-in or accidental and whether it is overall to be judged as beneficial or detrimental to capitalist economic development. Part 4, finally, sums up the arguments.

2 Financialisation as part of new modes of corporate finance and corporate governance

'Financialisation' in this context will be defined as the increased activity of non-financial firms in financial markets. This definition is preferred to the broader concept of a relative growth of the financial sector because it puts the motives of corporate investors at centre stage⁴. The increase in financial market activity is – historically and, as will be shown later in Sect. 2.2, causally – accompanied by a relative decline in their core business indicated by a relative slow-down in physical capital accumulation, i.e. real investment.

In Fig. 1, financialisation is depicted by a growing importance of investment activity in the shaded area: In Keynes's monetary theory of production, it is taken for granted that investment (the asset side of the balance sheet) financed through bank loans, bonds or some kind of 'primitive' or original accumulation as own capital (on the liability side of the balance sheet) is made particularly in physical capital in order to produce commodities that are expected to sell for a price not only to earn wages and capital appreciation but also profits that match the risk and liquidity premia put on the financial resources initially deployed (see Keynes 1933b: 78ff.). However, in recent times, investment in financial capital for its own sake and in non-producible goods has become ever more important. In these cases, investment is not made in order to produce an expected yield from selling manufactured commodities but simply from an expected inflation in the price of the asset itself.

Keynes was quite aware of this distinction, calling investment of the first type – i.e. in physical capital for the purpose of creating value added – 'enterprise', while he termed the second type 'speculation' and he left little doubt that he judged speculation to be rather dangerous to the overall welfare of an economy and society:

"If I may be allowed to appropriate the term speculation for the activity of forecasting the psychology of the market, and the term enterprise for the activity of forecasting the prospective yield of assets over their whole life, it is by no means always the case that speculation predominates over enterprise. As the organisation of investment markets improves, the risk of the predominance of speculation does, however, increase. ... Speculators may do no harm

⁴ Which concept to deploy obviously depends on the purpose. However, it is important to realise that the distinction is not simply between 'broader' and 'narrower', but also between 'quantity' and 'quality' of financial relations. While the broader concept focusses on financial intermediation and the flexibility in making decisions (see e.g. Vercelli 2013: 23) which this brings about, the narrower concept highlights the motives of corporate investors seeking new fields profit generation.

as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirl-pool of speculation. When capital development of a country becomes the by-product of the activities of a casino, the job is likely to be ill-done. The measure of success attained by Wall Street, regarded as an institution of which the proper social purpose is to direct new investment into the most profitable channels in terms of future yield, cannot be claimed as one of the outstanding triumphs of laissez-faire capitalism – which is not surprising, if I am right in thinking that the best brains of Wall Street have been in fact directed towards a different object” (Keynes 1936: 158f.)

However, Keynes was not very explicit about the macroeconomics of such “casino capitalism”⁵ and, surely, his new economics of the *General Theory* was concerned with a capitalistic economy in which enterprise was still predominant (‘entrepreneur economy’). Yet, when does casino capitalism rise and what are its consequences which seemed to have frightened Keynes? The institutionalisation of financial markets appears to be a necessary precondition, yet is it a sufficient one? Moreover, is casino capitalism characterised merely by increased instability and volatility due to its lower transaction cost, shorter reaction time and shorter time-horizon for profit generation? Or is the growth path in principle to be re-determined?

At first a look must be taken at the requirements for a transition from entrepreneur (monetary production economy) to casino capitalism (financialised economy). Before so doing, the balance sheet of companies must be taken into closer scrutiny: on the asset side, there are items of real, financial and money capital. Real assets comprise physical capital such as machines, constructions, stocks as well as shares when they serve the purpose to exercise control over a company. Financial assets include bonds and a whole range of credit certificates, securitisations, derivatives and other financial market papers that have been invented at increasing speed over the past 50 years (see e.g. Arthur 2017: 53; Miller 1986; Lerner 2006) and shares when they are solely held in anticipation of asset price inflation. Money capital comprises cash holdings and deposits. The finance side of the balance sheet is made up of own capital (‘equity’) and liabilities of different kinds.

According to the famous Modigliani–Miller theorem (see e.g. Miller 1988), companies are indifferent in their use of equity or liabilities in order to finance their assets – however, that is only true under conditions of ‘complete markets’, i.e. in the unrealistically assumed absence of taxation, regulations and information cost and restrictions imposing transaction cost. Put differently, the ‘optimal’ corporate finance structure depends on taxation, financial market regulations, information cost and restrictions and transaction cost, which may change over time quite drastically due to political action, technological and financial innovations and cultural changes. The growing importance of liabilities as compared

⁵ As already noted, the expression ‘casino capitalism’ has been popularised by Strange (1986) explicitly drawing on Keynes. Although I take the rise of ‘casino capitalism’ and ‘financialisation’ as synonymous, it can be conceded to Cassidy (2009) that the ‘casino’ metaphor is not appropriate because gambling in a casino is done under calculable circumstances, while speculating on the future price of assets is done in fundamental uncertain circumstances.

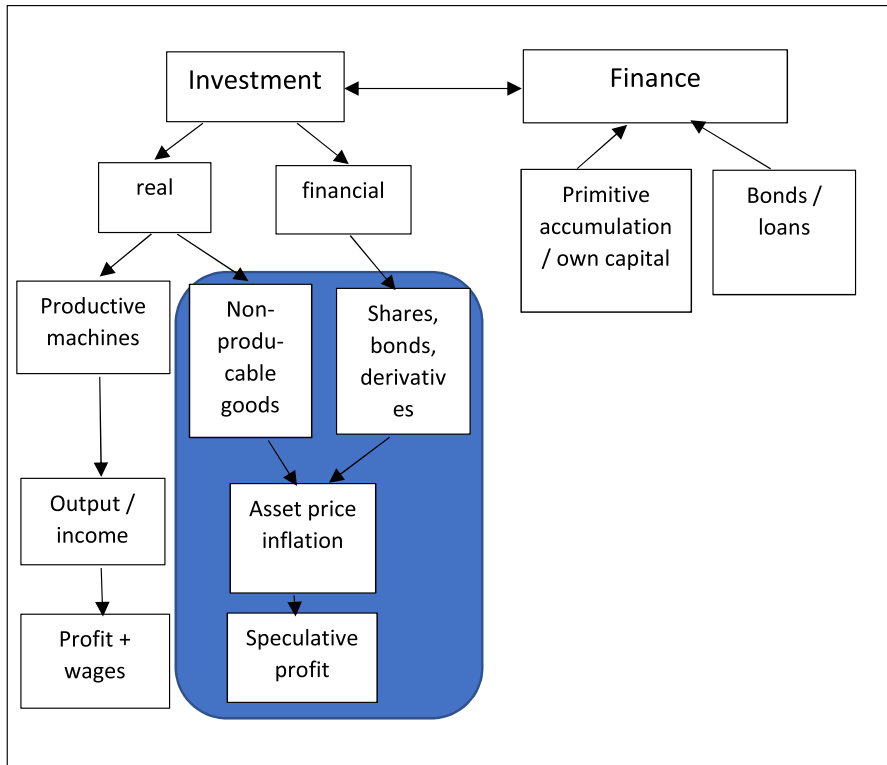


Fig. 1 Finance, investment and financialisation

to equity in the balance sheet of companies – increasing leverage or corporate indebtedness – and, additionally, a growing rate of marketization of equity (volume of shares trade/GDP), is correlated with financial market deregulations, major technological, financial and institutional innovations since the breakdown of the Bretton Woods system at the end of the 1960s.

This part of the process of financialisation – a deepening of financial intermediation – has been rationalised by mainstream economists as basically improving the allocation of capital and increasing corporate control. As this, again, can only be argued under ‘complete market’ conditions – which obviously do not exist in reality – regulatory and institutional transformation can create new or other forms of market failure basically linked to growing information problems due to the prolongation of credit chains (see e.g. Jenkinson et al. 2008: 333ff.).

Financialisation proper refers to the asset side of the balance sheet of non-financial firms: the accumulation of financial capital has outpaced physical capital by far, putting ever more emphasis on income generation by way of asset price inflation rather than by producing added value. Although deepening financial intermediation as discussed above must also find expression on the asset side of companies, these companies would commonly be financial firms (banks or other financial

intermediaries). The novel development dubbed financialisation is about increasing financial capital in non-financial firms and the involved shift in operational objectives⁶. The driving forces behind this shift can either be found in the falling attractiveness of real capital, the increasing attractiveness of financial capital or a co-movement of both.

2.1 What caused financialisation?

In order to better understand the drivers of financialisation, the portfolio model introduced by Keynes in Chapter 17 of his *General Theory* will be extended: any wealth owner has the choice not only between two (as in the *General Theory*, see Keynes 1936: 225ff.) but three different types of assets (real capital, financial capital and money capital) yielding different types of rewards (a nominal yield q , a liquidity premium l and a capital gain r) and involving some transaction cost comprising the expenses to restore full liquidity and to cover “wastage (...) through the mere passage of time (...), irrespective of their being used to produce a yield;...” (Keynes 1936: 225). It is assumed that money capital is the only asset that yields a liquidity premium l but no yield q and does not incur transaction cost c . Real capital is expected to produce a yield q , but is not bestowed with a liquidity premium l and may produce considerable transaction cost c_q . Financial capital, finally, generates capital gains r and also incurs transaction cost c_f , yet these costs – particularly liquidity-restoring cost – are lower than in the case of real capital once financial markets are established (see Table 1). In equilibrium, we know that all rates of return must be equal:

$$(q - c_q) = (r - c_f) = 1; \text{ with } c_q > c_f \quad (1)$$

This implies:

$$q > r > l \quad (2)$$

The profit rate in production must always exceed the financial rate of return and the liquidity premium on money.

Before it can be scrutinised whether this extended approach differs in substance from Keynes original analysis of a monetary production economy with only two different types of assets – money and real capital – in the *General Theory*, this exposition will be considered with respect to providing explanations for the process of financialisation. It can be inferred that financial capital will become more attractive, when the (expected) capital gain increases and transaction cost, the liquidity premium on money and the yield on real capital fall. Both political measures as part of neoliberalism as much as genuine economic forces can be put forward here (see

⁶ It could be argued that the relative increase of financial assets in the balance sheets of non-financial firms is merely the effect of internalising financial functions which had formerly been outsourced to financial companies. However, this can hardly be reconciled with the fact that the financial sector is growing over-proportionately; see e.g. Palley (2013: 17ff.).

e.g. Kotz 2011): The long process of de- or, rather, re-regulation of financial markets after the breakdown of the Bretton Woods system and technological and institutional innovations, justified by the allegedly positive allocative effects of deepened financial intermediation critically discussed above, have as well contributed to financialisation as the on trend falling rate of profit of productive investment in due course of ongoing accumulation (see e.g. Maito 2018; Basu et al. 2022) – something Keynes called the falling marginal efficiency of capital and Marx dubbed the tendency of the rate of profit to fall. Additionally, growing income inequality – personal income inequality much more than functional income inequality – as a result of labour market deregulation and collective bargaining decentralisation pushed the process of financialisation as it undermined aggregate demand and increased financial market turnover. Furthermore, a shift from owner-managed to manager-controlled corporate governance and the emergence of managerial reward schemes based on the maximisation of equity value as measured by stock exchanges shifted long-term profit maximisation as ultimate objective of a company ('stakeholder value') towards short-term shareholder value maximisation (see e.g. Cheffins 2015; Chandler 1984; Duménil and Levy 2018). Finally, the omission to pursue demand-orientated fiscal policies in the age of neoliberalism⁷ further contributed to the process of continuously transforming the entrepreneur economy into 'casino capitalism'.

2.2 The macroeconomics of financialised monetary production

Turning to a more comprehensive study of the macroeconomic effects of financialisation, we have to distinguish between its potential impact on stability or instability as measured by frequency and amplitude of business cycles on the one hand and on the equilibrium position (in static perspective) or the growth path (in dynamic perspective) of the economy on the other hand. As we will be concerned with the former in the next chapter, this is the place to theoretically speculate on the impact of financialisation on the equilibrium position or growth path of a monetary production economy.

In mainstream macroeconomics based on intertemporal exchange and informed by an allocative perspective, financialisation in principle takes the view of deepening financial intermediation which *grasso modo* improves capital allocation and, thereby, raises the growth path of an economy (see e.g. King and Levine 1993; Rajan and Zingales 1998). However, this clear statement can only be maintained when all possible market failures are excluded from consideration; something which all too often had probably been accepted prior to the Global Financial Crisis after

⁷ Neoliberalism is also characterised by growing public indebtedness. However, public debts during the neoliberal era are not the result of pro-active deficit-spending on the expenditure side, but of tax cuts for companies and higher income earners on the revenue side of public budgets (see e.g. Palley 2021: 25f.). For a historical account of the US, see e.g. Palley (1998), for Germany and the UK, see e.g. Heise (2008a). Concepts such as the 'Natural Rate of Unemployment' (NRU) and the 'Non-Accelerating Inflation Rate of Unemployment' (NAIRU) were established and used to de-legitimise Keynesian type fiscal policies, see e.g. Galbraith (1997). Of course, the extent of omission was different in different periods and different countries; see e.g. Heise (2008b).

2007, but is no longer adequate ever since. This has brought an uneasy trade-off to light between effects of financialisation on capital allocation on the one hand and on temporary over- or underspending on investment and consumption causing growing volatility in both the financial and the real sector of the economy on the other hand (see e.g. Greenwood and Scharfstein 2013) resulting in the Solomonic judgement: “In evaluating the implications of the growth of the financial sector, such concerns need to be weighed against the many benefits that we have identified” (Greenwood and Scharfstein 2013: 26).

Post-Keynesian theory of monetary production as the alternative paradigm applied here is not only informed by allocative considerations (control of resources) but also by considerations of social provisioning (management of resources)⁸. Hence, the growth path is not only determined by availability of resources, but also by the exertion and exhaustion of available resources. Mobilising such resources to produce output and income depends on the provisioning of money for a specified period of time (nominal obligations or ‘finance’) based on liquidity preference considerations of wealth owners. Up until now, it has been (in accordance with Keynes’s treatment) tacitly assumed that finance is exclusively used for productive purposes, i.e. accumulation of real capital or investment for short. Under conditions of financialisation, the provision of finance may also be used for speculative purposes, i.e. to buy financial capital not in the intention to provide real capital but merely to profit from expected asset price changes resulting not in value added but in a re-distribution of wealth. Whether this has a systematic effect on macroeconomic outcomes depends crucially on the formation of asset prices as they determine the profitability of financial capital.

This is the place where the term ‘fundamentals’ comes in: under – unrealistic – conditions of complete markets, asset prices would have to be determined by their discounted future returns⁹. Changes in such asset prices would have to mirror changes in future returns – i.e. would have to be based on fundamental data concerning the expected profitability of the asset. Any deviation of the asset price from the price determined by the fundamentals of the asset would be unsystematic and coincidental – arbitrage would set in and bring the asset price back in line with its fundamentals. This kind of transaction, although based on purely speculative grounds as defined above, could be termed ‘stabilising speculation’.

However, it is a well-documented fact that the markets are not complete and that the asset price often do not reflect fundamental values (see e.g. Hirshleifer 2001; Binswanger 2004; Zhou and Yang 2019). Although deviations can be extreme and prolonged (‘de-stabilising speculation’), as long as they are equally distributed in both directions (over- and under-valuation), we are concerned with issues of (in-) stability and volatility rather than issues of the growth path. Hence, if the latter is the focus, reasons need to be provided why the prices of financial assets are systematically over- or undervalued with regard to their (real economic) fundamentals¹⁰.

⁸ For a more detailed account of the two paradigms (real exchange and monetary) see Heise (2021).

⁹ This is neatly exposed and the necessary assumptions disclosed in Arthur (1995: 22).

¹⁰ See Farmer and Bouchard (2020) who use a ‘quasi non-ergodic’ environment to produce their results. Ederer et al. (2016) also show that financialisation not only affects asset markets but also commodity markets via speculative interventions in future commodity markets (‘derivates’).

The heterodox literature provides basically three reasons for such a systematic effect of financialisation on the growth path: First, it has been argued that growing income inequality via decentralised collective bargaining systems, deregulated labour markets and new managerial compensation schemes correlated with financialisation depresses expected profits from an aggregate demand perspective and, thus, reduces investment and growth. Secondly, the accelerated transformation of the owner-managed company towards manager-controlled corporate governance has created a principal–agent problem: while the owner has an interest in profit maximisation in a long-term perspective, manager-controlled companies will be more interested in keeping or expanding market share and, thus, company growth via real capital accumulation. Based on a Marxian–Kaleckian conception of companies’ investment behaviour (‘accumulate, accumulate, that is Moses and the prophets’), manager-controlled firms tend to over-invest if compared to owner-managed firms because stakeholders (the owners) lack information and means to impose their interests.¹¹ Only when equity can freely and at low cost be traded on financial markets (stock exchanges), owners may regain control and force their objective (profit maximisation) onto managers to the detriment of real capital accumulation. Thirdly, a mixture of incentives – manager compensation schemes linked to shareholder value as measured on the stock markets and threats of unfriendly take-overs – will cause managers to target above-average rates of return in order to keep the asset-price over-valued¹² again at the expense of investment opportunities (which would only yield average profit rates) and growth.

As the Marxian–Kaleckian approach to capital accumulation appears not to be in line with Keynes’s theory of investment advocated here (see e.g. Heise 2020) and can easily be contested on the grounds that deviant behaviour of managers may as much be sanctioned by stakeholders as by shareholders once we assume them to be mainly professional investors (see e.g. Conard 1988; Braun 2021), a potential long-term effect of financialisation on economic activity in a monetary production economy operates, rather, via its impact on income inequality and on managerial incentives for above-average profit and shareholder value performance. It has been shown (see Dalziel 1999/2000) that asset prices (shareholder value) depend (among others) on the aggregate debt–capital ratio: growing corporate leverage – i.e. corporate finance generated through liabilities instead of equity issues – that is not (entirely) used to increase real but financial capital accumulation will cause asset prices to rise and, thus, increase capital gains.

Joining corporate governance (shareholder value incentives) and corporate finance (increasing corporate indebtedness) developments characterising financialisation, a structural shift from real capital (physical investment) to financial capital (portfolio investment) will be the outcome of a financial economy (casino capitalism) if compared to a monetary production economy (entrepreneur capitalism). This is demonstrated in Fig. 2: On the financial market money wealth owners part with

¹¹ It has been argued that this approach tacitly assumes owners to be highly dispersed with little control; see e.g. Braun (2021)

¹² See e.g. Fortier (1989). Former CEO of Deutsche Bank, Josef Ackermann, was heavily criticised when he announced a 25% profit rate target for his institute and, at the same time, a severe cut in banking staff. Although he never reached this target, it was to signal the markets exactly that shareholder value orientation which was needed not to make Deutsche Bank a potential candidate of an unfriendly takeover.

Assets	Finance
<ul style="list-style-type: none"> ❖ physical capital <ul style="list-style-type: none"> * machines * inventories * shares ❖ financial capital <ul style="list-style-type: none"> * credit certificates * hedge funds * securitisations * shares ❖ money capital <ul style="list-style-type: none"> * cash * deposits 	<ul style="list-style-type: none"> ❖ Equity ❖ Liabilities <ul style="list-style-type: none"> * bank loans * bonds * mortgages

Fig. 2 The corporate balance sheet of non-financial companies

their liquid means for a specified period of time – finance F as a positive function of the liquidity premium l – and entrepreneurial investors use these liquid means in order to buy real, physical capital – I as a negative function of the (expected) yield rate q minus transaction cost c_q – and portfolio investors (speculators)¹³ try to take advantage of asset price inflation – P as a positive function of the rate of capital gains r minus transaction cost c_f and the debt–capital ratio (F/C). If we assume such transaction cost c_f to be high (e.g. c_f^2 are high due to regulations or taxes), portfolio investment may become unattractive and total finance will be spending on real capital up to the level where the expected profit rate (marginal efficiency) just equals the liquidity premium – this would be the world of a purely entrepreneur economy. Once transaction costs fall (e.g. c_f^1 are low due to deregulation or tax reductions), portfolio investment become more attractive and starts to substitute physical investment up to the point when expected profit rates equal the rate of capital gains from systematically overvalued assets and the liquidity premium of wealth owners (see Eq. 2). Therefore, in a world of casino capitalism, the rate of real capital accumulation and, at the same time, income creation suffers¹⁴. With ongoing accumulation, i.e. with higher capital stock \bar{C}_2 than \bar{C}_1 in comparative-static perspective, the expected profit rate of newly invested real capital will fall, making, *ceteris paribus*,

¹³ Entrepreneurial investors and portfolio investors are distinguished here solely based on their function. Of course, in reality they can be one and the same person or, rather, a corporate actor.

¹⁴ Heine and Herr 1996: 63) point to a potential feedback effect: the shift of finances from real into financial capital will be accompanied by increasing volatility of nominal prices particularly of assets and currencies and, thus, may increase the liquidity preference of money wealth owners. In Fig. 3, this will result in a shift of the F -curve to the left and may curtail available finances either for speculative or investment purposes.

financial capital on top relatively more attractive and, thus increasing the share of portfolio investment in total investment further (Portfolio 2 > Portfolio 1)¹⁵.

To summarise, financialisation operates as a constraint on physical capital accumulation. The liberalisation of financial markets and the creation of financial product and process innovation may, to some extent, improve the allocation of resources by way of financial deepening, yet it surely impairs the management of resources by creating income opportunities based on redistribution rather than added value. These negative effects – which have empirically been corroborated – are caused by neoliberal policies of financial and labour market deregulation and flexibilization, new regimes of corporate governance and control enriched by particular managerial compensation scheme on the one hand, but they are also triggered by endogenous demand constraints due to growing income inequality, restricted profit opportunities in goods and service markets close to saturation and the omission of economic policy to step in on the other hand – moreover, there is a structural tendency in mature monetary production economies to develop into financial economies. However, this path is not a linear one, but can be transformed through regulations, political interventions and innovation that increase relative profitability of real accumulation to the detriment of financial accumulation¹⁶.

3 Financialised monetary production and the instability hypothesis

Macroeconomic outcomes of economic activity can be conceptualised in many different ways: We can try to explain the ‘normal’ position of a capitalist economy in the sense of a gravitation centre to which the economy will eventually converge if no internal or external shocks occur and all adjustment processes have had time to take effect. This could be the case, when supply and demand equalise or expectations are fulfilled – some kind of static equilibrium. It is all too obvious that such a position will either never be reached in reality or, if so, will not last long. Nevertheless, being able to describe this ‘normal’ position is not only an intellectual endeavour but important as a target or baseline scenario from which to depart in order to explain real-world phenomena or to formulate policy measures.

Another way would be to take a more dynamic view in analysing the development of the capitalist economy through time. If this is historical time, the complexity of real historical events would be too high to predict *ex ante* or only to accurately

¹⁵ One referee was concerned about a suspicious similarity of the proposed argument to mainstream loanable funds theory. However, neither Keynes’s ‘finance motive’ nor the argument presented here which is an extension of it, is in conception or in methodology compatible with the loanable funds theory. While the ‘loanable funds’ are always flows of (unspent) income, ‘finance’ is a flow of money (not a stock of money, though, as in the original exposition of Keynes); see Heise (1992).

¹⁶ At least on the basis of a broader interpretation of financialisation, a U-shaped development path starting with a highly financialised economy during the first third of the 20th century and ending, for the time being, with today’s even more highly financialised economy has been shown for the US. The definancialised period(s) in between were distinguished by certain institutional characteristics: financial regulations, restrictions on free capital movements and a political commitment to full employment; see Fasianos et al. (2018: 56f.).

Table 1 Varieties of capital and rates of return

	Real capital	Financial capital	Money capital
Yield q	Positive	--	--
Liquidity premium l	--	--	Positive
Capital gain r	--	Positive	--
Transaction cost c	Positive: Considerable	Positive: high – Low	--
Net income	$(q - c_q)$	$(r - c_f)$	L

explain *ex post*. However, we could strive for an understanding – *ex ante* and *ex post* – of regularities in developments: the growth path in a normative sense, the business cycle in normative and positive orientation or, more generally, the volatility of economic development as a systematic feature of capitalist economies. Additionally, underneath macroeconomic developments there is always a process of structural change going on that is based on technical and social innovations, cultural changes and political shifts among other determinants.

John Maynard Keynes, as already noted, was most concerned with the former. Other economists took different perspectives: Joseph Alois Schumpeter, for instance, was particularly interested in innovation-driven economic evolution¹⁷, while Friedrich August Hayek's particular concern was that of business cycles caused by monetary policy. Schumpeter and Hayek both accepted the market exchange paradigm of mainstream economics, while Keynes's contribution was to sketch an alternative paradigm of a monetary production or entrepreneur economy. Hyman P. Minsky followed Keynes in his intention to provide a new paradigm (see Minsky 1975: 2f.) – something he called the 'Wall Street paradigm' –, yet his orientation was dynamic in elaborating what Keynes only touched upon in Chapter 22 of his *General Theory*: a theory of capitalist instability based on financial structures (i.e. debtor–creditor relationships) and, additionally, a theory of regulatory capture explaining the systematic character of capitalist instability and development¹⁸. In order to present a more complete idea of the motion and outlook of a financial economy of post-Keynesian provenience, Minsky's short- and long-term Money Manager Capitalism must be sketched and applied¹⁹.

¹⁷ In a Schumpeterian evolutionary perspective, financialisation (particularly in its broader definition) can be interpreted as facilitating the process of technological inventions and turning them into profitable innovations; see e.g. Perez (2002), (2009).

¹⁸ In Minsky's words: "The gestation period of *The General Theory* was the time of the Great Depression, which was triggered by a crisis followed by a debt-deflation process, first in the United States and then worldwide. However, Keynes offered no explanation or theory of the crisis. In order to complete the picture we have to fill that hole: Keynes's theory is incomplete without a model of the endogenous generation of booms, crises, and debt deflations" (Minsky 1975: 61).

¹⁹ Vercelli (2013) has set himself a similar task. Yet, his analysis is not only based on the broader definition of financialisation, but he also appears to have missed the ontological – hence paradigmatic – difference between a 'monetary economy' and a 'real exchange economy'. Although he mentions both conceptions, their analytical distinction remains unexplained.

3.1 Instability as a general feature of capitalist economies

Minsky's theory of financial instability is independent of the process of financialisation discussed in the chapter above or, put differently, it can be applied to an entrepreneur economy as much as a financial economy. However, financialised monetary production may even be more prone to instability and fluctuations than traditional capitalism – more on this will follow below. The core of social provisioning in a capitalist economy is investment – first of all in productive capacity. Investment needs finance, i.e. monetary resources to buy real capital goods and to provide wages for labourers, and prospects of future income from sales proceeds. These proceeds must exceed the initial financial outlays by the margin determined by the risk of misjudgement of the market potentials involved in any business (borrower's risk asking for a default premium) and, additionally, the risk involved in not being liquid until proceeds flow in (lender's risk asking for a liquidity premium)²⁰. Often investment is imagined as point-input, point-output type, i.e. a sum of money is being invested at time t_0 and proceeds flow in at a later date t_1 or as an annuity over a period of time $t_1 - t_j$ (with $j = 2, 3, \dots$) – something, in fact, quite unrealistic. Much more realistic is investment of the flow-input, flow-output nature, i.e. that the outlays for an investment project will have to be made over a period of time $t_0 - t_i$ (with $i = 1, 2, \dots$) and the proceeds will result as uneven instalments over a period of time $t_1 - t_j$ (with $j = 2, 3, \dots$). This will not only make the calculation of the expected rate of return much more difficult as it depends not only on the net yield in total, but also on its distribution over time. It also involves the management of cash flows over the time of the investment project. Moreover, at any point in time between $t_0 - t_i$ (with $i = 1, 2, \dots$), the payment of contractual cash outflows must be secured.

3.1.1 The different nature of financial contracts

In this setting, the amount of investment spent at each point in time depends (and, thus, of income and employment created) on the expected rate of return, the default and liquidity premium to be paid on finance and the nature of the financial contracts. Minsky distinguishes three different kinds: hedge finance, speculative finance and Ponzi finance. If expected proceeds not only promise to yield interest payments at any point in time but also discharge the total debt incurred to run the investment project, the financial contract is dubbed 'hedge finance'. If the expected proceeds just suffice to cover interest payments but not the outstanding liability, which must therefore be rolled over at the then-ruling conditions, the financial contract is called

²⁰ In a letter to Keynes, Hugh Townshend (1938: 290; italics in original) writes: "As I see it, the reluctance to part with liquid money - ... - has its origin in the doubts of wealth owners as to what may happen to values before the end of any interval, however short; and I suggest that the basic cause of interest is bound up with this". In his approving answer, Keynes (1938: 293f.) asserts: "An essential distinction is that a risk premium is expected to be rewarded on the average by an increased return at the end of the period. A liquidity premium, on the other hand, is not even expected to be so rewarded. It is a payment, not for the expectation of increased tangible income at the end of the period, but for an increased sense of comfort and confidence during the period".

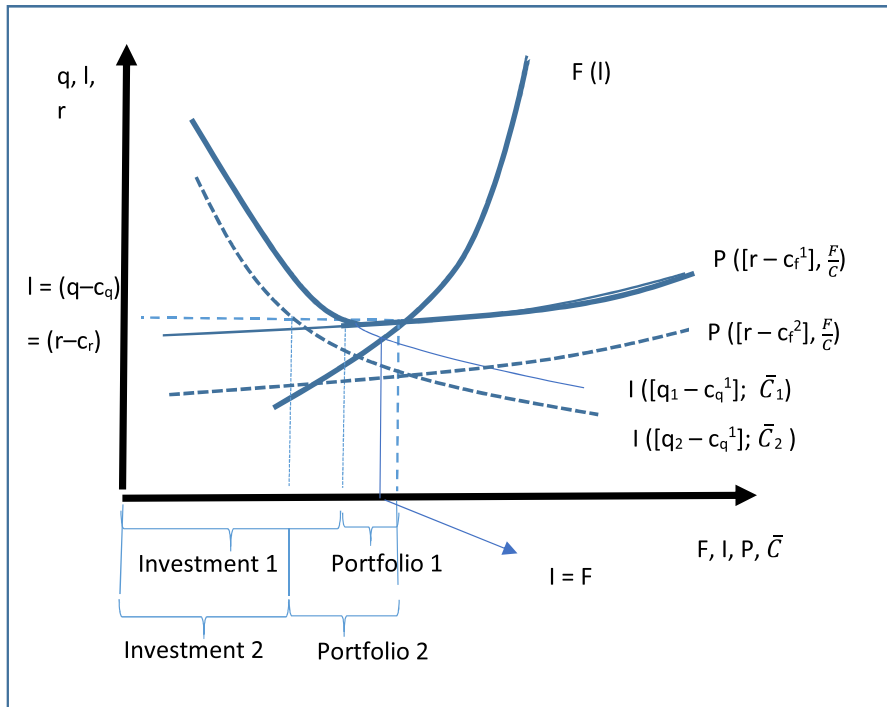


Fig. 3 The market for liquid means under conditions of financialisation

‘speculative finance’. Finally, ‘Ponzi finance’ comprises such contracts for which proceeds do not even cover interest payments and, therefore, debt must be increased or the asset sold to avoid illiquidity. Hedge finance is prudential; speculative finance may be carried on for some time without punishment; Ponzi finance, however, must be rated as toxic. The degree of financial instability of an economy depends on the relative share of the different kinds of financial contracts: If most financial contracts could be rated as hedge finance, then the economy would be financially stable; if they were mainly speculative, the economy would be rather unstable; and, finally, the more Ponzi finance contracts we have, the more fragile the economy is.

In a monetary production economy, only hedge finance is sustainable. Speculative finance, and even less so Ponzi finance, would not be maintained over more than a short period after which it must promise to become hedge again. So, if non-hedge finance is unsustainable, why should we bother about speculative or Ponzi finance? On the one hand, if one can engage in financing a project that does not promise to repay the initial liability or even only the interest rate involved, but one can – by selling it – dispose of such accountability, the project will still be interesting.²¹ Of course, this can only work if the ultimate performance failure

²¹ This is captured by the shift in banking strategy from an ‘originate to hold’ model towards an ‘originate to distribute’ model (see e.g. Couppey-Soubeyran 2010: 22).

of the project is not known to the buyer when acquiring it on a secondary market – something that can be achieved when bundles of loans of very different risk are lumped together and sold in slices (‘securitisation’) and rating agencies whose task is to protect the investor (buyer) are paid by the issuer (seller) of the securitised loans.²² Whether this must be rated as market failure of imperfect financial markets (‘profitable failure’ as dubbed by Eggert 2009: 1307) or illegal behaviour of some market participant must be left open here. It may remain of only limited importance unless there is another motive for engaging in speculative or Ponzi finance except for ‘profitable failure’ reasons. This is the case when the reward of an investment is not a future income stream but an increase in the value of the asset, i.e. capital gains. For instance, lending money to an investor to buy a house which the investor will not be able to repay out of his current earnings may still be profitable, if the value of the house increases and – in the probable event of default of the debtor – the house will be sold covering not only the liability but also interest claims of the lender. The trouble here is not a potentially high rate of defaults of Ponzi-financed investment *per se*, but a Ponzi finance not supported by asset inflation based on fundamentals.

3.1.2 Financial fragility and financialisation

As argued in the foregoing chapter, such Ponzi finance schemes become ever-more interesting during the process of financialisation when there is a shift from investment in real capital towards investment in financial capital (shares or other financial assets) or real assets (such as real estates, precious metals or natural resources) simply because of their expected (self-generated) capital gains due to (expected) asset price inflation (‘de-stabilising speculation’ as opposed to ‘stabilising speculation’).

The composition of financial structures determines the degree of (in)stability of an economic system. Hedge finance is vulnerable to changes in commodity and labour markets; speculative and Ponzi finance is additionally vulnerable to changes in financial markets. Hedge finance may turn into speculative and even Ponzi finance particularly when factor prices increase or demand for commodities falls beyond expectations – which can always happen, yet is increasingly likely when commodity markets become saturated, the forecast is driven by exuberantly euphoric sentiments or, of course, some external event takes place. In the same way, speculative finance may turn into Ponzi finance – yet, speculative and Ponzi finance may also be affected when the financial markets undergo changes and, particularly, interest rates increase or asset prices fall. This will be the case, when internal or external inflation is on the rise, the central bank restricts its monetary policy, income distribution becomes increasingly an issue of contestation, or the macroeconomic policy actors address their interdependent targets in open conflict to another (and, thus, enter into an uncooperative game).

²² The Global Financial Crisis after 2007 offers a good example of the consequences: “This resulted in a ‘race to the bottom’ among the rating agencies on the stringency of their ratings” (Eggert 2009: 1281).

It is Hyman P. Minsky's merit to have addressed the endogeneity of financial instability arising from a transition of a stable financial structure mainly composed of hedge finance towards an increasingly unstable financial structure with an ever-bigger share of speculative and Ponzi finance – the 'Minsky cycle'. It is also important to note that the share of Ponzi finance schemes invariably increases during the process of financialisation, raising the instability of the economy (see e.g. Sordi and Vercelli 2006). Figure 3 tries to capture this co-development of different parameters: we start with a situation of unsaturated commodity markets resulting in high expected profits (*mec*) and high investment demand (*I*) at low interest rates (*i*) and low asset price inflation (P_A). The financial structure at this point in time is highly hedge finance and, thus, quite stable. Let's assume that investors initially formed rather conservative profit expectations to be on the safe side ('margin of safety'). Therefore, there is some likelihood that they will rather be positively surprised by the actual situation and their outlook becomes more enthusiastic keeping profit expectations up while asset price inflation (and general inflation, which is not shown in Fig. 3) and interest rates start to rise. At this point in time, expectations may become overly bright (not necessarily exuberant though) when we assume a certain degree of backward-looking and hysteresis in expectation formation ("...success breeds a disregard of the possibility of failure" (Minsky 1986: [213])). This may not only lead to an increase in more speculative finance as the 'margin of safety' is reduced and more Ponzi finance caused by rising asset inflation but also in a cognitive dissonance between actual and perceived financial status.

The financial structure is now deteriorating when some profit expectations turn out to be disappointing, interest rates increase due to rising liquidity premium, and investment demand starts to falter. This may carry on into a smooth dampening of economic activity causing a mild business cycle downturn marked by stagnating prices, eventually falling interest rates and a restructuring of financial obligations ('deleveraging'), slow ignition of investment demand and an endogenous process of growing financial stability, particularly when public budgets step in to maintain aggregate demand. However, the process may also turn out to be more volatile: Rising asset prices in an earlier stage of the process may feed consumption demand on the one hand and stimulate portfolio and real investment on the other hand, causing irrational exuberance (Shiller 2000) and a severe increase of the above-mentioned cognitive dissonance, rendering the economy much more fragile than it is believed to be.²³ A single trigger – bankruptcy of an important economic actor, a sudden increase in interest rates, some rumour about disappointed expectations or more generally a 'Minsky moment' – may spark a huge drop in *mec* and a massive transformation of hedge finance and speculative finance into Ponzi finance shaking the stability of financial relations. Loan contractions, increasing liquidity preference, and a drop in the propensity to consume will aggravate the recession that might even

²³ A whole range of contributions from behavioural economics demonstrate (and, thus, can be made easily compatible with our paradigmatic approach) how – under the assumption of uncertainty, heterogeneous beliefs and some behavioural routines replacing rational choice – speculative behaviour may turn Minsky's Wall Street economy into bullish over- or bearish undershooting (see e.g. Caballero and Simsek 2020).

turn into a veritable depression when borrowers start to default and a vicious circle of falling investment, bursting speculative asset price bubbles, further loans restrictions and falling consumption demand cannot be prevented.²⁴ As Minsky writes:

“Whether the break in the boom leads to financial crisis, debt deflation, and deep depression or to nontraumatic recession depends upon the overall liquidity of the economy, the relative size of the government sector, and the extent of lender-of-last-resort action by the Federal Reserve. Thus, the outcome of a contraction is determined by structural characteristics and by policy” (Minsky 1986: 220).

When this statement is compared to Keynes’s idea about the business cycle eclipse, the different focus of both scholar’s becomes evident:

“..., we have been accustomed in explaining the ‘crisis’ to lay stress on the rising tendency of the rate of interest under the influence of the increased demand for money both for trade and speculative purposes. At times this factor may certainly play an aggravating and, occasionally perhaps, an initiating part. But I suggest that a more typical, and often the predominant, explanation of the crisis is, not primarily a rise in the rate of interest, but a sudden collapse in the marginal efficiency of capital” (Keynes 1936: 315).

While Keynes’s explanation centres around the uncertainty of profit realisation in commodity markets, Minsky put more emphasis on the financing side of real and financial accumulation (see also Minsky 1980). Surely, although commodity markets are fairly stable, *mec* may shift quite drastically. Yet, vulnerabilities introduced by financial markets and financial relations underlying real and, particularly, financial capital accumulation must be rated as even more severe. These insights may give rise to the idea of strongly regulating financial markets in order to secure the adherence to some required margins of safety.

3.2 The awkwardness of financial market regulations and the Minsky super-cycle

It has been argued that the Global Financial Crisis after 2007 had its origin in the massive process of financial market deregulation in prior decades, which was theoretically backed by Eugene Fama’s efficient-market hypothesis (see e.g. Fox 2009; Posner 2009). Irrespective of whether the efficient-market hypothesis can really be blamed²⁵, the question remains whether a better regulation of financial markets – as Minsky’s financial instability hypothesis suggests – is possible and, if so, why it is not implemented effectively as the story of many financial crises over the past three decades tells us (see e.g. Bilginsoy 2015; Kindleberger and Aliber 2005).

²⁴ This Minskian narrative has been adopted and elaborated both by post-Keynesian and neo-Keynesian theorising alike, see Wray (2009) and Eggertsson and Krugman (2012) and the literature cited. However, the amplifying role of financialisation has not yet highlighted to its appropriate extent.

²⁵ For some critical appraisal, see e.g. Ball (2009), Malkiel (2012).

The economic purpose of regulation is to control market failure due to information and coordination problems and to increase the likelihood of actions which would otherwise not come to the forefront – either because the real-world actors are not as rational as theory often assumes or because they act rationally, but rational action leads to unwarranted outcomes.²⁶ Such regulations have been called ‘thwarting institutions’ by Tom Palley (2011) with reference to Ferri and Minsky (1992). However, regulations always also carry transaction costs and, therefore, cost and benefit must be weighed against each other. In financial markets, regulations would be needed to prevent bubbles from happening or, at least, from bursting, and finance from becoming overly speculative or even Ponzi, i.e. to uphold prudential reason. Regulations, therefore, should deter both lenders as much as borrowers from engaging in excessively risky credit relationships by imposing the need to provide necessary information, demand capital requirements and restrict portfolio investment based on capital gain expectations only. On the other hand, investment being the major driver of intensive (based on productivity increase) as well as extensive (based on capacity expansion) growth, any finance-led curtailment of real investment will harm economic growth from a social provisioning perspective. The same may be true from a mainstream allocative perspective (see e.g. Agénor 2019) and there is ample evidence of a (perhaps nonlinear) causal relation between financial market regulation and economic growth that eventually turns into a clear trade-off.²⁷ What needs to be found is a form of financial market regulation that mitigates exuberant sentiments and reduces the volatility and instability of the economic system, yet allows for a management and control of resources at the highest desired level. What appears difficult to determine theoretically is impossible to establish practically. All we can strive for – considering the regulation of financial markets rather as a matter of art than of science – is to regularly adapt regulation in a trial-and-error way to changing conditions.²⁸ It is this insight which is at the core of what has been termed Minsky super-cycle.

²⁶ This could be the case in strategic or uncertain situations and leads Ferri and Minsky 1992: 87f.) to formulate a ‘anti-laissez’ theorem: “In a world where the internal dynamics imply instability, a semblance of stability can be achieved or sustained by introducing conventions, constraints and interventions into the environment. The conventions imply that variables take on values other than those which market forces would have generated: the constraints, and interventions impose new initial conditions or affect parameters so that individual and market behavior change”.

²⁷ See e.g. Richter et al. (2019) and Bumann et al. (2013) for a meta-analysis. Libich and Lenten (2022) seem to argue that ‘traditional finance’ (retail banking, insurance, etc.) has a rather positive, ‘modern finance’ (financial innovations, asset trading, etc.) as part of the process of financialisation has a rather negative impact on growth and employment. As a stylised fact, this might be insightful. However, it slightly over-simplistically insinuates that a return to ‘traditional finance’ would do the job and neglects the very ideas of a Minsky super-cycle put forward here.

²⁸ Libich and Lenten 2022:23ff.) for example describe a number of measures – however, no indication is given of how much of which needs to be applied to what extent to get an ‘optimal’ result. Also, Ferri and Minsky 1992: 88) are explicit about the necessity of regulations to change over time: “A system of intervention put in place in one environment can be effective for a while, but as agents acquire knowledge of how this system affects their outcomes, they will adapt their behaviour and this will change the effectiveness of the interventions. The system of intervention cannot be put in place once and for all. Policy makers must be aware that there are always incentives to evade and avoid the interventions, and they must adjust their interventions accordingly”.

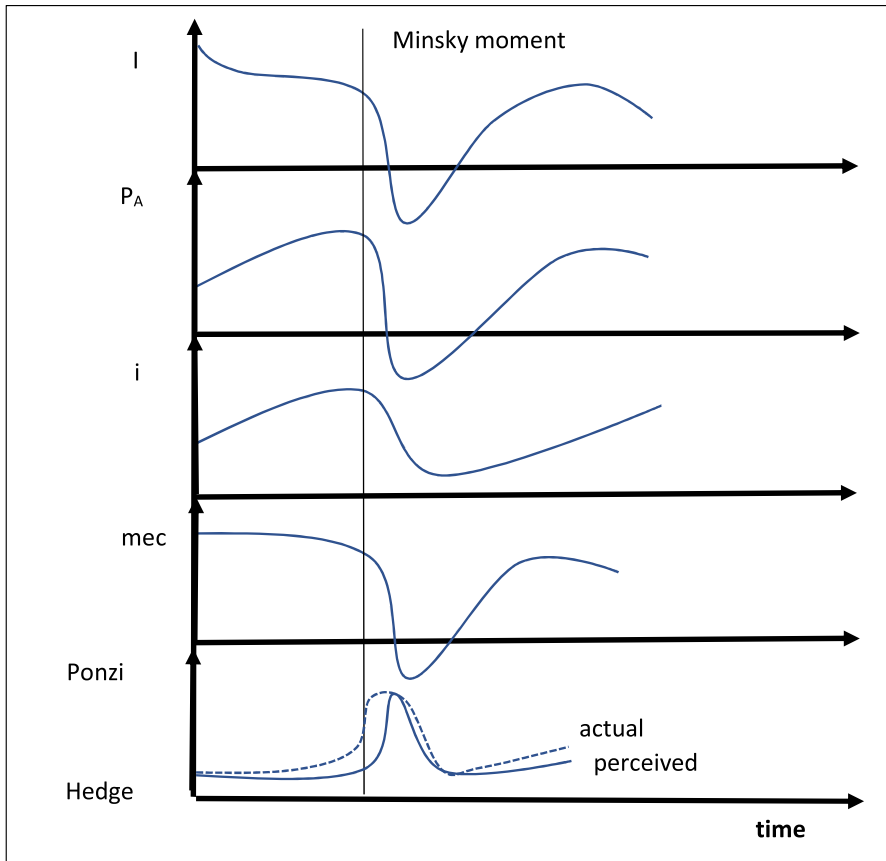


Fig. 4 The Minsky cycle

Let's begin with a situation characterised by highly unsaturated commodity markets, a significant degree of financial market regulation, robust growth rates in real capital accumulation, and as a result, high real income growth and high employment levels. If these developments carry on for some time spanning a few mild Minsky cycles and an on trend fall in growth rates and employment, the focus of the economic debate will centre around remedies for the oncoming phenomenon of cyclical stagnation: what can be done to increase growth and employment. The answers, of course, will be manifold and different according to the theoretical or paradigmatic position taken: heterodox economists would advocate a growing involvement of the state via stabilisation policies of different kinds, while mainstream economists would rather locate the origin of economic problems in supply-side constraints asking for measures such as liberalisation and deregulation of labour, commodity and also financial markets – particularly so, if financial markets were – as assumed – highly regulated at the beginning and if they can build on theoretical foundations – i.e. Fama's efficient-market hypothesis which can surely be interpreted in a desired way – that highlight and emphasise the positive impacts of financial development on growth and employment. As heterodox economists never

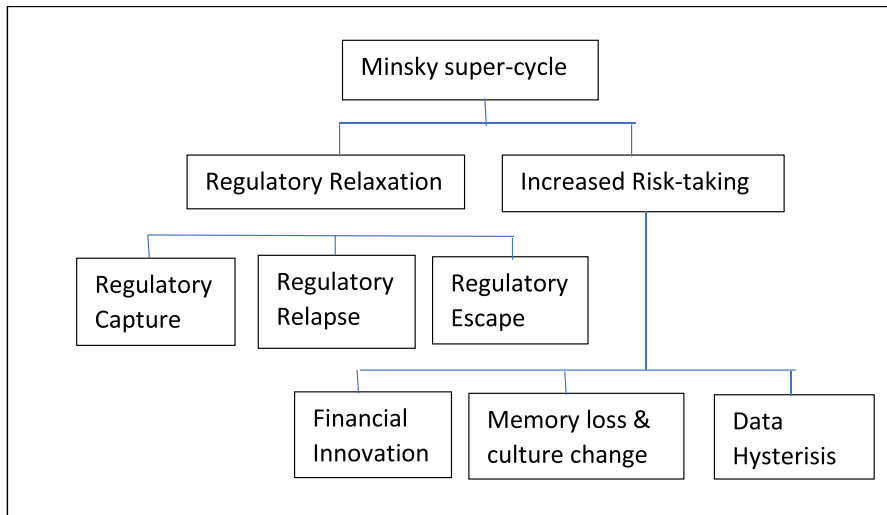


Fig. 5 Minsky super-cycle. Source: Based on Palley (2011: 39)

dominated the public discourse about economic policy – and never will, because in that case they would probably no longer be ‘heterodox’ but rather form the mainstream –, their advice tends to be ignored. However, standard- or neo-Keynesians – although part of economic mainstream – entertain quite similar policy recommendations as heterodox or post-Keynesian economists and they can claim dominance at least for some times during the past several decades. Yet, this will not alter the picture: If they succeed in creating an environment of economic stability, this will only help rendering periods of instability mere memories of the past and in creating a positive feeling of self-regulation and self-stabilisation – allowing a policy shift towards allocational issues (as stabilisation issues appear to be resolved²⁹). If, however, stabilisation policies are not effective, moving towards allocative measures appears the only possible alternative.

Figure 4 captures these ideas and points out that the Minsky super-cycle, which might span several decades in historical time, is not solely driven by regulatory relaxation but also by a growing readiness to take ever more risk based not only on memory loss but also financial innovations contributing to regulatory escape and the influence of estimation techniques based on past information³⁰ about earnings and risks since

²⁹ “A first problem arises when policy-makers have to rely on the data drawn from time series generated, precisely, by a potentially explosive system that is constrained by interventions and institutional mechanisms. These data may give the misleading impression that they result from a “naturally” stable dynamic process and cannot suitably support policy-making. In a setting of this sort, economists and policy-makers may mistakenly conclude that a system is endogenously stable and that institutional thwarting mechanisms are useless” (Nasica 1999: 14).

³⁰ Which usually sounds like this: “Assuming that the historical standard deviations and correlations of return are good estimates of future standard deviations and correlations” (Perold 2004: 8). Although the restrictions of such models and so called ‘Black Swan’ events (see Taleb 2007) were well known, financial markets actors eagerly used such techniques.

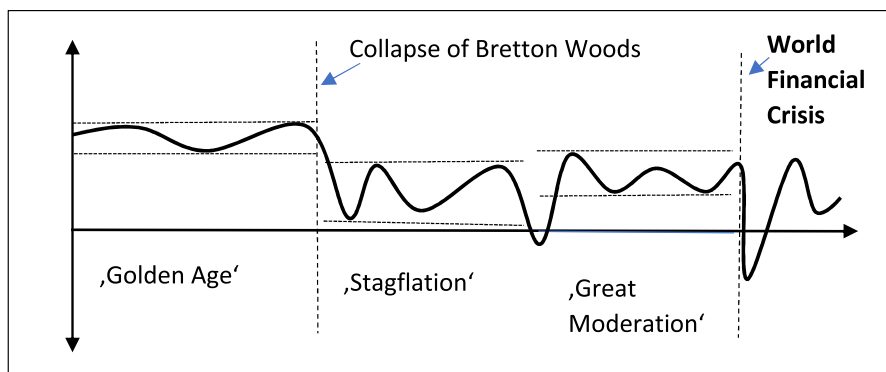


Fig. 6 A stylised Minsky super-cycle

the introduction of the capital asset pricing model (CAPM) by Shapiro, Markowitz and others (see e.g. Perold 2004) and the so-called Black-Scholes model that laid the 'scientific' foundation for trade in derivatives (see e.g. Steward 2012, MacKenzie 2006).

Regulatory relaxation comprises the undermining of existing regulations by their plain abandonment (deregulation or relapse), the setting-up of new regulations that better fit the regulated (re-regulation or capture) as well as the invention of new institutions or financial products that do not fall under the existing legislation (escape). Assuming that the existing regulation was efficient in terms of optimally pacifying the trade-off in further financial development with respect to growth and employment³¹, there is still an incentive for the constrained actor to try to undermine regulations because, as Ferri and Minsky 1992: 88) note: "Effective constraints imply that both the expectations of gain and the objective possibilities of gain are smaller than the agent believes they would be if the constraints were removed".

In Fig. 5, a stylised Minsky super-cycle covering the period after WW2 is portrayed. The first two decades – commonly dubbed as Golden Age of Western Capitalism – witnessed a time of relative stability in terms of macroeconomic development under the aegis of highly regulated national and international financial markets. The next decade and a half after the breakdown of the Bretton Woods System and two oil-price crises showed a much higher volatility of real as well as financial indicators such as GDP growth rates, exchange rates, stock exchange indices etc., and became known as the period of 'stagflation'. During this period, standard Keynesian stabilisation policy was almost everywhere replaced by supply-side policies and a first wave of financial liberalisation (e.g. the 'Big Bang' in the UK) took hold (see e.g. Williamson and Mahar 1998). The last two decades before the Global Financial Crisis at the end of this Minsky super-cycle have been dubbed as 'Great Moderation' – relative economic

³¹ Something which – as mentioned above – cannot be expected to occur in the real world and led Ferri and Minsky 1992:88) to formulate a 'limitation upon performance' theorem: "If there is an observation lag, and less than perfect adjustment by interventions, the system can never be in an optimal allocation alignment. This implies that the 'practical best' for an economy falls short of the abstract best".

stability and a slight increase in average growth rates is coupled with growing financialisation and a rather complete deregulation of financial markets (see Abiad et al. 2008) culminating in the US subprime mortgage crisis, which eventually led to the severest economic downturn since the Great Depression of the 1930s (Fig. 6).

The end of a Minsky super-cycle is marked by a serious financial and real crisis of a magnitude far beyond the usual business cycle downturn of normal Minsky cycles. Large-scale governmental interventions will be necessary to stabilise the economic and financial system in the short run and micro- as well as macro-prudential measures will be taken³² to secure financial stability in the long run. This political reaction will re-introduce transaction costs in the financial market which – in conjunction with stabilisation policies affecting the real sector – will reinforce the relative attractiveness of real capital accumulation to the detriment of financial capital accumulation (see Fig. 2) and, hence, re-wind the process of financialisation somewhat. However, under normal circumstances³³, there is no way back to an industrial capitalism and, at any rate, the next Minsky super-cycle will start to progress anew.

4 Conclusion

While Keynes was most concerned with analysing an ‘entrepreneur capitalism’ as monetary production economy taking a static, equilibrium approach, Minsky’s objective was more process-oriented, putting the evolution of financial structures onto centre stage in his ‘Wall Street capitalism’. The process of financialisation, i.e. a gradual shift of accumulation from real to financial assets on the asset side of the balance sheet of non-financial firms accompanied by an increasing liability-to-equity ratio on the finance side of the balance sheet, came as no surprise neither to Keynes (see e.g. Guevara et al. 2019) nor to Minsky (see e.g. Whalen 2020). Yet, Keynes did not pay too much attention to the challenge this process might pose to his analysis of a monetary production economy – i.e. ‘casino capitalism’ as opposed to ‘entrepreneur capitalism’. In Minsky’s ‘Wall Street capitalism’, however, financialisation is part of the process which endogenously renders capitalism unstable, yet Minsky does not provide a ‘general theory of social provisioning’.

Combining Keynes’s monetary production economy with Minsky’s Wall Street economy and adding features of financialisation provides a ‘general theory of financialised monetary production’ as basis of modern-day ‘casino capitalism’³⁴.

³² For an overview of the measures taken after the Global Financial Crisis, see e.g. Aikman et al. (2019) and Borio et al. (2020).

³³ What happened in the aftermath of the Great Depression, for instance, would not be seen as ‘normal circumstances’.

³⁴ Tsaliki and Tsoulfidis (2021) question the idea of financialisation being a new phase of capital accumulation characterized by its own economic laws. However, it remains unclear whether this meant to reject the claim that financialised capitalism is conceptually different from industrial capitalism or merely the claim that today’s financialised capitalism is unique in economic history (and, therefore, different from earlier developments). Fasianos et al. (2019) also draw historical parallels between the recent phase of financialisation to the period between 1900 and 1933 questioning the uniqueness of modern financialisation. Yet, they explicitly apply the broader concept of financialisation geared towards financial intermediation not towards the motivation of corporate investors.

According to this paradigmatic view, nominal obligations are the economic basis of capitalism, which implant a growth imperative (in order to be able to pay interest) as much as endogenously created economic and financial instability in the short to medium run and a regulatory relaxation in the long run that eventually causes economic and financial turmoil on greater scale. Additionally, casino capitalism's growth path is – even more so than that of earlier-stage 'entrepreneur capitalism' and clearly in opposition to the theoretical predictions of mainstream real exchange economy– very likely to be considerably below its potentials. What might be seen as favourable from an ecological point of view, may pose considerable social problems when it comes with lasting mass unemployment, a huge loss in public resources and permanent pressure on institutions such as financial and welfare regulations and collective bargaining systems that help to keep societies together.

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Declarations

Conflicts of interest The author has no conflicts of interest to declare

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