The next three chapters present an historical analysis that establishes the centrality of derivatives to the operation of current international financial markets. This analysis is based on the following propositions:

1. Floating exchange rates require labour market flexibility as the mechanism of national economic adjustment to the vicissitudes of the global economy.
2. In the context of floating exchange rates, financial derivatives now anchor the global financial system in a role comparable to that played by gold when exchange rates floated freely before the First World War.
3. In performing this anchoring role, derivatives take on the characteristics of global money. They are money that transcends the conventional national system of money.
4. The foundation for derivatives-as-money is not state guarantees, but a commodity basis. The last hundred years has not seen a shift away from a commodity basis to money, but the re-discovery of a new commodity basis.
5. The capacity of derivatives to compare (commensurate) all different types and localities of capital assets is imposing an intensified competition into capital markets, and thereby into all markets.
6. Derivatives generate demands for labour market flexibility. What are widely called ‘neoliberal’ policies with respect to labour can be associated directly with the ubiquitous impact of derivatives. Via the intensely competitive conditions derivatives create for capital, pressure reverts to labour as the primary area where capital can exert creative discretion in the pursuit of profitability.
5
Anchoring the Global Financial System

Gold once anchored the global financial system and, from the late nineteenth century, the extensive cross-national flow of finance, trade and investment was facilitated by its virtually unassailed role as the global monetary unit. At the end of the twentieth century, there was also a surge in international flows of finance, trade and investment, but without the facilitation of gold, or any other globally recognised single monetary unit. We may identify the role of the US dollar as hegemonic, but it has no formal status, and exchange rates in relation to the US dollar have been anything but stable. So the current era of ‘globalisation’ is occurring, it seems, without a formal, universally recognised monetary anchor. But does that mean it is occurring without any sort of anchor at all?

This chapter develops the argument that the system of myriad financial derivative contracts is playing the role of a monetary anchor – not a rigid, fixed anchor like gold, but a flexible, floating anchor – and the contemporary global financial system requires that derivatives perform precisely this anchoring function.

This is more than a functionalist argument. While the recent requirements of large and volatile international financial flows may be the proximate cause of the growth of derivatives, we have also suggested that there is an underlying cause to the growth of derivatives that cannot be reduced to the financial requirements of late twentieth-century ‘globalisation’. That latter argument is developed in the next chapter, but it is important at this point to recognise that, in explaining the proximate causes, we are also looking to frame the underlying determinants of the role of derivatives within capitalist calculation.1 In particular, in this chapter and the

1 Indeed, while we use the term proximate cause here, another way of thinking about it may be to say that its initial growth has been occasioned by the developments in international financial, production and labour markets. We thank Geoff Kay for this suggestion.
next, we challenge the view, almost universally adhered to, that over the twentieth century the world has moved steadily away from a commodity foundation to money. We argue, to the contrary, that derivatives are not just functional to capital but are also to be seen as a new (commodity) money facilitating a more globally oriented scale of accumulation.

The formal sense in which derivatives constitute money is addressed in Chapter 6. In this chapter the objective is to identify the logical space within which derivatives play a monetary role. Our argument is that, following the decline of gold as global money, capital has gravitated towards an alternative basis to the global financial system, and it shows this tendency for one basic reason: national currencies (be it the US dollar under the Bretton Woods system of fixed exchange rates or, since then, floating national currency exchange rates) cannot meet the requirements of both domestic monetary policy and global monetary stability. The threat of exchange rate instability is on-going.

Accordingly, products emerged (financial derivatives) to deliver what pure exchange processes could not. By forming a network of anchors, derivatives are permitting capital and commodities to flow ‘as if’ there were a single anchor. What is widely depicted as ‘deregulation’ of finance following the end of Bretton Woods is, at the same time, a process in which the market (or capital) rather than nation states have looked to provide an alternative foundation to global money.

In developing this proposition, this chapter follows the evolution of global finance in the past hundred or so years.

National currencies and global money: the policy trilemma

The problem of nation state money is that the guarantees of stability and security it supposedly provides diminish in direct proportion to the growth of extra-national currency circulation, beyond the territorial jurisdiction of the nation state. This has been argued extensively in relation to the US dollar, and its role from the Second World War to 1971 as the global currency unit – on which more below. But it is not an argument unique to the United States: there are inevitable tensions of money having to serve both domestic and global functions.

Central to the global money problem, therefore, is the difficulty for states in balancing the needs of capital to securely expand, including internationally, and the pursuit of national policy goals. The history of the global financial system had shown that it is possible for states to
provide (a maximum of) any two, but not all three, of the following:

- National policies to support labour’s living standards,
- Large scale capital flows, and
- Stable exchange rates.

In economics the trade-off between three macroeconomic variables is known as the macro-economic ‘policy trilemma’.\(^2\) Any attempt to add the third agenda to the other two existing policies sees at least one of the other spheres thrown into crisis. The history of the financial system is really one of the revolving set of priorities and the different historical ways in which the third agenda gets displaced. This third agenda then can be thought of as the ‘swing mechanism’ of national economic adjustment, so that this history can be framed in terms of the changing swing mechanism. For example, to secure stable exchange rates and policies to sustain living standards, nation states have to exercise capital controls to regulate the flow of international capital. Capital flows become the policy swing mechanism.

It will be seen that the two great periods of global capital movement – the late nineteenth century to the First World War, and the late twentieth century – have much in common. In both of these periods, where the financial regime is privileging global over parochial agendas, the nation state does not exert direct control over the value of ‘its’ currency. The material basis of the value of each national currency, and hence all global money, must be found in its capacity to purchase goods and services, not in its guarantee by the nation state.

\(^2\) The conventional framing of the trilemma is that an open national economy cannot support all three of:

- Independence in monetary policy,
- Stability in the exchange rate, and
- Free movement of capital

Obstfeld et al. (2004a; 2004b) confirm the pertinence of the conventional trilemma to monetary history. However, that trilemma remains purely monetary in its trade-offs. Our argument is that labour, treated as a national attribute in a world of internationally mobile capital, has played a critical role in national policy to secure monetary stability. Accordingly, we have replaced ‘independent monetary policy’ with the more relevant political/economic variable ‘support of labour’s living standards’.
Hence the stability of money within any nation has related directly to the conditions of production of goods and services: issues of productivity and production costs, and especially labour costs. Quite simply, in the current era, as under the Gold Standard, global capital movement with stable international finance has required the subordination of labour’s living standards to the needs of mobile capital: labour had been the swing mechanism of national adjustment.

We develop this proposition via the historical stylised facts of the global financial system and the major transitions from the classical Gold Standard to the ‘Bretton Woods Dollar Gold Standard’, and then to the current derivative period.3

**Early commodity money: the Gold Standard and its contradictions**

Capitalism developed on the basis of (pre-capitalist) money: gold and silver. These are forms of commodity money: their integrity in the funding of trade, settling debts, etc., was based on the intrinsic value of the money unit: gold and silver are ‘valuable’ in themselves.

While the rise of the modern state facilitated the development of inconvertible paper money domestically, and other forms of fiat money, precious metals remained the basis of cross-national transactions. This commodity money worked remarkably well, especially considering that it was anything but well planned.4 The value of gold and silver varied with their costs and volumes of production, but, while some countries used gold and others silver (and some used both), there was great stability in the gold/silver exchange rate – until the 1870s when silver’s price fell dramatically5 and gold became the (virtually) exclusive international trading currency.

---

3 In developing the stylised facts the reader is urged to heed Kindleberger’s (1973) warning about the Gold Standard that it operated a good deal less automatically than textbook stylised facts often tend to suggest. Indeed, how the Gold Standard and even Bretton Woods regimes played out are not uncontroversial.

4 Kindleberger (1984: 60) comments: ‘Like so much monetary history, fixing the pound sterling in 1717 at a gold price that lasted, with lapses from 1797 to 1819 and from 1914 to 1925, until 1931, was largely inadvertent, rather than the outcome of design’.

5 The stability is attributed to the existence of sufficient bimetallic countries, which were flexible as to which was used at any point in time. The Australian and Californian gold rushes of the mid-century increased world gold production.
The huge growth in international transactions in the late nineteenth century therefore occurred with a stable global currency and hence fixed exchange rates between nations: the classical Gold Standard. Significantly, this stability in exchange rates came not because nation states actively managed currency values (there were virtually no central banks as such), but because the state’s role was restricted merely to the provision of a dependable physical currency. On this basis, nations used gold as their currency base and trade imbalances between nations could be settled in gold transfers. Indeed, the need for convertibility of national money units into gold ensured that nation states would not meddle with money too much for fear of creating domestic price instability.

Accordingly, under the Gold Standard, high levels of international capital mobility – in some terms proportionately even higher than they are today – were directly compatible with stable exchange rates (a stable global financial system) because national economic policy subordinated domestic agendas to the stability of the national monetary unit vis a vis gold.

Perhaps ‘subordinated’ is the wrong term, for it suggests a conscious policy stance. As Eichengreen (1998) emphasises, in the major trading and capital exporting countries, there was simply no significant political aspiration or institutional basis for using state policy to pursue social agendas that might result in price instability. Labour did not have the vote, union membership was low, unemployment was not an issue for

ten-fold and pushed down the price of gold. As a result, the bimetallic countries increasingly used gold. As a consequence, silver was released by bimetallic countries on to the world market, pushing its price down. By this flow, the exchange rate between gold and silver remained stable from the beginning of the nineteenth century until the 1870s (Eichengreen and Sussman 2000: 17). However, in the 1870s the expansion of silver production could not be so absorbed, and the exchange rate became unstable (Kindleberger 1984).

6 But, as Richard Cooper notes, this strength was also a weakness. While the Gold Standard provided a rigid anchor for world prices, no government was responsible for managing fluctuations in the demand for and supply of gold. So the system was prone to sharp global liquidity shocks, and prices for traded goods were also more volatile than under the Bretton Woods regime (cited in McKinnon 1993).

7 In fact, international monetary relations became robust enough for short-term capital flows to often substitute for gold as the swing variable for balancing international payments (McKinnon 1993).

8 See also Eichengreen and Iverson (1999). Kay and Mott (1982) provide an excellent account of the transition from liberal to social democracy and its implications for the development of state ‘policy’.
states and the state ran minimal social and military expenditure. Moreover, with capital internationally mobile, labour was treated politically as the one component of production costs that was largely national.\(^9\) Wages, employment rates and working class living standards were made flexible on a national scale, and were readily changed to ensure domestic price and hence exchange rate stability.

The Gold Standard was, therefore, not compatible with the rise of the labour movement, and its demands for social expenditure and policies to avert unemployment (DeCecco 1974) – a reality that became stark with the growing social expectations of state expenditure after the First World War. The Gold Standard had shown that it was possible to provide two, but not all three components of the policy trilemma. The Gold Standard had ‘foregone’ labour's living standards: labour was the swing mechanism of national economic adjustment.\(^10\)

In monetary policy terms, the nation state could not reconcile the domestic demands on finance with the global requirements of currency convertibility to gold. The rise of national central banks in the early twentieth century was associated with growing state management of the domestic monetary system. Gold was progressively withdrawn from circulation as national money and held as reserves by the central bank. National monetary liquidity thereby became a central bank policy issue (and subject to policy conjecture) rather than an automatic (i.e. market-driven) product of international gold flows. Policy conjecture generated scope for speculative positions on exchange rate adjustments because there were not automatic, predictable, market-driven adjustments (Nurkse 1944). Global financial markets became increasingly volatile, and nation states sought, through a variety of mechanisms, to insulate themselves from that volatility.\(^11\)

\(^9\) Labour was indeed quite mobile in some periods of the nineteenth century and the evolution of the modern state can in part be associated with the need to deal with the effects of the emergence of surplus populations, including the threat of its mobility (Cowen and Shenton 1999). We are depicting labour as ‘national’ in our analysis, because labour was treated ‘as if’ it were national.

\(^10\) This is not to idealise the ‘adjustment mechanism’ under the Gold Standard. The price of labour, to paraphrase Keynes, was often ‘sticky’ downwards. As historians often remind us, attempts to make it less sticky in the nineteenth century varied, but often involved force (Thompson 1963).

\(^11\) Nurkse observed of the period after the Gold Standard, before the Bretton Woods regime that: ‘If there is anything that the interwar period has clearly demonstrated, it is that paper currency exchanges cannot be left free to fluctuate from day to day under the influence of market supply and demand’ (cited in Gosh et al. 2002: 19).
The rise of the national economy as a discrete unit of accumulation and object of national policy, to provide social supports and infrastructure, gradually became incompatible with privileging the stability and scale of the global financial system. Over the next two decades, the Gold Standard steadily unraveled and capital controls (restrictions on the cross-border movement of credit and investment) were increasingly introduced by nation states to provide national insulation from the vicissitudes of globally volatile markets. The era of the Gold Standard was over, although the formation of a new global monetary regime awaited decisive and generally internationally consistent and agreed upon national choices within the policy trilemma.

With the demise of gold as an inherently valued commodity money, there was a range of attempts to reconfigure an alternative commodity basis to global finance. One such proposal, which received notable interest, was for global money to be backed by a basket of commodities instead of by gold (Frank D. Graham 1941, 1944; Benjamin Graham 1944). Under this plan, the basket, including upwards of 20 basic commodities, would ensure a degree of stability in the underlying value of money, with stockpiles of storable commodities substituting for stockpiles of gold. This new commodity backing to money was thought to have the added advantage of being useful in times of social hardship, by offering the capacity of running down stockpiles and building them up later.

In the twenty-first century, such a proposal might be thought at best quaint but irrelevant. But in the late 1930s and 1940s, it brought forward significant debate. Divided opinion over the proposal was revealing, for it shows the stark choice between the options of a state-guaranteed basis to a money anchor or a commodity basis. Those who wanted to retain floating exchange rates and keep monetary controls out of the hands of the state, lest they be directed to social programmes or other special interests, were generally supportive of this revised commodity money, at least in principle (Hayek 1943; Friedman 1951). Conversely, those, such as Keynes (1938), who were advocating a central role for the state in building social programmes (requiring fixed exchange rates and capital controls), were strongly opposed. History shows that

---

12 For a selection of contributions to this debate, see Schwartz 1992. For a full bibliography, see http://www.bufferstock.org/biblio.htm#graham.
13 Keynes’ concern was that the commodity reserve currency, as was also the case with the Gold Standard, would ‘confine the natural tendency of wages to rise beyond the limit set by the volume of money’; that is, it would restrict the capacity of nation states to regulate for full employment and
the latter position dominated the global monetary arrangements after the Second World War.

The Bretton Woods regime

With the re-constitution of the global financial system at the end of the Second World War, the new goal was economic certainty and stability and the asserted agenda was nation-centred accumulation, with open international trade gradually being re-established. This regime allowed for the privileging of social programmes and full employment, funded by high (and managed) levels of economic growth. In simple terms, we can associate this with the rise of ‘Keynesianism’.

The Bretton Woods Agreement, negotiated principally between Britain and the United States, set the terms for the post-war international financial system that operated from 1944 to 1971. As with the Gold Standard, exchange rates would be stable. However, stability would come not so much because the international flow of money (gold) to settle international debts guaranteed stability, but because nation states would target stability as a policy objective. In the face of external imbalance, the state could invoke fiscal and monetary policies to adjust international financial flows in support ‘of its’ exchange rate. If the imbalance became irretrievable, the state (except perhaps the US state) could announce an adjusted currency value, but such an announcement reflected badly on national policy makers.

In the context of the policy trilemma, with the two policy priorities being stability (of investment, growth and exchange rates) and security (including of living standards) the policy choice required that large-scale capital flows had to be curtailed. Keynes had urged that, ‘control over capital movements, both inward and outward, should be a permanent feature of the postwar system’ (Keynes 1943a: 185). While labour was the swing mechanism of national economic adjustment under the Gold Standard, Keynes was opposed to any international monetary agreement that would undermine the autonomy of national governments to manage their own monetary affairs. Thus, as Bernstein notes, the Bretton Woods agreement, ‘was intended to provide exchange stability without the rigidity of the gold standard’ (cited in McKinnon 1993).

14 See Radice (1988) for an excellent summary of Keynes’ privileging of national over global agendas, especially in relation to money.

15 Keynes also felt that freedom of capital movements had been an essential part of the old laissez faire (1943b: 185).
Standard, under Bretton Woods the swing mechanism was to be the international movement of capital.

In general, nation-state policies restricted but never blocked entirely the international flow of capital. Some state-approved direct investment and accommodating portfolio and debt flows were even encouraged. Accordingly, national economic policy could target national growth and distribution policy and, by regulating capital flows, secure a stable currency exchange rate (Helleiner 1994). The state aspired to maintaining ‘internal and external balance’, as it came to be called.

But what was to be the global currency? The Bretton Woods Agreement saw the US dollar as the global trading currency, with the dollar convertible to gold at a rate of $35 per ounce. Other national currencies fixed to the US dollar. Thus there was a commodity backing to global money, but it was a token, symbolic backing: gold itself was effectively ‘de-monetised’. The strength of the global financial system lay more in the power of the US economy and the US state within the global economy than in the gold held in the vaults at Fort Knox.

The US dollar-as-global-currency had a certain flexibility and adaptability not possessed by gold. For instance, the US dollar played what is known as a ‘vehicle’ currency role, allowing parties in different countries to use the dollar to denominate commodity trade even when neither party had any final use for US dollars. Indeed, the status of gold within the new, post-war, money system was contested. Neither Britain nor the United States wanted any sort of return to a Gold Standard, but Britain did not want the US dollar alone to be the global currency.

16 Nor was it entirely necessary for total control of capital flows, despite Keynes musing on postal censorship. What was critical was that, to paraphrase McKinnon (1993), national capital markets needed to be ‘segmented’ enough so that macroeconomic policy autonomy (viz. control over domestic interest rates) could be pursued.

17 Some of the key works here are Meade (1948 and 1949), Johnson (1977), Mundell (1962), and Nurkse (1944).

18 It should not be forgotten how quickly the US dollar rose to pre-eminent global status. According to Broz (1999), as late as 1914, before the formation of the US central bank (the Federal Reserve), the United States was the only major trading country whose currency did not function as an international currency. This he attributes to the fact that domestically the US financial system was highly unstable and volatile.

19 Hicks (1967) for instance noted that during the 1950s and 1960s the US dollar provided the global economy with alternative secondary liquidity.

20 Keynes, the leading British negotiator at the Bretton Woods conference, had been quite ambiguous in his attitude to gold in the post-war money system.
the US wanted to utilise the significance of its huge gold reserves. Moreover, given that the world had for so long looked to gold as the major international currency, the thought of administering an international financial system with no gold backing was simply unconscionable. So until 1971 global finance stayed with a form of (passive) commodity-backed money.

But the Bretton Woods Agreement, and the national policies that supported it, were being challenged from the outset – indeed, the Agreement itself reflected the challenge.  But the Bretton Woods Agreement, and the national policies that supported it, were being challenged from the outset – indeed, the Agreement itself reflected the challenge. Within the policy trilemma, the Bretton Woods Agreement worked in providing national social policy agendas and stable exchange rates only so long as the proclivity of capital to expand could be contained mainly to within national borders or directed through international trade. Yet the momentum of capital to expand internationally had not evaporated in 1944, and there was continual pressure on nation states, especially from financial institutions, to facilitate this expansion.

Indeed, the period after 1944 did not see rigid adherence to policies that precluded international capital flows. Amongst others, Eichengreen and Sussman (2000: 31) emphasise that steadily during the 1950s and especially the 1960s virtually all central banks undertook regulatory reforms that enabled the growth of international financial and investment flows and saw the opening up of global wholesale (merchant) banking.

In part, this could be seen as a problem of national imbalances. Growing government fiscal and national balance of payments imbalances created tensions in international payments systems, tensions, which also began to be absorbed in emerging international financial markets (Mendelsohn 1980). The US dollar’s role as a ‘vehicle’ currency started to expand rapidly within these emerging international financial markets, diminishing the association between the US economy and the US dollar.

While he was critical of the theoretical status of gold as money, in his plan for an International Clearing Union, which he started to develop in 1940, he was rather supportive of the status of gold, claiming that, in his proposal, ‘the position of gold would be substantially unchanged’. In particular, he emphasised gold’s ‘psychological value’. His proposed new international bank money was to be defined in terms of a weight of gold, but it would not be convertible into gold (1980: 85, 95, 183).

21 See Helleiner (1994: esp. 44–50) for a summary of the objections of New York bankers to capital controls and the pressures they brought to the Bretton Woods negotiations, including the effective influence they exerted over the US negotiator at Bretton Woods, Harry Dexter White.
In part also the problem was that governments started to add (or accommodate) the third policy leg of the trilemma. Along with stable exchange rates and policies to support living standards, governments and central banks started to meet the demands of capital for international expansion and to facilitate an increasing scale of international capital flows. As companies began to expand their activities on an increasingly international scale (initially mainly from the United States but then from Europe and other nation states as well), so too did banks.22

Central here was that a global pool of money balances emerged. They came to be called Eurodollar markets because of their initial location and the fact that the financing was done mostly in US dollar denominated forms. These supra-national money markets for dollar deposits began with the dollar reserves of Soviet-bloc countries and the Chinese government in the 1950s.

One of the initial attractions of Euromarkets to depositors was that they permitted anonymity. The communist governments were keen to disguise and safeguard their loanable reserves from US government sanctions, and placed them with banks in Western Europe to avoid possible confiscation by US authorities. But anonymity was also appealing to ‘western’ corporations and financial institutions trying to avoid constraints on international capital transactions.

The Eurodollar market began to be used by corporations mainly as an alternative source of cheap and large volume finance, offering interest rates and exchange rates that differed from those under national regulation. Initially, this market was attractive to corporations as a means of trade financing, and later of investment financing. These uses were accentuated in the mid-1960s by attempts by the United States, and later British and German, governments to regulate international capital flows as part of policies to deal with balance of payments imbalances.23

The Eurofinance market provided sources of credit outside the jurisdiction of those controls, and it emerged as a major international money market, characterised by inter-bank transactions.24

---

22 Multinational firms began to expand offshore, and banks were being pulled into international markets to continue their relationships with key clients.
23 For the United States, restrictions on capital outflows in the mid-1960s were integral to defending the US dollar/gold parity.
24 The Euromarkets grew in size from about $20 billion in the mid-1960s to $2,600 billion by the mid-1980s, an annual compound rate of growth of more than 25 per cent (Bryant, cited in Battilossi 2000). Whitman (1974: 556–8) reports that, at the end of 1973, total foreign claims on US residents, both public and private, amounted to slightly more than $90 billion. At that time, the net size
It is at this point that that financial derivatives began to play an important role, not yet in a capacity recognisable as money, but rather for their ability to provide opportunities for regulatory arbitrage – to assist banks and corporations to avoid government controls over capital movement. In the early phase of derivative growth, this enabled, for instance, US dollar-denominated financial claims to be effectively converted into a British pound debt, so that cross-border capital controls could be sidestepped.

But while these developments were outside the formal terms of the Bretton Woods Agreement, they were not eschewed by nation states or their central banks. Indeed, governments became directly involved. Euromarkets were increasingly being utilised by other governments in deficit countries as a cheap source of funds. Moreover, from early on, central banks began to trade in Eurodollar markets as part of their domestic monetary policy, and attempted to influence their structure and direction.

The contradiction here was that Eurodollar markets were an effective means for national governments and their central banks to affect both fiscal and monetary policy, but the overall effect was to undermine the capacity of national monetary policy to deliver its commitments. This showed up most emphatically in the United States, because it was the currency tied directly to gold.

In the face of increasing global capital mobility, the US Federal Reserve had less and less capacity to control either domestic monetary policy or anchor global prices. On the one hand, the US state could pump of the Eurocurrency market was estimated to be $155 billion, of which almost three quarters, or $112 billion, was denominated in Eurodollars. To put this figure into perspective, Eurodollars were not counted in the money supply of any country but were by then already larger than the money supply of any country except the United States (Whitman 1974). Little wonder then that Podolski considered the development of Euro markets to be a revolution with an impact ‘comparable to that of coke smelting in the development of iron and steel, the steam engine in the development of railways, and the computer in information processing’ (cited in Battilossi 2000: 160). The origins of the Euro markets are discussed variously in Dufey and Giddy (1978) and Battilossi (2000). For the timing of key innovations in financial markets, see Oxelheim and Rafferty (2003).

25 See Burn (1999) for an excellent analysis of the development of Eurofinance markets within the City of London in the 1950s.

26 Cagan and Schwartz (1975) observed that the efficacy of using monetary policy as a tool to stabilise an economy had been the subject of on-going debate from at least the 1940s. One strand of this debate concerned whether financial innovation tended to produce money substitutes, which in turn affected the stability
US dollars into the rest of the world with the imprimatur of gold. On the other hand, it had to defend the integrity of the US dollar even though it was being traded increasingly extensively beyond the regulatory jurisdiction of the Federal Reserve. The effect of global financial expansion was to create US dollar denominated claims that were challenging the convertibility of US dollars to gold at $35 per ounce. The exchange rate regime was becoming unsustainable, and the weak link was not the general stability of national currency exchange rates, but the rate of exchange between the US dollar and gold.

In effect, global expansion had challenged the official balance in the policy trilemma, and policy became unstable and unsustainable. With the development of capital mobility, one of the other objectives – labour’s standard of living or stable exchange rates – had to be sacrificed. The most immediate policy objective under threat was stable exchange rates, and the most critical of these was the rate of conversion between the US dollar and gold. This was the first policy to give way.

When President Nixon announced the devaluation of the US dollar in September 1971, the Bretton Woods Agreement was effectively over.

of monetary aggregates. The Radcliffe Report in Britain in 1959, for instance, found that the growth of these money substitutes was impairing monetary policy. As Cagan and Schwartz put it, Radcliffe ‘viewed monetary policy as impotent, (when) submerged in a sea of liquidity’ (1975: 138). Cagan and Schwartz themselves found that while the growth of money substitutes could be verified, the interest rate sensitivity of money demand had actually declined. Their findings of course bolstered the case for the on-going importance of monetary policy rather than, say, fiscal policy, but the fact that the stability of national money supply was already an empirical issue from the 1950s is surely instructive.

It is something of an irony, therefore, that central banks have emerged as the pre-eminent national regulatory institution. At this time, there was widespread criticism of central bank capacities and it seemed anything but pre-ordained. Harry Johnson, for instance, openly contemplated an increased role for fiscal policy as a counter-cyclical device, but noted that for this to occur, it would require ‘either a surrender of some congressional control over the taxing power or a revolutionary change in the methods by which Congress conducts fiscal business’ (1970: 640). Johnson thought that the former was the more feasible.

The judgement that the global role of the US dollar under Bretton Woods was not sustainable was not only made in retrospect, but was being argued from the 1950s. See for instance the work of Triffin (1960) and Machlup (1964) who, concerned with the limitations of gold (at least its supply), discussed the importance of the dollar as a way of providing ‘secondary liquidity’ to international payments, in addition to gold. In the mid-1960s, as early signs of the fragility of the Bretton Woods regime became apparent, the proposal of an international commodity reserve currency again emerged, albeit without significant impact. See Hart et al. 1963 and Grubel 1966.
The US devaluation amounted to all other currencies being devalued against gold by a decree from the US state, so there was an immediate termination to a gold-backed guarantee in the international financial system. The hegemony of the US dollar as the world’s leading currency survived that rupture; the status of gold did not. Accordingly, the Bretton Woods Agreement ended via a global monetary crisis and the period after 1971 was one of volatile exchange rates as nation states sought to reconcile the protection of labour’s living standards with growing international flows of capital.

With the suspension of dollar–gold convertibility, the emerging global financial system began a transition without any clearly defined rules (Whitman 1974). Within eighteen months of the Nixon Government’s severing the ties of the US dollar to gold, the Pound Sterling, the Japanese Yen and the combined currencies of the European Union were all in free float. For other countries, the short-term policy answer was to stay roughly attached to the US dollar, or another leading currency, or to a basket of leading currencies. Exchange rates were now the swing mechanism of national adjustment.

After Bretton Woods: the return to floating exchange rates

The termination of Bretton Woods, while ignominious for US monetary authorities and a shock to the political and economic world at the time, was the necessary pre-condition for the massive growth in international trade and investment that followed in the 1970s and 1980s. For the global financial system to develop, it had to throw off the shackles of gold.

But a new financial regime did not emerge, fully developed, from the crisis of the Bretton Woods Agreement. The new regime that would eventually develop was not an invention of the regulatory authorities awaiting its time, or even of inspired market processes, but had to evolve out of market and nation-state practices, to meet the needs of those who use these markets. Accordingly, the decade and some after 1971 lacked financial stability and a clear global financial framework.

For a period, states sought to combine all three components of the trilemma. In the industrialised countries social and labour market policies continued to protect standards of living, and capital flows continued to grow. Indeed, states themselves were becoming increasing players in global capital markets as they sought to reconcile these irreconcilable objectives. Stefan Mendelsohn (1980: 5), who had traded in the Euromarkets before becoming a *Financial Times* journalist noted of
the late 1970s:

The greater part of the market’s liabilities ... consist of funds deposited in Western banks by the governments and official agencies of surplus countries and even larger part of the market’s assets consist of money lent to the governments and agencies of deficit countries.

Exchange rates too remained the object of policy. For the leading currencies (the Dollar, Deutsch Mark and Yen), there were short-lived, ad-hoc plans for mutually arranged currency realignments. They failed to deliver stability for more than a brief period and, in each country, the domestic policies required to support the alignments met with large resistance.

With high capital flows now ‘locked in’, nation states (and especially the leading industrial nations) faced a choice: volatile exchange rates or protection of labour’s living standards. Highly volatile and unpredictable exchange rates were seen to be incompatible with stable growth in international accumulation. Exchange rates needed to stabilise. In the context of the policy trilemma, the pursuit of (relatively) stable exchange rates along with high levels of capital mobility required that the other policy objective – labour’s standard of living – be systematically subordinated to the goals of global financial stability.

Events in the United States were critical. The so-called Volcker shock of 1979–82 was vital to the on-going global hegemony of the US dollar and the stability of global finance generally. While Nixon had sacrificed the global role of the dollar for domestic agendas, Paul Volcker, as Governor of the US Federal Reserve, sought to reverse that effect. He introduced an era of fiscal and monetary austerity (interest rate hikes, and inflation targeting), which asserted anti-inflationary policy above all other national economic policy agendas. Part of this also was an assault on organised labour, to ensure that labour costs would cease to be a source of future inflation. Indeed Volcker later contended that ‘the most important single action of the administration in helping the anti-inflation fight was defeating the air traffic controllers strike’

29 Reference here is to such arrangements as the Plaza Agreement and the Louvre Accord, where the central banks of the G3 countries (Germany, Japan and the United States) met openly to negotiate sustainable exchange rates (or at least exchange rate target zones), and occasionally intervened openly in currency markets in concert to reverse short run misalignments. It also refers to the general culture of the early 1980s of international attempts at negotiation of exchange rates between the leading industrial countries (see for instance McKinnon 1993).
(cited in Panitch and Gindin 2004; quoted from Taylor 1995: 778, but see also Volcker 2000).³⁰

The intention (and the effect) was to sacrifice domestic growth and living standards so that a stable (i.e. non-inflationary) US dollar could be asserted as the unassailable anchor to global money markets (Volcker and Gyohten 1992). Indeed, Volcker himself contended that the Federal Reserve’s anti-inflation policy took on a ‘role in stabilising expectations [that] was once the function of the gold standard, the doctrine of annual balanced budget, and fixed exchange rates’ (quoted in Johnson 1998: 178).³¹

‘Deregulation’, ‘Thatcherism’, ‘Reaganomics’, ‘neoliberalism’ and all those other 1980s neologisms that depicted the stripping back of the welfare state, assaults on minimum wages, on employment security and on the power of organised labour, and the increasing autonomy of national monetary policy from democratic pressure, are directly linked to this imperative. These general changes in the nation state in the late twentieth century are now well known, and need no re-telling here. The simple point is that what is called ‘deregulation’ and ‘neoliberalism’ has at its core not simply an ascendant ideology of laissez faire (indeed,

³⁰ Further, Panitch and Gindin (2004) note that, on the insistence of Congress, Volcker himself represented the US state in Chrysler’s bankruptcy proceedings and that it was he who negotiated with the United Auto Workers, then America’s most powerful union, to secure the wage cuts and out-sourcing that the state required before granting Chrysler a bail-out loan.

³¹ In an interview with the American broadcasting network PBS in September 2000, Paul Volcker (2000) also said that, as Governor of the Federal Reserve, his actions were geared towards America’s international responsibilities:

[1]f we weren’t strong economically, we weren’t going to be able to carry out what I saw as reasonable responsibilities in the world … and if anybody was going to deal with this it was going to have to be the Federal Reserve. … One of the major factors in turning the tide on the inflationary situation was the (air traffic) controller’s strike, because here, for the first time, it wasn’t really a fight about wages; it was a fight about working conditions. It was directly a wage problem, but the controllers were government employees, and the government didn’t back down. And he (Reagan) stood there and said ‘If you’re going to go on strike, you’re going to lose your job, and we’ll make DO without you’.

That had a profound effect on the aggressiveness of labor at that time, in the midst of this inflationary problem and other economic problems. I am told that the administration pretty much took off the shelf plans that had been developed in the Carter administration, but whether the Carter administration ever would have done it is the open question. That was something of a watershed.
Thatcher and Reagan were never laissez faire in their policies, especially but not only in their foreign policy) but also the subordination of labour’s living standards to the needs of stable global capital flows.

Of course, it was not usually explained to labour in those terms; nor was it rationalised by economists in those terms, as we will discuss shortly. It has almost without exception always been explained by appeal to nationalism: that we as a nation cannot live beyond our means by running fiscal deficits or importing more than we export; that we need labour market flexibility to ensure that our industries remain competitive and our economy competitive. But the result was the same: in the name of ‘national competitiveness’, a range of attempts were made to force labour to become the swing mechanism of national economic adjustment.

Floating exchange rates then and now

Since the 1980s there has been a notional return to the same policy ‘balance’ as under the Gold Standard: large scale capital flows at (relatively) stable exchange rates, and with national labour – levels of public

---

32 The Thatcher Government’s assault on the coal miners, and Reagan’s victory in the air traffic controllers’ strike were an explicit part of union-breaking agendas, with stark messages for the rest of organised labour. The case for floating rates was actually made in economic terms at the time on the basis that exchange rate flexibility would insulate national economies from foreign disturbances (such as inflation), while freeing monetary policy for domestic goals (Obstfeld 1985; Hefeker 2000). Krugman (1999) recently observed however that the US Federal Reserve a decade or so later has become more and more explicit about the role of the state in disciplining labour. He cited a speech that Fed Chairman Greenspan gave to a business lunch in 1999, where he warned that ‘labor market conditions can become so tight that the rise in nominal wages will start increasingly outpacing the gains in labor productivity’.

33 Krugman (1999) interpreted this to mean that

[W]orkers who know that jobs are plentiful will get big raises. And that, Greenspan implied, would be very bad thing. A market economy ... requires that a certain number of people who want to work be unable to find jobs so that their example will discipline the wage demands of those who are already employed. Greenspan, to his credit, tells the truth about what he does, but until now, he has done it in a way that only the cognoscenti can understand. Well, now he has said it clearly. But is America ready to hear it?

34 We have made the argument elsewhere in greater detail that ‘national competitiveness’ was used to subordinate labour to capital on a global scale. See Bryan 1995 chs 2 and 3 and, in the context of Australia, Bryan and Rafferty 1999 chs 3 and 4.
consumption and wages relative to productivity – as the swing mechanism of national adjustment. The parallels with the Gold Standard are important, although we are not seeing a direct replication of that earlier regime.

Certainly, high levels of capital flows are a close parallel. But to seek to draw too close an analogy between nineteenth-century and twenty-first-century capital flows is inappropriate. Ratios of global capital flow to production, which are widespread in the ‘globalisation’ literature, tell little about the differing role (and forms) of capital flows in the two periods. But few would disagree that in both periods, domestic agendas have been substantially subordinated to the facilitation of these global flows.

But the differences should also be noted. Under the Gold Standard, labour’s role as the swing mechanism was, in effect, automatic. With all countries using gold as both a domestic monetary anchor and trading currency, exchange rate stability was not an issue. Moreover, there were automatic domestic price adjustment mechanisms under that regime that came from cross-national gold flows to settle trade balances. Trade deficits led to an outflow of gold and falling domestic prices. Falling nominal and, via domestic contraction, real wages were the direct consequence.

Today, neither exchange rates nor wages adjust as precisely as under the classical Gold Standard. Today, exchange rate stability is by no means guaranteed, despite the anticipation of the advocates of ‘deregulation’, and exchange rates are sometimes quite volatile. So in contrast with the Gold Standard, exchange rates are not a systematic mechanism of national economic adjustment: countries retain current account surpluses and deficits for long periods without the exchange rate moving systematically to secure ‘balance’. What constitutes acceptably stable exchange rates is therefore a more fluid notion than applied under the Gold Standard. Indeed, current exchange rates are not as volatile as might appear. Standard data on volatility refer to spot prices. Exchange rate derivatives exist precisely to hedge against such volatility. Exchange rates as experienced by individual capitals (i.e. adjusted for hedging) will show much gentler trends than is indicated by spot rates, though still not the rigid stability of the Gold Standard.

35 Obstfeld (1985) concluded that the much-touted insulating properties of floating exchange rates turned out to be quite exaggerated to say the least. This has led many smaller developing countries to what has become known as a ‘fear of floating’ (Calvo and Reinhart 2002).
Similarly, labour’s role as the swing mechanism of national adjustment is neither as automatic nor as nation-wide as under the Gold Standard. For the latter we saw automatic wage adjustment as a more or less direct corollary of the impact of international gold flows on the national price level, and the absence of many wider democratic institutional defences. Today, at least in the advanced capitalist countries, adult electoral franchise and trade unions, wage norms and state legislation on employment conditions continue to mediate the connection between labour’s living standards and the conditions of stable global capital flows.\footnote{Obstfeld and Rogoff (1995) are clear about this also. They contend that the main reason exchange rate targeting has not been as binding as under the Gold Standard is not so much that it is technically impossible in a world of global capital markets, but that ‘very few central banks will cling to an exchange-rate target without regard to what is happening in the rest of the economy. Domestic political realities simply will not allow it, even when agreements with foreign governments are at stake’ (1995: 79). Thus they note that, for many economists, a key to exchange rate stability is to reform domestic monetary policy institutions, such as freeing central banks from democratic control.} Wage adjustments are not automatic.

Nonetheless, from the 1980s, there has been a universal trend for wages to be tied more closely to workplace productivity, at the same time as workplaces themselves are adjusting to engage in productivity competitiveness on a global scale. So while under the Gold Standard, adjustments were simply nation-wide, in the current era labour adjustments are also related to each capital’s profitability.

As such, it is not exchange rates that are systematically adjusting to secure national economic stability in a global context, but labour’s remuneration relative to its productivity. Hence, labour’s role of the national swing mechanism of economic adjustment is not an argument of labour’s immiseration (either at a national or global level) and falling wages. Rather it is that labour has to keep increasing its productivity to secure on-going globally competitive production. Productivity growth relative to the world market can support wage increases, but where labour productivity cannot secure globally competitive production, wages must fall to compensate for less-than-competitive productivity. It is not surprising, therefore, that so many central banks maintain a close watching brief on labour productivity, and use monetary policy in part to regulate it. A more detailed framework for explaining this competitive pressure is presented in Chapter 7.
The search for a fundamental value of global money

One further and critical point is highlighted by the contrast between floating exchange rates and high levels of capital flow under the Gold Standard and today. Under the Gold Standard, exchange rates floated with respect to gold, but gold itself was a stable, universally accepted monetary unit because of its intrinsic value as a precious metal. What is the new money unit, and how is it secured? What has replaced gold as the anchor of the international financial system?

Our answer is that derivatives have replaced gold as the anchor of the financial system. But that is not the conventional answer. The conventional answer is that exchange rates do not need an anchor. To get to the role of derivatives we must first see what happened to the conventional answer.

Friedman’s rational speculation theory

With the decline of the Keynesian welfare state, the new guru was Milton Friedman and his new orthodoxy was dual edged: his monetarist theory and his laissez faire ideology. For Friedman, they were linked via the role each ascribed to the state. His monetarist theory reasserted the nineteenth-century doctrine, which contended that changing the national supply of money does not manage real accumulation; it just impacts on price levels. Keynesian-style fiscal and monetary policies are, he contended, more likely to distort than to promote the rate of accumulation. Hence governments should confine themselves to simply supplying a quantity of money that would grow along with the market-driven growth in ‘real’ economic activity. Friedman’s monetarism was adopted by a generation of policy makers bereft of solutions to the stagflation of the mid-1970s. In the process, there was a return to a fundamental juxtaposition of money and the ‘real’ economy.

---

37 Many would immediately respond at this point that post-war national policy was only loosely related to Keynes’ edicts, so that if Keynesianism was not tested in the post-war period, nor was it defeated. Our use of the term here is, however, less technically precise than the interpretation that evokes such a response.

38 While Friedman broke with the Keynesian notion of an active state role in managing accumulation, the quantity theory remains within an orbit of national policy and nationally centred accumulation, via its central notion of a national quantity of money. It was partly for this reason Hayek (1978) considered that both the Keynesians and Monetarists shared a basic macro approach to money. McKinnon (1981) makes a similar point about the shared macro approach of the
His laissez faire ideology morally privileged the rights of the individual over ‘the tyranny of the state’ and his technical economics sought to show that, within this moral code, markets are better allocators of resources than is the state. This provided a powerful ‘economic’ rationale for eradicating minimum wages and minimising state supports for living standards that were critical to the facilitation of global capital mobility with stable exchange rates.

The laissez faire ideology was also thought to provide the rationale for the determination of all prices, including financial asset prices and exchange rates. This role is critical, for if prices behaved the way Friedman’s model predicted, there would indeed be no need for commodity money: asset prices, including exchange rates would be a direct reflection of real conditions in production (‘fundamental values’, as they were termed\(^\text{39}\)), making any ‘additional’ money commodity superfluous.\(^\text{40}\) In this way, money would be ‘neutralised’ as a source of price instability. Specifically in relation to exchange rates, the view was that flexibility would insulate national economies from foreign disturbances (such as inflation), freeing monetary policy for domestic goals.

Central here was Friedman’s (1953) ‘rational speculation’ hypothesis. This hypothesis contends that markets, including financial markets, free of government intervention will systematically gravitate towards stable equilibria that reflect ‘fundamental values’. In this gravitation of prices towards equilibrium, ‘speculation’ (the activity of rational arbitrageurs) is attributed a central and positive role. The theory argues that if a market price moves away from its ‘fundamental’ value, then

---

\(^\text{39}\) The concept of ‘fundamentals’ in relation to exchange rates was discussed briefly in Chapter 2, in the context of the relationship between derivatives and theories of value. The argument there was that even subjective theories of value (such as used in neoclassical economics) have recourse to basic notion of the ‘appropriate’ value for capital assets, including money. Their notion is that the market, if operating competitively and rationally, will spontaneously gravitate to ‘fundamental value’.

\(^\text{40}\) Friedman had, we noted earlier, supported the development of an alternative (to gold) commodity money rather than state-guaranteed money. As Friedmanism became the new ‘answer’ to domestic monetary policy in the 1970s via the notion of national money supply targeting, this earlier support for a new form of physical commodity money fell from significance.
speculators will act to bring it back. Successful speculators will be those who know the fundamental value and position themselves in the market accordingly: they will sell when the price is above fundamental value, pushing the price down, and buy when it is below, pushing the price up. Speculators who do not know the fundamental value, and ‘bet’ the wrong way will make losses, and, if this continues, will go out of business.

This argument was constructed around rational, maximising individuals participating in markets, which are perfect in every respect except information (speculators gamble on what the value of an asset ‘really’ is). As tends to happen when assumptions of a model are both hypothetical and rigid, there was a tautology that drove the argument: if markets are in balance, they must reflect ‘fundamental’ value because, with rational agents, if they do not reflect fundamental value, they would not be in balance! As a corollary, agents who drew a market away from equilibrium could be simply damned as ‘irrational’, and appropriately punished for their irrationality by making losses.41

Around this simple, technical proposition developed an enormous policy wave advocating financial markets (and especially foreign exchange markets) be left to ‘market forces’ with minimal regulation. Accordingly, global financial markets do not need a formal unit of value: all they needed is relative prices and equilibrating mechanisms.

The problem is that empirical evidence has found no clear relationship between prices and fundamental values in the markets for financial assets. This evidence is critical, for it points inexorably towards the necessity for some ‘real’ anchor to global finance other than the contrived concept of ‘fundamental value’: something that would play a role akin to that of gold 100 years ago. In the failure of asset prices to reflect ‘fundamentals’, the role of derivatives as ‘proxy fundamentals’ became critical.

Evidence of ‘the fundamentals’: asset pricing and exchange rate theories

Theories of asset pricing confront directly the question of whether prices reflect ‘real’, ‘fundamental’ values. In general, asset-pricing theories

41 McKinnon (1981: 555) argues that most critics of the rational speculation hypothesis of exchange rate determination at the time implicitly accepted the premise of the insular national economy, but attacked the notion that all private speculation was naturally stabilising. In monetary policy terms, therefore, both implicitly or explicitly presumed ‘that the demand for each national money is stable and not much influenced by events in the foreign exchange market’.
have been advanced in two broad directions. One approach seeks to determine whether asset prices reflect the capitalised value of future earnings (Gordon 1962; Donaldson and Kamstra 1996; Kamstra 2001). This approach seeks to establish asset prices directly on the basis of ‘fundamental’ values.

The second approach proceeds on the basis of a more indirect or even agnostic approach to valuation. Instead, it considers markets as information processing institutions, and suggests that, in ‘efficient’ markets, prices will reflect all relevant information and quickly adapt to the arrival of new information. The efficient markets hypothesis (EMH), as it is known, suggests that in such efficient markets investors cannot make above average returns in the long run on the basis of any generally available information. The implication then is that if above average profits cannot be made by trading, prices must be close to their fundamental values.

While the EMH is not formally an asset-pricing model, its link to asset pricing is two-fold. First, it is implicit in the model that efficient prices reflect fundamental values42 and, second, when asset prices diverge from fundamentals, it predicts that arbitrage (or what Friedman referred to as rational speculation) would act to pull prices back to fundamentals.

In the 1960s and 1970s, the notion that economic fundamentals drive prices, and that prices in turn reflect all available information seemed increasingly secure as economic doctrine. By the late-1970s a prominent finance theorist was even moved to conclude that no other proposition in economics was supported by such solid empirical evidence as the EMH (Jensen 1978). But this confidence has proven to be quite illusory. Both the Gordon model of fundamental valuation and the notion that markets accurately reflect all available information have been undermined by developments in actual market behaviour over the last 30 years.

Two developments serve to highlight this challenge to fundamental notions of asset prices and any economic notion of efficiency. The first is the growth in the volatility of asset prices (Edey and Hyvbig 1995). More disturbingly still, the pattern of this volatility has been found to be

---
42 The implicit link between efficient prices and fundamentals is sometimes made explicit. Even Fama (1965), for instance, has said that, ‘in an efficient market, at any point in time the actual price of a security will be a good estimate of its intrinsic value’. See however Beechey et al. (2000) for the case that efficient markets and asset pricing are related but distinct concepts.

The second empirical observation is that asset prices may be misaligned for extended periods even in highly liquid markets (Summers 1986; Schleifer and Summers 1990; Haugen 1995), and that speculators may not always be able to act to bring prices towards their ‘fundamentals’ (Pontiff 1997; Schleifer and Vishny 1997).

The evidence that asset prices have been more volatile than could be justified by any fundamentals (Shiller 1991), and that they may diverge from fundamentals for long periods (Summers 1986; Haugen 1995; Schleifer and Summers 1990) has been damaging to the theoretical integrity and coherence of finance theory. And the fact that asset prices have been found to deviate from fundamentals has also been a challenge to which financial theory has devoted much time. The issue remains on-going.

But perhaps more corrosive still has been the evidence that theories of the international determination of currency prices (exchange rates) have also been undermined by the behaviour of foreign exchange markets. In other words, the relative price of the asset money, that is used to measure all other asset prices, has been no more linked to fundamentals than have other asset prices.

Floating exchange rates were expected to encourage real exchange rates to move towards some sustainable fundamental level (Williamson 1983; Obstfeld 1985). But exchange rates have also proven to be quite unstable and appear to move away from anything like fundamental prices for extended periods. Obstfeld and Rogoff (1995: 73) recall the disappointment at the actual experience with floating rates, and its effect on exchange rate economics:

When the postwar system of fixed exchange rates collapsed in the early ‘70s, few imagined just how volatile currency values would be

---

43 Initially, these movements away from expected fundamentals were labelled ‘misalignments’, and were thought to be a product of a transitional or at least temporary nature.

44 Obstfeld (1985) reported that ‘short-term volatility of exchange rates, both in real and in nominal terms, has been one of the most striking features of the float’. He went on to argue that such volatility was to be expected in view of the exchange rate being the relative price of two assets, and with the phenomenal increase in international asset trade, capital account transactions now dominate exchange rate determination. But while there had been an increase in real exchange rate volatility, this volatility was somewhat less pronounced than in other asset markets such as stock markets. Edey and Hyvbig (1995) show that a similar pattern of exchange rate volatility continued into the 1990s.
in the ensuing floating rate era. Fewer still anticipated how difficult it would be to divine any systematic connection between exchange-rate movements and underlying changes in economic fundamentals, even at fairly long horizons.

By the early 1980s, Meese and Rogoff (1983) concluded that, during the floating rate period, no model of exchange rate determination could reliably out-perform a no-change forecast. That is, none of the models had any better predictive power than a random model, and were not even very good at explaining movements after the fact. Beechey et al. (2000: 19) summarise the findings of two decades of foreign exchange rate theory:

Floating exchange rates are quite volatile, with two-year movements of about 10 to 15 percent. Economic fundamentals, however, explain almost none of these movements. ... No-one has yet been able to uncover economic fundamentals that can explain more than a modest fraction of year-to-year changes in exchange rates.

In summary, a problem of profound proportions has emerged: if monetary values do not closely correspond to ‘real’ production values, there are no clear guidelines for the prices at which financial (and non-financial) assets will trade. Neoclassical economists (and post-Keynesians) may construct behavioural stories of ‘irrational agents’ or ‘rational bubbles’45 to explain the non-correspondence and defend the explanatory power of their theories, but they provide little or no guide to actual pricing decisions that are taken in the market place, nor increasingly for the practice of monetary policy.

Accordingly, with no mechanisms to ensure a stable monetary unit on a global scale (stable exchange rates reflecting long-term ‘fundamentals’), it cannot be said that ‘floating exchange rates’ replaced the need for a commodity basis to global money. Indeed, as Eatwell and Taylor (2000: 13) point out in relation to exchange rates, what ‘real’ national aggregates constitute the measure of national ‘fundamentals’ has changed over time. They concluded that what is considered fundamental at any point in time is, in part at least, a matter of fashion.46 Accordingly, the practice

45 See, for example, Meese (1986), Blanchard and Watson (1982) and Flood and Garber (1980).
46 Eatwell and Taylor (2000: 13) give the example of the balance of payments current account, which was once considered a ‘fundamental’ determinant of exchange rates. National currencies were thought to be traded according to the nation’s current account performance. But opinion has changed and today a current account deficit no longer produces the reaction it once did.
of financial markets themselves, where ideological debates about exchange rates, behavioural theories of market participants and the ‘fundamentals’ are of no practical import, the belief that markets gravitate systematically to ‘fundamentals’ is often not apparent.

Nor, as it turns out, is it necessary. The failure of the ideological alternative (that markets would reflect fundamental values if ‘deregulated’ to be free from government intervention) was not itself a crisis for capital. While scholars debated the underlying logic of financial markets, and ruminated on the non-adherence to ‘fundamental value’, the traders themselves kept trading at a rapidly growing rate. There was (and is) nothing unsettling about the contestability of value, except for adherents to mechanistic theories of value. In the market place, capital itself developed means to hedge against monetary instability and provide mechanisms for price certainty in international financial markets: they developed financial derivatives.

Friedman’s theory was right, but for the wrong reason – the market has produced a degree of global monetary cohesion not because ‘deregulated’ exchange rates are stable and move rapidly to reflect ‘fundamentals’, but because the market has found it profitable to produce products to compensate (as it were) for the fact that they don’t always reflect ‘fundamentals’. To repeat a proposition from Chapter 2, derivatives turn the contestability of ‘fundamental value’ into a tradable commodity.

Thus it was, from the mid-1980s, as exchange rate agreements between the leading nations were abandoned, and exchange rates floated without global regulation, that financial derivatives emerged as the market’s alternative to the ideology of the rule of ‘the fundamentals’.

Derivatives anchoring the global financial system

By the 1980s, international capital mobility was accelerating and exchange rates were volatile. One national response, we saw earlier, was in terms of the policy trilemma: to invoke labour as the swing mechanism of national economic adjustment. But the global financial system required not just stable flows of existing forms of money, but a new, more flexible monetary unit. A single monetary unit, be it gold, or the US dollar backed by gold, was not able to meet the multiple and diverse needs of international finance, and floating exchange rates were not (and could not live) up to their theoretical promise as automatic stabilisers.
The central problem of the global financial system is commensuration: how, in the absence of a global value unit such as gold, and stability in relative prices can one form of capital be exchanged for another [all others] at a rate that is predictable and sustainable? How can the market overall create relative prices that are systemically coherent without a single pricing anchor like gold, or a system of international fixed exchange rates like the Bretton Woods system?

The process of commensuration, in which spatial and temporal continuity in the measured value of capital is constructed, is the *raison d’être* for modern financial derivatives. Prices are anchored through the network of financial derivatives. And in so doing they help to provide continuity in the value of capital by trading a diverse range of contracts designed to specify or delimit the rate of conversion of one ‘bit’ of capital value (whether it be money or commodity and whatever its currency denomination and time specification) into another.

But derivatives do not move prices to stable equilibria – they are not an alternative means of establishing the so-called ‘fundamentals’ of global purchasing power parity or interest rate parity. Indeed they are predicated on the notion that there are no ‘fundamentals’ – all asset values have particular temporal and spatial determination, and prices are forever changing, and in unsystematic ways. It is not possible to reduce one locality to another, one time period to another or one form of capital to another; but their values can be, and are, mediated on a daily basis.

Derivatives have also transformed the way that the commensuration process occurs, and they do so in a way appropriate to contemporary international finance. Each derivative product is a package of conversion of one form of capital to another – whether this be a simple commodity futures contract or a complex conversion of a particular currency index to a particular stock market index. When all these products are taken together, they form a complex web of conversions, in which any ‘bit’ of capital, anywhere and with any time profile, can be measured against any other ‘bit’ of capital. They are not therefore a fixed single anchor, but a flexible series of many small ‘floating’ anchors. Critically, they can perform this function because they exist at the intersection

---

47 It is argued elsewhere that globalised accumulation places an almost impossible burden upon a single commodity like gold, which in any case Adam Smith called so much ‘dead capital’. So there is no notion here that financial derivatives are a sort of second best Gold Standard. Indeed, financial derivatives represent a highly developed form of money.
of money and commodities: derivatives themselves are money (they perform a money function in pricing) and commodities (they are traded products) at the same time.

In short, derivatives permit all forms of capital (‘moneys’ and ‘commodities’), at all places and over time, to be commensurated, thereby effectively breaking down the differences between different forms of money (different currencies; different interest rate profiles) and between commodities and money. This new anchor for the global financial system does not rest on intrinsic value (like gold), or on state decree as it did under Bretton Woods. But without the backing of state decree, this new monetary system must be based in a commodity money. There is no logical alternative: money is either state money or commodity money. Derivatives, in their anchoring function for global finance, play the role of a commodity money. While commodity money is usually associated with emphasising the commodity characteristics of money (gold); derivatives also highlight the monetary characteristics of all commodities.48

It is this the capacity of derivatives to readily convert one form of money into another and a wide range of commodities into an even wider range of monetary units that is the contemporary financial function equivalent to that performed by gold under the Gold Standard. In terms of the policy trilemma, derivatives at once deliver a significant degree in stability of exchange rates (in a way that spot markets do not) and large-scale capital flows. Indeed, the two are now inextricably linked in a way they were not under the Gold Standard. The effect is to place pressure on labour as the inevitable swing mechanism of national adjustment.

We have already seen how this is playing out. The process of commensuration of capital on a global scale requires labour in each location to deliver ‘competitive’ rates of wages and productivity to ensure globally competitive rates of return on capital. This – not the value of capital, nor the value of money (both of which are now being resolved and reconciled in global derivative markets) – is the one

48 Hayek, in making the case for private money, or what he termed the ‘de-nationalisation’ of money, made the point that there is no clear distinction between money and non-money, and, noting Machlup’s observation that commodities have different degrees of money-ness, he preferred to say that some commodities or objects had ‘currency’. Hicks also suggested that many commodities could be thought to play partial money functions. This is an issue we develop in the next two chapters.
available swing mechanism of national adjustment. This competitive process will be explored further in Chapter 7.

Conclusion

There are many monetary histories of the last 100 plus years that depict a shift from commodity money of the Gold Standard, through the post-war Bretton Woods Agreement in which the backing of gold was mostly symbolic, to the current system of deregulated global markets and free capital mobility. Our objective here has not been to retell that history in any detail, interesting as it is. It has been to develop the argument that the world has not shifted steadily away from any anchor to the global financial system, as is commonly argued, but has moved towards a new foundation to global money: financial derivatives. This movement has not been a conscious policy of nation states or a global regulatory authority; it has been a movement created within the market; by capital for capital.

The development of a new anchor for global money has emerged as logical necessity. What is popularly called ‘globalisation’ places great demands on the international financial system. In the ‘globalisation’ of the nineteenth century, this demand was met by a truly global monetary unit: gold. Its universal acceptability was based on its value as a precious metal. It was commodity money. But international finance in the ‘globalisation’ of the late twentieth century has no gold backing; it supposedly has no foundation at all. But a system of variable and at times volatile exchange rates cannot provide a global anchor or unit of value. The notion that money’s value is ensured by the state is not sufficient when money must convert between national currencies, states may manipulate exchange rates for domestic policy purposes and, indeed, much trade in financial markets is beyond the jurisdiction of nation-state authorities. So without state guarantees or a single commodity base, the current foundation of the global value of money must be found in mechanisms generated by the global markets themselves.

Derivatives have thereby played a role that is parallel to that played by gold in the nineteenth century. They provide an anchor to the financial system – not a single anchor, but a network of anchors. While the state’s monopoly money was gold (gold is a monetary unit designed by a state,

49 But see, for instance, Cooper (1982), Solomon (1977) and McKinnon (1993).
50 Here we are returning to the narrow requirements of the Gold Standard. The wider political and economic issues were discussed earlier in the chapter.
exercising a money monopoly) the market’s monetary anchor is the system of financial derivatives (derivatives are a monetary unit designed by a multitude of self-interested individuals).

Derivatives are not as neat as gold, and are perhaps vulnerable to speculation in a way that gold was not, but they provide a flexibility to systems of commensuration that gold could never provide. And they provide a means for individual capitals to manage their exposure to financial instability and operate ‘as if’ the global financial system were stable. The current system based on derivatives as the anchor to the financial system therefore provides a flexibility more appropriate to a system of more explicitly globalised capital flows, where individual capitals are also differentially integrated in that circuit across space and time.

But in what sense do derivatives themselves constitute money? We have, to this point, really only asserted their status as a base or anchor for the global monetary and financial system, and the identification of derivatives as themselves money rests on rather different arguments. That is the issue of the next chapter.
6
New, Global, Capitalist Money

Financial derivatives are not usually seen as money. Often, they are not seen at all, but when they are, they are simply classified as financial assets and liabilities, and often as objects of speculation, somehow outside of ‘money’. Presumably this is because money has become synonymous with nation-state money, and derivatives are certainly not that.

Yet nation-state money is surely the problem, albeit an unavoidable one, in globally integrated capital markets. Money circulates globally, but, in the absence of gold or some similar money unit, national currencies are the only extant monetary units of account. In order to circulate on a global scale, money has to keep converting between different national currencies, and facing the risk of unwelcome changes in the rate of conversion. The global money system thereby embodies implicit risks for participants. But these risks, while not entirely avoidable, are manageable. We saw in the previous chapter that derivatives perform this function: they unify the money system and, in the process, they are a form of asset holding and even a means of current and deferred payment. They are, in important respects, money.

Some questions require clarification. What sort of money might derivatives be, and where do derivatives fit into contemporary debates about money?

What is at issue?

Is the characterisation of financial derivatives as money any more than a semantic claim? After all, money is one of those nebulus categories that can be defined almost however we want it to be. Why would we want to fit derivatives into the category of ‘money’?
The proposition developed here is that it is important to see financial derivatives as money for it gives new insight to the logic of money and its role in global accumulation as it is evolving in the twenty-first century. Many of the confusions about global money start to become clear (at least clearer) once we think of derivatives as a new form of money.

Others have already made propositions that point in this sort of direction. At a macro policy level, where there has been a convention of measuring national money supply, the BIS noted in the early 1980s that, in the face of on-going financial innovation, especially financial derivatives, definitions of money based on the degree of money-ness, or as means of payment for transactions, had become ‘virtually insurmountable’ (Akthar 1983; BIS 19841). Pawley (1993) also noted that the distinguishing line between money and other financial instruments was fraught with difficulties, and with the growth of financial derivatives, that line was irretrievably blurred.

At a micro level of the individual firm or corporation, Perold (1995) identified a distinctly money role of derivatives because they are changing the nature of the payments system for firms. The use of swaps in financing or futures in managing future purchases, for example, should be considered in some ways to be ‘virtual’ cash market transactions. Finally, and significantly, Telser (1986: 5) has suggested that ‘… the relation between monetary and real phenomena is isomorphic to the relation between a futures contract and the underlying asset’.2

It is not that derivatives themselves are new; indeed they are almost as old as money itself. But historically, their role has been marginal and isolated to particular products and localities. It is only in the last 20 years that they have developed a comprehensive monetary role, associated with the growth of financial (rather than commodity) derivatives. (Note that in the remainder of this chapter we will use the term ‘derivative’ to refer exclusively to financial derivatives.) As we saw in Chapter 3 in relation to the evolution of derivatives and Chapter 5 in relation to the global financial system, it is only in this recent time that there has

---

1 For the BIS there were two specific problems of the time. One was defining and measuring national money supply in the context of financial innovation and internationalisation. The other was measuring means of payment where measures of derivative transactions on currencies exist alongside cash market transactions.

2 Telser develops the correspondence between, say, borrowing and lending, and short-and-long hedging. He also argues that futures contracts correspond to bank notes as a sort of private money.
been the combination of both a regulatory environment that has facilitated the operation of global financial markets and a vacuum in the provision of a recognised, stable international trading and investment monetary unit.³

So there are two basic points at issue in constituting derivatives as money. First, derivatives are a new sort of money, directly appropriate to the specific conditions of capital accumulation in the current period. With derivatives, money itself comes to be the embodiment of capitalist competition because derivatives embody, in their composition, the competitive computation of relative values, including conversions across discrete, extant forms of money. So rather than being a passive instrument of competitive processes constituted outside the domain of money, derivatives as money internalise the competitive process. That gives a new, more dynamic (and ruthless) edge to capitalist competition. Derivatives are, in this sense, distinctly capitalist money, rather than just money within capitalism.

Second, derivatives constitute a private basis to money, and so challenge the long-held presumption that the integrity of money is based in the authority of nation states. For money to play the role described above, and cross different money forms (including currencies), it has had to come out from under the sanctity of nation states. Derivatives have not replaced national money; nor are derivatives devoid of a national dimension (they are, after all, denominated in national monetary units), but they have effectively transcended the national basis of contemporary money.

For established monetary theory, this casts a profound analytical problem. By convention, a money system can have two possible foundations that ensure its acceptability in the functions of means of exchange, store of value, etc. Either it must have some intrinsic value, which makes people happy to hold money in its own right, or it is token money, which must be backed by some recognised authority which guarantees the convertibility of monetary tokens into real assets. Invariably, this authority is understood as the nation state. Hence these alternative foundations can be understood as the difference between commodity money and state money.

³ This stability does not come, as under the Gold Standard or the Bretton Woods fixed exchange rate system, via state guarantee. Indeed, derivatives are premised on the fact that macro price stability cannot exist in a globalised system of accumulation, when the relationship between different forms of capital is itself the most important requirement of commensuration.
So are derivatives-as-money to be seen as state money beyond the state, or commodity money independent of the state, or as something new: non-state, non-commodity money? The difficulty here is that money has multiple characteristics, and so appears compatible with diverse theories. Advocates of a state theory of money can point to the fact that all derivatives are denominated in particular national currencies (they are not issued in IBM dollars or a unit of currency invented by Chase Manhattan Bank, but US dollars and Japanese Yen). These advocates would contend that a derivative contract is trusted because there is trust in the states of the nominated currencies that appear in the contract.

A commodity money advocate could contend that it is not the nationality of the currency that provides backing to derivative contract: the derivative itself must be seen as a produced commodity, such as gold was a produced commodity money. Or they may argue that the backing of derivatives lies in the commercial integrity of the parties to the contract. It is belief that IBM and Chase Manhattan Bank are trustworthy counterparties (because of their asset backing) that gives agents trust in the purchase of IBM- or Chase-linked derivatives. And perhaps here we could ask whether this latter response constitutes a commodity basis to derivatives as money, or some new basis that can be thought of in terms of an emerging corporate money. Each of these interpretations could be forcefully argued.

We are reluctant to court this corporate money alternative. There are libertarian economists – as we shall see shortly – who have advocated the private issue of money, but it is entirely premature to couch derivatives in these terms. The nation state remains too central to money systems to suggest that their role as the guarantors of money tokens is being challenged by corporations.

Nor, we assert, is it satisfactory to pose financial derivatives simply as state money, for it strips the concept of state money of meaning. It suggests that any liquid asset denominated in a national currency rests on the guarantees of the state of that national currency, even if the state itself has no knowledge of, or regulatory capacity in relation to, that asset. Moreover, this interpretation seems at odds with the wider concern expressed by advocates of state money that assets such as derivatives have reached beyond the regulatory capacity of nation states. Indeed, for many, money’s separation from state regulatory capacity and its global reach is the central characteristic of ‘neoliberalism’, and must be politically opposed (e.g. Duminil and Levy 2004). To call derivatives a form of state money in this context is reductionist and
probably wishful thinking on the part of those who seek to keep the
nation state at the centre of global finance.

Accordingly, with other possible explanations rejected, we look to
financial derivatives as a form of commodity money. While derivatives
may not be commodities in the usual sense of the term, they are a type
of commodity (a meta-commodity if you will) that is produced to serve
explicitly monetary functions. In this chapter, we show how derivatives
provide this commodity basis to the international money system.

At this point, however, this is but an asserted argument. In building
towards this proposition it is important to pass through some of the
central current debates about money and especially state money, before
building the conception of derivatives as global commodity money. Our
focus here is not the neoclassicals, where the concept of money fails to
generate significant debate, but the post-Keynesians and Marxists,
where that debate is active. In particular, there are two (often related)
conventions that must be challenged: the conception of money as a
social relation, as the foundation of a theory of money in capitalism,
and the pre-eminence of nation-state money. We will explore these in
turn, before building an alternative explanation of derivative, commodity
money.

**Money as a social relation**

There is not much common ground across the social sciences in the
analysis of money. Perhaps the most general and important shared
observation (with the notable exception of neoclassical economists) is
the notion that money is a social relation (e.g., Simmel 1907; Schumpeter

Money plays the role of a social nexus between strangers, but it also
epitomises alienated social relations – the relations between people
appearing as the relations between things. Here the emphasis is on two
issues: the social power that money brings, and the trust that lies
implicit within complex and temporally and spatially extended financial
relations. Both of these have been addressed extensively.

**Money as social power**

Money as social power emphasises that those who hold money
command resources. In its basic form, this is a power over distribution:
the familiar argument that people with a lot of money get more than
their share of resources. For Marxists, there is a particular focus on com-
mand over one particular resource: labour power. From this follows the
proposition that command over labour power gives command over surplus value production, command over accumulation, and hence command over the reproduction of social power.

It is an important story, but it must be recalled that it is, in the first instance, a distributional story, in which the resource ‘labour’ is just a theoretical special case that invokes the sphere of production. And even within this special case, social power over labour is just as much a story of feudalism and of slavery as it is of capitalism: it does not explain a distinctly capitalist form of money. This is not a framing of money that will reveal the role of derivatives.

**Money as trust**

The second dimension of the social relations of money is trust. Trust, it is said, is what makes money social. The issue of trust in relation to money is generally applied to both the domain of immediate exchange (that the physical money unit is convertible into ‘real’ goods and services) and the domain of credit (that the institutional money system will convert book entries into physical money).

For the neoclassical economists, issues of trust in exchange are defined individually, but for virtually all other parts of the social sciences, the issue of trust and money is defined at a collective level. Following principally the seminal work of Georg Simmel, author of *The Philosophy of Money* (1907), the issue of trust is associated with the general, unifying, standardising dimensions of money. Exchange creates, in Simmel’s terms, ‘an inner bond between men – a society, in place of a mere collection of individuals’ (1907: 175). For Simmel the principal relations of trust are associated with the credit system. Credit is not a distinctly capitalist relation, but it is clearly pervasive within capitalist accumulation.

But the limitation of ‘trust’ as the basis for a social theory of modern, capitalist money is that ‘trust’ is not distinctly centred on money (all arms-length transactions, and, in effect, all phases of accumulation, are contingent upon trust), and the trust dimension of money is not distinctly capitalist: relations of trust are implicit in exchange in mercantile and even feudal societies. While the expansion of the capitalist credit

---


5 This latter domain should certainly be qualified: it is not just credit, but all non-cash forms of money that require trust. We are posing financial derivatives as a form of money, and these, like credit, require trust for their widespread acceptance. The point here is to challenge the association of trust exclusively with theories of credit money.
system no doubt made the relation of trust more complex and institutionalised, it did not create money as a distinctly capitalist social relation.

Moreover (and an issue on which we will expand shortly) relations of trust tend to be defined intra-nationally, and this is of limited value in exploring the social relations of globally circulating money. Since the end of the Gold Standard, money has always been denominated in national units, and the nation has generally been the territorial space within which collective trust in a money unit has been understood as implicit. In the current global economy, money continues to be a social relation (and express social power) but this social relation extends beyond the trust implicit in national territory, law and state.

Social relations beyond the nation

So what is the social relation embodied in money beyond the perceived national limits of trust and community?

Perhaps it is about those essentially territorial notions of trust stretched to an extra-territorial level. In particular, it could be about global trust in the integrity of the US dollar, as the world’s major vehicle currency. But that would be to shut down the question, by invoking categories of a nation-centred analysis that are themselves under challenge by the global integration of financial markets. Money is not just inter-national (in the sense of national money systems that articulate with each other) and the integrity of a global money system cannot be reduced to the sum of national cultures of trust. When it crosses national borders, no nation state can guarantee its value. Global money has to rest on more than trust.

The argument we will develop later in this chapter is that derivatives bridge these different and variable national moneys and so add continuity to the global financial system. Where there cannot be trust that a dollar is a dollar is a dollar (because a dollar is not always 0.x of a pound or 1.x of a Euro), derivatives offer a form of conversion insurance. Importantly, this insurance is provided by the impersonal market, not by the state or nationalist cultural ties. So the association of trust with the state does not work for derivatives. They are forms of money designed precisely to transcend national territory and national state regulation (and hence nationally conceived trust) as a precondition for an effective global monetary system.

In this global context, we need to think about the role of money as more than means of exchange, or even credit. We need to think of the diverse roles money plays in international finance and investment and
what they all have in common as an expression of social relations. That is, we need to constitute money as ‘capital’. Here, issues of social power and trust are insufficient in constituting the global basis of money as capital.

Geoffrey Ingham (esp. 2004), a leading sociologist of money, refers to this role as ‘socially constructed abstract value’ (2002: 127). It is an appropriate depiction, for the requirement of money in accumulation, as distinct from simply exchange, is that it is flexible – it can be stored, used in accounts and in exchange, and it can be systematically directed to a range of different investment opportunities. It must display generic (or abstract) qualities and capacities.

But what is the substance of this ‘abstract value’; what makes it worthy of trust? For Ingham the explanation reverts to the nation state as the guarantor of money. By invoking the state as the bestower of value, Ingham, and other state money theorists have, however, made a critical leap in their argument. There is no necessary reason that it must be the state that bestows value to money and, as a historical proposition, it occludes the possibility that some other basis to value may be emerging. To explore this issue, we stay briefly with Ingham’s notion of ‘socially-constructed abstract value’. Ingham continues:

In this conception [of socially-constructed abstract value], money, regardless of its specific form or substance, is always a ‘token’ claim on goods. (emphasis in original)

The problem here is that Ingham is conflating two meanings of the term ‘token’. One equates ‘token’ with abstraction – that abstract money, stripped of its specific forms, must be a token because, by definition, it has no materiality. In this sense, Marx’s abstract labour could be thought of as ‘token’ labour for the same reason. But the second concept of ‘token’ is specific to money. It contends that, to perform the role of money capital, and the diverse forms that this role implies, the money substance can have no necessary intrinsic value; no commodity basis. It is, in all of its specific forms, a ‘mere’ token, that is given social meaning only by state guarantee.

The two concepts of ‘token’ must be seen as quite different. We can accept the first, philosophical meaning – indeed, it is only via abstract money that all particular moneys can operate in a complementary way as ‘money’ (Fine and Lapavitsas 2000). But we do not accept the second,

---

6 This concept is familiar to Marxism, but used by Ingham more broadly. Indeed, Ingham (2001) is rather critical of Marxist theories of money.
empirical meaning, which suggests that all specific, concrete moneys are ‘mere’ tokens, of no intrinsic value.

Empirically, though not in abstraction, the specific form of money does matter, because different money forms do money’s work in different ways: different forms of money transmit social relations in different ways (just as different forms of labour express different social relations). In particular, what makes derivatives distinctive as a form of money-as-social relation is that they are, by their nature, the embodiment of competitive calculation: they are money that reflects the capacity of corporations for global calculation of the value of all their discrete assets and liabilities.

So in our conception of money as a social relation we can, indeed, recognise the role of trust (though noting trust in economic activity is not unique to the money dimension). We can also recognise the need for a money abstraction – something that all different forms of money have in common. But when these two are reconciled and brought to life by invoking the centrality of the nation state (there is collective trust in state-issued money, and state-issued money is mere token money), it is critical to challenge the implicit nationalism. This framing systematically precludes engagement with conceptions of money that are beyond the nation state, both geographically and administratively – except, that is, by framing this money as being hostile to national policy and untrustworthy.

But this problem is not just with social relation theories of money. It is also apparent with formal economics, especially Keynesian and post Keynesian theories of money, as we shall see. To conceive of derivatives as distinctly capitalist money, we must directly confront the analytical basis of state theories of money.

Money and the nation state: unstated Keynesian presumptions

The connection of money to the state is sometimes posed as explicit and conscious, but it often just appears within implicit nationalist assumptions about money. Once these assumptions have been taken on, analysis leads inexorably to state money, but without the assumptions themselves being scrutinised. We need to observe these assumptions in action to see how an engagement with derivatives as global money is so widely eschewed.

Any standard economics textbook will tell essentially the same simplified story of money as having three essential elements:

- First, money’s ‘invention’ was based upon the impracticalities of direct barter in complex processes of exchange. The selected money
must have the characteristics of portability, divisibility, homogeneity and indestructibility;

• Second, money must perform 3 functions: a medium of exchange, a store of value, and a unit of account (sometimes expanded to five, to include means of payment and standard of deferred payment), and
• Third, money can be defined differently according to degrees of liquidity (convertibility into cash).

To make matters confusing, each of the three elements can build quite different and potentially inconsistent explanations of money. When we consider the role of the state in each of these three elements of the money story, a number of points of contestation emerge. For the first element, does the state determine, secure and enforce the selection of the special ‘item’ to be money? For the second, does the state seek to enforce a monopoly over these functions as a means to manage the national economy? For the third, do less liquid forms of money undermine the state’s capacity to determine the quantity and quality of money in circulation? There are no straightforward answers to these questions, for they form the core of a range of on-going debates within monetary theory. But within these debates we find a widespread presumption that money is national, in particular, because it emanates from the nation state. We will identify briefly the foundations of contemporary Keynesian theory in national money and state money before opening up the global dimension.

National money

The one-money-one-nation principle goes back at least to the formation of sovereign nation states and the Peace of Westphalia of 1648 (Cohen 1998 ch.1). In its modern form, national money is associated, at least in the first instance, with Keynesian economics. Money in this Keynesian sense is national not (just) because it emanates from the nation state, but because it is nationally circulating money used for nation-building economic programmes.

Critical here is the capacity to separate the nation from international capital as the precondition for national economic management. Keynes stated adamantly that:

Economic internationalism, embracing the free movement of capital and of loanable funds as well as of traded goods may condemn this

7 Helleiner (2003) rightly warns that the territorial attachment of money has always been challenged. Reference to Westphalian money as uniquely national is an idealised image.
country for a generation to come to a much lower degree of material prosperity than could be attained under a different system. (1936: 349)

Key to a nation-centred economic prosperity was control over the national money supply so that the state could set a domestic rate of interest that meets the needs of national investment, not the needs of international currency stability:

In my view the whole management of the domestic economy depends on being free to have the appropriate rate of interest without reference to the rate prevailing elsewhere in the world. Capital control is a corollary to this. (1943: 149)

In the absence of capital controls, money cannot be presumed to be either inherently national or a product of the state.

Hence the analytical framework of Keynesian money as nation state money has meaning only so long as there actually exist the institutional processes that create and sustain distinctly national money: policies that effectively secure capital controls that isolate the national money system from other, globally circulating money. We saw in Chapter 5 that such controls, including those authored in part by Keynes himself (the Bretton Woods Agreement), operated for less than three decades after the Second World War, and from the moment of their implementation they were far from absolute.

Historically, therefore, Keynesian national money was, from its inception, undermining its own conceptual foundations. Yet many contemporary analyses, which take Keynes’ propositions as their point of departure, readily conflate their aspirations of discrete national money with current reality. They theorise accumulation as if money were territorially defined and constrained (or that the absence of tight territorial boundaries is an aberration to be rectified by national policy). They are theorising how they would like money to be, not how it is. The overall effect is either the neglect of globally circulating finance and

8 Friedman’s monetarism utilised this same Keynesian conception of national money as subject to direct regulation by the state. His critique of Keynesianism was not its theory of money per se, but how money was used for policy purposes. Yet, at the same time, Friedman opposed capital controls and supported the free global mobility of money – which undermined any notion of ‘national’ money. Little surprise that his money supply targeting strategy, where central banks targeted various measure of money, supply of M1 or M3 did not work, for in the absence of capital controls (e.g. M1 and M3), ceased to be nation-specific.
the role of nationally designated currency circulating offshore, or the treatment of such money as exogenous, both theoretically and empirically, and in need of containment by state (or perhaps global) regulations.

Formal, broadly Keynesian, debates such as between post-Keynesians and the money circuit approach remain centred, to this day, on the ontological primacy of the national economy – for many, on the extreme case of a closed economy. The shared position of the post-Keynesians, whether they link money to uncertainty (Davidson 1972) or institutional expansion of credit (Minsky 1982) or the business cycle (Robinson 1956) or bank lending (Moore 1988), is that money is nation-ally endogenous (brought forth as credit by the demands of national accumulation). Similarly, the money circuit approach, which poses money as debt (as the product of bank balance sheets) focuses exclusively on national banking systems.9

The problem implicit in the assumed ontological primacy of the national economic unit is that state money, defined as means of exchange, guarantees equivalence only within a national territory. The nation state cannot guarantee equivalence in inter-territorial exchanges, especially those that occur over time. States may try to stabilise national exchange rates and prime interest rates and maintain low inflation. They may also enforce the laws of contract in all exchanges. But they cannot guarantee equivalence in inter-territorial, inter-temporal transactions in the way they can with domestic, spot transactions. Kindleberger (1989: 57) put it succinctly:

To make a system with two or more monies work well, the relations between, or among, the monies must be fixed. ... But fixed relations among several monies are difficult – some say impossible to sustain.

Accordingly, outside the Keynesian focus on nation-specific exchange, supported inter-nationally by fixed exchange rates, money cannot be nation-specific. Inter-territorial and inter-temporal exchange, and especially those that relate to the store of value and unit of account, can have significant degrees of autonomy from the nation state’s monetary security.10

9 For a summary of the money circuit approach, see Parguez and Seccareccia (2000). For an excellent collection of contributions to the debates within Post-Keynesianism and between Post-Keynesians and the money circuit approach, see Rochon and Rossi (2003).

10 In optimum currency area theory, both Meade and more especially Mundell noted that there is no a priori reason for identifying the nation state with the
Recognising a role of global finance as ‘money’ requires moving beyond these Keynesian precepts of national money.

**State money**

Monetary nationalism is reinforced by (and no doubt leads to) the apparently automatic attachment of money to the state: that the nation state both supplies and dictates what constitutes ‘money’ within the nation.\(^{11}\) Certainly, within a Keynesian framework, national money and state money are one and the same thing. But just as Keynesian national money rests on the presumption of national capital controls, so state money seems to emanate from the presumption that the state will actively manage the supply of money. The policy gives rise to the analytical category. Accordingly, there is a widespread tendency to define money in terms of the state’s management function.

A central proposition from Knapp (1924) and adopted by Keynes is that the state’s capacity to decree what can legitimately be used for the purposes of paying taxes determines what constitutes ‘money’, for without acceptability by the state, other ‘moneys’ will not survive.\(^{12}\) Convertibility into state-approved money to meet taxation obligations is everything. Accordingly, such chartalist money, as it came to be termed, needs no commodity backing – acceptance by the state is its own legitimacy. Money could thereby be simply state-decreed tokens of value: the term chartalist itself deriving from the Latin word meaning ‘ticket’ or ‘token’ (Knapp: 1924: 32).

As chartalism has developed, its adherents have come to see state money not as a form of legitimate money, but the exclusive form of legitimate money – a position fundamental to Keynes (1930: 3–5) and Minsky (1986: 231) and to those who follow from them. Bell (2001: 161), in summarising this post-Keynesian, chartalist view concludes:

> Only the state, through its power to make and enforce tax laws, can make promises that its constituents must accept if they are to avoid penalties. The general acceptability of both state and bank money derives from their usefulness in settling tax and other liabilities to the optimum currency area: more relevant are shared economic processes. But a criterion for a currency area is also that it can be subject to a single monetary policy.

\(^{11}\) Notice also that the notion of the state’s ‘constituents’ begs entirely the question of who makes up its constituents when capital is internationally mobile.

\(^{12}\) For the Keynesians who focus on state money, it is necessary to distinguish which particular tokens constitute ‘money’ and which do not. In a closed
state. This ... enables them to circulate widely as means of payment and media of exchange. The debts ['money'] of households and businesses are accepted because of their convertibility (at least potentially) into relatively more acceptable promises. These debts are not accepted at state payment offices and, thus, are not likely to become widely accepted means of payment.

Yet this definition of money in terms of the state requires a rather limited perspective on the textbook notions of money identified earlier. The exclusivity of state money requires privileging the role of money as national (not international), and as means of exchange (not store of value, etc.). Moreover, there is a slide of some proportions when specific acceptability in the payment of state taxes is equated with general acceptability in the payment of a debt. It requires that we define liquidity by reference to state payment offices (notes and coins, cheques), not to convertibility in money markets.

The payment of taxes does indeed require money in exactly these dimensions Bell identified. So if the payment of taxation is the litmus test of ‘money’, then the other roles and spaces of money and other forms of liquidity (such as provided in derivative markets) are automatically

economy, this reduces to the specification of where to draw a line between money and other tokens, such as train tickets, which are also denominated in national money of account. But the question also needs to be posed in an open economy, where the tokens that contend to be considered as money are not just train tickets, but liquid financial assets (bonds, futures contracts, etc.) and often denominated in another national money of account. In a global financial context, money itself is not inherently either state-based or national.

Ingham (2002: 128) contends that historical evidence supports Knapp’s state theory focus on taxation as the basis for the creation of monetary spaces. But there is a neglect here of the role of money across monetary spaces. Gold as money was historically not contingent upon its role in national taxation and, we argue, the same applies in the current era. The point is that monetary ‘space’ is being redefined, such that different sorts of money circulate in different spaces.

Dodd (1994: 29–30) points out, in relation to Max Weber’s analysis of money and the state, a distinction between money’s formal validity as a means of payment and its substantive validity as means of exchange. This latter function is associated with the state because ‘financial transactions of the state and of the state treasuries in their monetary transactions is of crucial significance for the money system’. Dodd notes that, while the formal and substantive roles of money are assimilated so long as the state dominates the payment system, which it does by raising taxes, the logical possibility of private money is not precluded. Our proposition is that, in global financial markets, states do not dominate the payment system, and what Dodd calls private money is becoming a reality.
deemed ‘not-money’. Yet in globally integrated finance such absolute criteria do not apply. Means of exchange is a rather minor role for money – indeed, as many critics of the global financial system point out, the monetary requirement of international exchange (the funding of trade) makes up around half of 1 per cent of annual global financial market turnover. The issue of conversion for national tax purposes is hardly the determining moment in these enormous flows. The requirement to pay taxation in a certain monetary unit only ensures that this money unit remains active: it does not ensure that it is the dominant form of money.

The rationale for privileging state money looks rather weak in this globalised world. At least we need to open up the possibility that the nation state may not secure directly the functions of money as a unit of account (except in relation to the state itself) nor the function of a store of value, especially when these functions must cross national currencies for periods of time and hence at variable currency exchange and interest rates. Indeed, these are precisely the money functions that are being taken on by financial derivatives: they are a market-driven determination of the unit(s) of account and market-driven determination of the units in which value is stored.

Further, the very concept of ‘liquidity’, conventionally defined by reference to cash as ‘liquid’ money and other assets defined as less liquid according to their ease of convertibility into cash, locks in a limited and increasingly anachronistic notion of money convertibility. Derivatives are designed precisely to generate convertibility between a vast range of assets without the need to ‘pass through’ cash. Wheat in the future can be converted into bonds in yen today or in three months, or into any other monetary form at an instantly available rate of conversion formed in derivative markets.

‘Liquidity’ is what derivative markets are all about. They break down the traditionally conceived liquidity difference between forms of money, financial assets of various sorts and between those assets and traded commodities. Derivatives show the need to move away from a conception of ‘degrees of moneyness’ or a ‘hierarchy of money’ (with

---

15 From within a post-Keynesian approach, Sawyer (2003: 8–12) makes a similar point: that different moneys play different roles, and that the financial assets that define money as a means of payment can be different from the financial assets that define money as a store of value.

16 Some post-Keynesians and, indeed, Marxists (e.g. Bell 2001; Foley 1987: 249–50) invoke a ‘hierarchy of money’ within a nation in reference to degrees of liquidity (or different forms of indebtedness/asset holding). Cash, issued by the
state-provided cash at the apex as ‘real’ money and others as less-moneyed, measured by their distance from cash). All moneys have become readily convertible into each other, and large trade in secondary markets ensures that these conversions are instant and at globally consistent rates.

So the issue we wish to explore is the money functions that exist beyond the nation state, where nation state tokens are not inherently trusted as units of value. It is useful, therefore, to look briefly to the other extreme: theories of stateless money. Our analysis is not advocating the reality or desirability of stateless money, but this does provide an important antidote to the Keynesian presumptions.

Money beyond the false juxtaposition between markets and state

The integrity of money is secured either by the state, or by the inherent characteristics of the particular money items. The latter implies commodity money. Yet it is apparent that those who have opposed the role of the state in determining and supplying money have generally focused not materially, on the particular characteristics of commodity money, but ideologically, on the capacity of the market to provide its own money. Hayek (1978), following Menger (1892)\(^\text{17}\) argued that the market, not the state, selects the money commodity. He challenged the direct association of the state with the integrity of money. (It will be recalled from Chapter 5 that Hayek had supported a commodity-based global money after the end of the Gold Standard, in opposition to Keynes’ advocacy of nation-state money under the Bretton Woods Agreement.)

\(^{17}\) Menger (1892), one of the founders of marginalism, saw money as a commodity selected by the market; not nominated by the state. It is the marketable characteristics of the commodity money (that everyone is willing to hold it) that sets it apart from other possible moneys: a process of ‘natural’ selection by market processes. Menger contended that it was these sorts of qualities, not state decree, that saw precious metals be nominated as money.

Such anthropologies are, no doubt, partial and extremely limited and selective histories of the evolution of money. There is an almost direct parallel here with those histories that, with equal certainty as Menger, assign the selection of money to the state (e.g. Wray 2000). The point is that there is not, nor need there be, a single history of monetary-based exchange – this is a case of economists contriving simple histories to enhance their theoretical predispositions.
True to his libertarian vision, Hayek opposed the role of central banks as lenders of last resort. He thought the moral hazard problem associated with this function would be unavoidable. He also opposed any capacity for states to create money which could be utilised for government’s spending in pursuit of partisan political agendas.\(^{18}\) Indeed his view was that there need be no connection between state and money. Hayek’s preference was that banks privately issue their own currencies, and that these currencies not be nation-specific. There would be global competition in the provision of money, with profitability the incentive for each issuing bank to sustain confidence in its currency.

There is something trivially anti-statist in the libertarian political premises of Menger and Hayek. For Menger’s analysis there is need to recognise that the state must always sanction certain moneys as part of enforcing the law of contract. For Hayek’s proposal, state corruption in monetary regulation may be averted, but he substitutes impossibly high expectations on individuals to monitor the prudential adequacy of their chosen money supplier.

Nonetheless, these opponents of state money do signal a challenge to the terms of current analysis that seems to be predicated on state money: that market processes can themselves ‘select’ what will play the role of money in certain circumstances.

In contrast to the libertarians, it is not difficult to concur that chartalist, token money does indeed exist, but Bell’s summary cited above shows the slide into the proposition that state token money is the only credible money. Two important questions arise which are central to the libertarian agenda, but avoided by the nation-centred chartalists:

1. Is state money the only form of money that can be widely accepted?
2. Is token money the only form of money in existence?

Menger et al. clearly challenge the first. Commodity money challenges the second. We will address each question in turn as a means to summarise our evaluation of Keynesian money.

Money, virtually however defined, and certainly defined to include derivatives, is always denominated in national currencies (Japanese yen; British pounds, etc.). This gives the appearance that all money is state money. Indeed, all money has some links to the state – via reliance on

\(^{18}\) In Chapter 5 it was noted that Hayek had supported a commodity-based global money after the end of the Gold Standard, rather than see the pre-eminence of nation-state money under the Bretton Woods Agreement.
stable national currencies, and on the enforcement of the law of contract. But most of it is not state money as it is conventionally defined.

It was Keynes (1930: 3) who drew the important distinction between ‘the money of account’ and ‘money’, in which the former is the description – the unit in which money is denominated (e.g. the dollar or the pound) – and the latter is the thing which answers to the description. Money of account is therefore conventionally in state-designated units, but money itself is something different: it may be state money or it may be commodity money. Money could be, as Hayek argues, a product of markets, and market money and state money could exist side-by-side, both designated in the same moneys of account. Kindleberger (1984: 38), from quite a different position, put the implication succinctly:

As a unit of account, money is a creature of the state; as a medium of exchange, despite the legal tender question, it is what markets use.

The identification of financial derivatives as state money is simply confusing money of account with money itself.

The other question, whether token money is the only form of money, can be opened up in a similar way. Clearly there is token money, and chartalist national money is indeed token money, not commodity money. But it is a moot point as to whether this is the only sort of money circulating globally. Outside the nation-centred theories of accumulation that define the post-Keynesian discourse, there is nothing precluding the re-establishment of a commodity basis to globally circulating finance. Indeed, our argument, opened up in the previous chapter, is that where the popular credibility of money does not rest on state guarantees, it must have some other material basis: it must in some sense be commodity money.

But this does not ‘prove’ the existence of non-token, commodity money: it just contends that if money is defined exclusively by reference to the state, then the proposition that all money is token money ultimately rests on a tautology. Alternatively, we are looking to re-open the possibility that global finance is dominated by commodity money ... if only we know how to recognise it! We know emphatically that this commodity money would have none of the characteristics of metallist or bullionist commodity money, for history showed that these are not appropriate to advanced capitalism. Maybe the money commodity need not be a physical commodity at all!
Derivatives as commodity money

Derivatives, we argue, have the attributes of a commodity money, and hence a commodity foundation to global finance.

So in what sense are derivatives ‘commodities’? Clearly, if derivatives are commodities, they are a different sort of commodity from those we conventionally think about. They are commodities in the sense that insurance can be a commodity, or information can be a commodity: they are a production process within a circulation process.

Financial derivatives are produced (as contracts) and offered on the market as products of the labour of financial institutions and operatives that stitch up the deals. That they may be re-traded at variable prices and for speculative purposes is a secondary matter and true of most commodities anyway. Indeed, the fact that OTC derivatives (an agreement between two pre-determined parties usually made over the telephone and not mediated through an official exchange) now far exceed the number and value of (arms-length) exchange-traded derivative contracts is some testimony to this primary function.19

In clarifying this perspective, two propositions warrant explanation. First, the proposition is not that the full value of a derivative contract is the product of the labour of financial intermediation, any more than transport produces the full value of a relocated commodity. Derivatives are commodities whose primary function is the commensuration of other commodities.20 Accordingly, the value created in derivatives can be specified in a number of ways: it could be posed by individual capitals as ‘security’ (the adjustment of risk), but more generally, we frame the value created by derivatives in terms of the active computation and commensuration of the value of other commodities.

We have earlier argued in relation to futures contracts that one effect of derivatives is to reconfigure commodities as (also) money to emphasise their money-ness. The argument here is simply the converse, that financial assets are also commodities. Combined, the effect is to merge the categories of commodity and money – in short, to make apparent that all commodities are forms of capital. Herein lies the importance of derivatives as commodified finance, providing a system of universal

---

19 See Chapter 3 for an explanation of exchange-traded compared with OTC derivatives.
20 There are, however, exceptions. For example, some derivatives, especially stock options, are being used as a means of payment for senior executive salaries.
equivalence, but not, as with gold, a commodity contingent upon the limited universality of one particular commodity.

Second, the commodity value of a derivative is to be defined in terms of what a derivative does, not what it represents. What it represents is merely a book value of an asset; what it does is provide ‘designer’ mechanisms of risk conversion, for which the trader is prepared to pay. Take, for example, a $100 fixed interest debt that is entered into an interest rate swap. The swaps ‘represents’ a value of $100, but the intrinsic value of the interest rate swap is what that swap ‘does’: it gives the holder of a $100 fixed rate debt token the capacity to have interest paid, in terms of a variable rate of interest, in yen or Euros, rather than at a fixed rate in dollars. That ownership is fundamentally different from holding a $100 token from the US Federal Reserve.

There is, perhaps, a temptation in the context of commodity derivatives to pose the value of a derivative in terms of the value of the ‘underlying’ commodity (e.g. that the value of a wheat futures contract is somehow linked to the value of a tonne of wheat). But this does not capture the value of a derivative itself as a commodity. The commodity basis of derivative money is not in the reduction of money to some other commodities, but the commodified role of commensuration that derivatives perform.

Given the above, and following Kay (1999: 272–6), we find it useful to draw a distinction between basic, or simple, commodities (wheat, iron, cars, etc.) and meta-commodities. The former, being historically prior and the products of labour, are ‘productive’ and correspond with our standard conception of a commodity. Meta-commodities come historically later, with the initial purpose of hedging the conditions of production and circulation of simple commodities. They absorb value discontinuities across time and space. As these meta-commodities have grown in importance, particularly since the 1980s, they have come to provide commensuration across time and space between diverse simple commodities as well as between different forms of money and finance.

So the essential characteristic of derivatives as commodities is that they are products of circulation, not significantly of labour, and accordingly their value is defined in exchange and not in consumption. These meta-commodities are therefore always ‘capital’, for they never ‘leave’ a circuit of capital so as to be consumed. In that sense, they are more intensively capitalist commodities than simple commodities, for the latter are merely produced within capitalist relations, while meta-commodities are products of capitalist relations.

A way in which derivatives may be posed as commodity money within Marxian value theory is posed in Appendix 6.1.
Conclusion

We concluded Chapter 5 with the proposition that derivatives are now anchoring the global money system in a way that bears some key parallels with the role played by gold in the nineteenth century. This opened up the question of derivatives as a new global money and whether, as money, derivatives must be seen as a new form of commodity money. We can now pose these issues in summary.

In what sense are derivatives ‘money’? The simple answer is that in the world of global finance they are used as money, and have the characteristics of money – albeit not money as means of exchange. Something that functions as money is money.

In what sense are they commodity money? There are two answers. First, they logically need to be. They are not state money, and are only minimally guaranteed by states (via their utilisation of nation states’ units of account, state stabilisation of exchange rates and enforcement of the law of contract). Yet they are used extensively in global money functions. They therefore must have a material basis to sustain their use as money.

Secondly, unlike many other forms of money which are simply titles to ownership, financial derivatives actually do something: they are computations, not merely statements of equivalence, and they are valued because of their in-built computations. In this sense, they are products (commodities) as well as money.

If derivatives are, for better or worse, market-created money without formal nation-state guarantees, what anchors secure the stability of this new money system? Derivatives show that there are commodified links that bind the financial system. Derivatives are themselves commodities to be bought and sold, and they are distinctively capitalist commodities that arise and terminate exclusively within the sphere of circulation.

It follows that financial derivatives are now a pivotal aspect of competition between capitals. The centrality of money capital to the whole accumulation process sees derivatives disciplining the terms on which (and the locations in which) money capital is transformed into productive capital and the terms on which the output of production is transformed back to money capital. The competitive discipline in the sphere of money capital asserts direct pressures on capital in production, and thereby in the labour process, because all capital, everywhere, needs to be (and is being) actively compared for its on-going profitability. This competitive commensuration is what makes derivatives distinctly capitalist money, and it is the issue we address in Chapter 7.
Appendix 6.1: a Marxian interpretation of financial derivatives as commodity money

Marxian value theory can address money from two principal directions:

1. Money as the equivalent form of value
2. Money as a form of capital in the circuit of capital

From the first comes the notion of money as a commodity – that in an equivalent exchange of value from commodities to money to commodities (C-M-C), money is of the same value (measured in embodied labour time) as the commodities being exchanged.

From the second comes the notion of money as a part of total capital, providing the capacity to purchase means of production and commodity outputs, and acquiring profit in the form of interest. Here also is the notion of the difference between production capital and circulation capital. Circulation involves both finance and buying and selling as opposed to the production of goods and services, with the critical analytical distinction being that surplus value is created only in the sphere of production.

From this second direction comes the category of ‘finance capital’ – a term which seems to have loosened its meaning from the time of its creation by Rudolf Hilferding (1910) at the beginning of the twentieth century to now loosely refer to the co-operative connections between finance and industry.

From this second direction also comes the distinction between productive and unproductive labour, directly linked to, but not reducible to, the distinction between production and circulation. It is this path into the question of money that is clearly dominant in contemporary Marxist analyses of finance. Essentially, the interpretation starts with the proposition that the finance industry is ‘unproductive’ (of surplus value). It may be a necessary component of accumulation, in the sense that there can’t be accumulation without money capital advanced, but it creates no new value. Accordingly, it is an argument that lies behind much Marxist opposition to the expansion of finance from the 1980s – that its scale is out of proportion to its necessary role of facilitating production (e.g. Dumenil and Levy 2004).

It is not the object of this appendix to enter the minefield of the ‘unproductive labour debate’, except to make a single comment. The interpretation of Marxian theory through the productive/unproductive distinction proves stifling of an understanding of changes that occur within finance. If the premise of analysis is to identify finance as unproductive (but necessary) and the object of analysis is the question of whether finance has increased its share of surplus value at the expense of the share of productive capital, the subject of finance itself becomes highly simplified. All that is required in the productive/unproductive divide is that money exists as credit (i.e. accrues a rate of interest) and that the question to ask of money is whether it is or is not being directed to the funding of production. Developments within finance, such as the enormous growth of financial derivatives, fail to receive direct analytical attention. This depiction of finance as ‘unproductive’ readily slides into more pejorative labels such as ‘speculative’.

Our own object, however, is precisely to understand the role played by derivatives in capital accumulation. Our path into this issue is not advanced by an entry
through the productive/unproductive debate, but via Marx’s own analysis of the contradictions that lie within a distinctly commodity money.

This is certainly not a fashionable path. Marx’s own writing on commodity money, and the role of a distinct commodity (or set of commodities) in assuming the role of ‘money’, is generally dismissed as anachronistic and trapped in the nineteenth-century practices of the Gold Standard. The Gold Standard, with its implicitly fixed exchange rates that came from all trade being transacted in the same money commodity, meant that Marx never had to pose the currently pressing question of variable exchange rates.

Here we develop an alternative explanation of money in the era of globally integrated financial markets, where currencies circulate freely outside the nation of their designated account and comprise money issued both by states and by private organisations such as in the form of bonds and other debt instruments. Our argument, contrary to the dominant view, is that Marxian analysis is not impeded by a reliance on a commodity theory of money. On the contrary, it was Marx’s particular designated commodity money, restricting the money commodity to gold, which obstructs a more creative understanding of the nature of capitalist money in the twenty-first century. Derivatives, as traded commodities, hold the foundations of a more general theory of capitalist money as commodity money.21

Marx’s commodity money: a brief background

Marx addressed money in two broad contexts: money and alienation (money as fetishised social relations), and money and accumulation. We will have reason to combine these two dimensions, but it is appropriate to start with the latter. In this context, Marx introduced money in a not dissimilar way to the economic orthodoxy. In the exchange of commodities of equal value (defined in terms of socially necessary labour time) a particular commodity that plays the role of the universally equivalent form of value emerges. It is designated as money. Money is thereby defined by reference to its role as means of exchange, and inherently as commodity money – the money unit embodies the same amount of socially necessary labour time in its production as do the two commodities whose exchange it facilitates. Historically, it was precious metals that performed the money function. As commodity money (the representation of social labour) this money is always the bearer of social relations.

Money entered Marx’s theory of capitalist accumulation as a single commodity: gold. In capitalism, the commodity gold is produced under the same competitive processes as are all other commodities: the logic of profitability. The value of money is therefore always bound up in a tension between the socially necessary labour time involved in the production of gold and the general level of

---

21 We are drawn to Fleetwood’s (2000) explanation of the necessity of commodity money to the integrity of Marx’s theory of value, but not to his (tentative) conclusions that the abandonment of commodity money means the end of a universal equivalent form of value. Nor is there the question of why nation states have abandoned the universal equivalent and the value form. This appears a rather instrumentalist approach to value theory, and, more critically, fails to open up the terms on which Marxism can understand new forms of money.
prices associated with the ratio of commodity gold to all other commodities.\(^{22}\) That tension is difficult for value theory to absorb, and Marx spent considerable time in the *Grundrisse* and in Volume III of *Capital* trying to resolve an effective technical formulation. No one claims that he succeeded, and the global scale proved the most difficult part.

With gold as international currency (the spatially universal equivalent), but produced under specific, nationally delineated costs of production, there was always a tension between value determination on a national and a global scale, and an ambiguity as to how cross-national transfers of gold ‘equilibrate’ the value system. There was no basis on which the value of gold as produced commodity and the value represented by gold as the equivalent form of value would be systematically commensurable. Indeed, the problem is not specific to gold; it applies to all commodities and hence doubly to gold.

The fact that gold was produced under capitalist relations of production therefore appeared as a source of Marx’s problem. Conversely, with derivatives it is precisely their distinctly capitalist conditions of production that permit them to operate as money.

But Marx was not a bullionist: the pre-eminent status of gold was based, he contended, in superstition, and he considered that economists’ obsession with gold as the natural form of money as little more than ‘educated superstition’. His concern was more with the determination of equivalence between different commodities in an M-C-M (money-commodity-money) or C-M-C (commodity-money-commodity) exchange, and in this regard gold was an inferior representation of the equivalent form of value. In the context of money as capital – money capital – he largely took for granted the equivalence of money to other forms of capital.

### The problem posed

The problem is that the nation state is not a satisfactory way to explain the basis of global money, yet there appears no commodity unit that forms an alternative basis. If we start with a national notion of money, the state’s role in the provision and guarantee of symbolic money immediately intercedes, and analysis is swept away from (re)conceptions of commodity money, but without ever really exploring the contemporary relevance of a commodity basis to international money. Conversely, if the money commodity is an ‘ordinary’ commodity required to ‘double up’ as money, we cannot reconcile its own cost of production with its role in establishing equivalence in exchange between other commodities.

Marx’s instincts about money were probably more astute than his analysis. His instinct was that money had to have commodity characteristics, but it had also to be abstracted from the characteristics of a particular commodity. The problem of gold was that it is, indeed, but a particular commodity among many; albeit one that could, for a long time, ‘double up’ as the special money commodity. Moreover, gold was never distinctly capitalist money – it is pre-capitalist, even ancient money cast (literally) into a capitalist role. And for the most part under capitalism, it has laid idle in bank vaults while paper tokens represented it in virtually all money functions. There is nothing more absurd in a capitalist context than having

---

\(^{22}\) See Foley (1998) for an interesting analysis that includes consideration of changes in the socially necessary costs of production of gold.
abstract labour lying idle so that its form (gold) can symbolically play the role of the equivalent form of value. Distinctly capitalist commodity money would be a living part of accumulation, not a congealed, dormant, labour numeraire!

How is this problem to be framed within Marxist theory? As well as money being a produced commodity like other commodities, it has to be a commodity that can guarantee value, but without reliance on the imprimatur of the state. This money commodity has to resolve temporal and spatial variability in value: it has to, in itself, resolve the problem of conventional state money, that a process of exchange of equivalent values is always expressed at a given time and in a given monetary unit.

For conventional state money, this means that there are volatile exchange rates and a range of interest rate regimes for each currency: the equivalence of exchange cannot be verified. There is, in Marxist terms, a spatial and temporal problem in the commensuration of value: there is a discontinuity in the measured value of capital in different forms and at different locations, and this discontinuity needs to be reconciled.23

The new commodity money has to have the capacity to absorb that discontinuity into itself as (one of) its defining characteristics, so that money can, indeed, secure equivalence (commensurate value) across time and space.

This process of commensuration is what Marx attached to the function of money: money is the means by which ‘[different] commodities become magnitudes of the same kind, of the same unit, i.e. commensurable’ (Marx 1939: 143). But how different moneys are commensurated within a theory of value, and what it means to commensurate packages of financial assets whose underlying value is not itself being exchanged were questions not posed by Marx, nor since Marx. It is this issue that brings financial derivatives to the centre of a Marxist theory of capitalist money.

**Marx’s theory of money: its link to financial derivatives**

The investigation of the rudiments of a theory of money consistent with financial derivatives must look beyond the form of gold. It is to Marx’s earlier writings, particularly on alienation, that we look for conceptual propositions about the nature of money and finance.24 For example, reviewing James Mill’s *Elements of Political Economy*, Marx (1844) emphasised the importance of contingency in relation to ‘laws’ about money and the essential role of money as a mediating process. Here Marx goes on to explain the basic characteristics of capitalist money, and it warrants citing at some length:

> The essence of money is not, in the first place, the property alienated in it, but that the mediating or movement ... is estranged from man and becomes the attribute of money. ...

> The personal mode of existence of money as money – and not only as the inner, implicit, hidden social relationship or class relationship between

---

23 The concept of discontinuities is explored in detail in Chapter 7.

24 Marx’s writing at this time, being strongly influenced by Feuerbach, is drawing on parallels between money and religion and both as alienated forms of social relations.
commodities – this mode of existence corresponds the more to the essence of money, the more abstract it is, the less it has a natural relationship to the other commodities, the more it appears as the product and yet as the non-product of man, the less primitive its sphere of existence, the more it is created by man or, in economic terms, the greater the inverse relationship of its value as money to the exchange value or money value of the material in which it exists.

Hence paper money and the whole number of paper representatives of money (such as bills of exchange, mandates, promissory notes, etc.) are the more perfect mode of existence of money as money and a necessary factor in the progressive development of the money system. In the credit system, of which banking is the perfect expression, it appears as if the power of the alien, material force were broken, the relationship of self-estrangement abolished and man had once more human relations to man.

The important point Marx was contending above is that the more money is ‘lifted above’ direct commodity relations by ‘losing’ the characteristics of other commodities, the more ‘perfect its mode of existence’ because the social relations of capital, expressed in commodity production, are not being contaminated by the particularities of the chosen money commodity. Gold is, in this regard, an extremely primitive form of capitalist money: indeed, we know it historically as pre-capitalist money. Financial derivatives, on the other hand, as advances beyond promissory notes and bills of exchange – contracts that are man-made and having no ‘natural relationship’ to the products from which they derive, appear as a highly advanced form of money.

 Nonetheless, the requirement for a global monetary system is precisely as Marx conceived of it in the abstract – a role for commodities that are both part of other commodities, but also discrete commodities in themselves. But gold is a single (or at best dual) dimensional commodity. There are too many types of discontinuities in the global financial system to be reconciled by a single commodity in the role of money. The multiple forms of risk-exposure, reflecting the range of possible inter-temporal, inter-spatial, inter-financial-instrument price relativities requires intermediation in a form that is itself flexible and able to reflect the range of possibilities in these relativities. Gold does not meet this requirement, especially in an era when money capital increasingly takes the form of different types of credit money and other financial assets. Derivatives, on the other hand are commodities produced and traded for precisely this purpose.

Derivatives: commodities commensurating monetary discontinuities

We have seen that, in terms of Marx’s benchmark of the ‘progressive development of the money system’, derivatives meet the requirement of a more ‘perfect mode

---

25 Notice also that Marx could contemplate an association of ‘perfect money’ with something as basic as the credit system and paper representations of money. That now seems a rather low bar for depicting perfection.

26 The duality relates to Marx’s emphasis that gold never traded at its costs of production.
of existence’ by being abstracted from ‘a natural relationship’ with other commodities. But are derivatives themselves commodities, and how can Marx’s conception of money reconcile the need for commodity money, yet for commodity money to appear as ‘not the product of man’?

Marx’s conception of commodity money was both advanced and constrained by the Gold Standard within which it was conceived. It was advanced by recognition that money must have a commodity basis if it is to be an integral component of capital accumulation and not just a numeraire.

But Marx’s conception was also constrained by the then widely held belief that one commodity, gold, could act as a universal equivalent form of value and furthermore, that the robustness of its status resided in its defined and finite quantity. In Marx’s time, the expectation was that one particular commodity (gold) could traverse and reconcile all the discontinuities within the money system.

Derivatives, however, confront that image. Any single unit of measure such as gold can represent only a balance of multiple processes of commensuration, and thereby actually reconcile perhaps none at all. Derivatives, on the other hand, are literally thousands of types of commodities whose specific characteristics are designed to secure commensurability between different forms of capital and their spatial and temporal characteristics. If money is defined by its role in the process of commensuration (or, as Marx also put, it in the ‘mediating’ process), there is no logical preclusion that a range of ‘commodities’ could not fulfil the function of the equivalent form of value when there are clearly articulated mechanisms of commensuration between the various monetary commodities.
7 Global Competition

It is now commonplace to identify ‘globalisation’ with a growth of competition. International trade generates spatially extensive competition between buyers and sellers. International investment sees corporations shifting to more profitable localities. There is competition between localities to attract investment, and competitive pressure on ‘local’ producers to be cost-competitive. This global mobility of investment and goods then has implications for labour. Some contend a productivity race, creating development and higher wages. Others see a race to the bottom, as low wage countries set the benchmarks to which wages in richer countries must gravitate. Clearly, competition is the central driving force of the global economy, for both capital and labour.

In these various connections between globalisation and competition, finance itself is not generally seen as a driving force. It is the passive conduit. This chapter builds the connection between finance and competition, showing that finance, in the form of derivatives, intensifies the process of capitalist competition. It argues that financial derivatives, through their roles in commensurating capital across the globe, impose a direct competitive pressure on capital to perform at globally recognised rates of return, or be devalued. Accordingly, we argue, the pressure is placed on labour to ensure that capital does indeed achieve this acceptable rate of return. Where capital is not achieving this rate of return, pressure reverts to the sphere of production, and particularly labour to deliver higher profitability, be it by higher productivity, longer working days or lower wages. Through competition we identify a direct causal connection between finance and labour.

This argument must, however, cut a path through a rather extensive literature on competition and on ‘capital’. Once these concepts are
defined in ways that are mutually clarifying, the role of derivatives in the intensification of competition becomes apparent.

**Competition: a contested concept**

Competition can be described simply as being what capital does. It does not follow rules, or adhere to market structures depicted in textbooks. It is the strategic process by which capital pursues profit. The connection to financial derivatives is that derivatives escalate the nature of competition, and hence intensify what capital does. To explain this process, it is important to clarify this concept of competition in such a way that makes it easy to use when it comes to explaining derivatives.

In its neoclassical version, competition is idealised, and given moral status through a hypothetical model of ‘perfect competition’ – a contrived set of behavioural and institutional assumptions sufficient to ensure that market processes are seen to meet their goals: optimisation for every market participant, efficiency in the overall allocation of resources, and maximisation of social welfare – the best of all possible worlds. But outside that hypothetical world, the nature of competition is quite a different matter.

From the 1920s, neoclassical views were transformed by internal critics: monopoly and oligopoly started to be theorised in the name of realism, but nonetheless retaining a rigid set of behavioural and institutional assumptions which ensured that monopoly and oligopoly could be theorised on the same analytical terms as perfect competition. Monopoly and oligopoly, were, thereby, to be defined by their inefficiency; their deviation from perfect competition. So while there was a shift to realism about market structure (recognition that some market participants do, indeed, have power), the a priori formalism (that market power can be understood through a simple variation of the assumptions of perfect competition) remained intact.

It was not until the development of game theory, at the margins of economics from the 1950s and at the centre from the 1990s, that competition could be understood as a dynamic, interactive process where apriori assumptions did not specify market outcomes and where it was formally recognised that firms have to take their rivals’ actions into account. Yet here, everything is contingent and a focus on individual strategy replaces any notion of structural determination.

Despite debates that have emerged in the evolution of this theory, all variants of neoclassical theory share a framework based on the moral superiority of individual rights over collective endeavours. This is, after
all, the defining characteristic of a neoclassical discourse, so the above statement is virtually a tautology.

There is always a proclivity to slide into the hegemonic neoclassical discourse of competition. It is as if the neoclassicals define competition, and other economic and social theories explain why that conception is hypothetical, not ‘realistic’, not ethical, etc, but, in the process, the neoclassicals set the definitional benchmark. The consequence is that those of us who are not neoclassical economists can find ourselves contending that the economy is not ‘competitive’ when we are really just attesting that the world doesn’t work according to neoclassical precepts. Yet any notion that the economy is not competitive is absurd – competition is inherent to a capitalist economy, albeit not neoclassical ‘perfect competition’.

But this neoclassical discourse is not the only way of characterising competition. Several alternatives warrant noting. For the radicals, \(^1\) competition has been a fairly straightforward inversion of the neoclassicals’ conception, framed in the harsh realities of imperfect markets. Drawing on Marx’s proposition about the concentration and centralisation of capital, many radicals have emphasised the power of monopolies and oligopolies, including international corporations. In the first instance, this emphasis simply invokes the neoclassical model of monopoly; only asserting it as the market norm rather than, as the neoclassicals claim, an exception. But for both radicals and neoclassicals alike, monopoly is a distortion. For the neoclassicals, the distortion takes the form of inefficiency in resource allocation; for the radicals, the distortion takes the form of inequality in market power and hence market outcomes. This radical alternative often thereby falls into the absurdity of claiming that capitalist markets do not engage in competitive activity, because they are dominated by powerful monopolies! The inversion of the neoclassical position embodies its own entrapment into the notion that competition and monopolies (or large corporations in general) are antithetical.

A clear alternative, that we would now identify with a post-Keynesian and social democratic position, emphasises the need for state involvement in market relations. Within the formalism of the neoclassical framework, they highlight technical cases of failures in market signals (externalities and public goods) that require the state as an active enforcer of property rights. Of itself, this remains consistent with a neoclassical discourse (Coase 1960) but in historical application, the post-Keynesians pose that

\(^1\) We use the term ‘radical’ here to depict analytical positions adopted in the name of immediate resistance to capital on the grounds of moral or ethical judgements.
markets may fail to equilibrate, or may equilibrate at points that do not meet broader social needs. For Keynes in the 1930s, this un-met need was full employment, and the role he attributed to the state was directly associated with addressing the volatility that generates unemployment and the hardship endured by those in unemployment. Today, those needs could also be posed in terms of the environment or global inequality. But whatever the social objective which the market cannot meet, it is the state which must step in to regulate and over-rule markets. Clearly, this subordinates (to some degree) markets to social policy agendas, but it preserves at its core the notion of competition as a relation between optimising individuals interacting in the market. It just contends that this competitive process is insufficient on its own.

The analysis developed below sees competition outside the discourse of individualism and efficiency on the one hand and the role of the state in over-riding markets or correcting market failures on the other. It centres on the way in which capitals seek to cut costs and increase revenues faster than can other capitals, to gain a (often temporary) profit advantage. This emphasis on ‘capital’ leads the analysis of competition in very different directions from those identified above. Unfortunately, however, the meaning of this proposition is open to wide interpretation.

**Capital with many meanings**

What makes the depiction of this alternative conception of competition difficult is that this concept of ‘capital’ gets defined so many different ways. Worse, many of these ways lead to useful analysis, so it is not a matter of giving a ‘correct’ definition of capital and labelling all others as ‘incorrect’. Indeed, given that the term ‘capitalism’ is so comprehensively accepted as the umbrella depiction of the last 200 years of social and economic history, it is hardly surprising that the root term ‘capital’ can mean all things to all people. These multiple concepts of capital have given rise to periods of intense debate about the meaning of capital.

We can identify four senses in which the term capital applies within the context of competition: two reflect static conceptions that are components of the competitive process (the objects of competition);
two depict the dynamic nature of the competitive process (the subjects of competition). It is useful to first identify them:

K1  Capital as a stock of means of production, as in ‘capital equipment’.
K2  Capital as a stock of wealth, as in ‘the investment of capital’.
K3  Capital as an ‘individual capital’ in reference to a single process of production and exchange.
K4  Capital as ‘social capital’ – a social relation, in reference to the capitalist system of property ownership and surplus appropriation.

Our proposition is that these four definitions can be combined in a general understanding that changes significantly with recognition of the role of derivatives. We will first identify the common interpretation before adding derivatives.

K4 defines capitalist competition as a class-based process: it is the assumed starting point or context of competition (i.e. we are dealing with competition under capitalist social relations) and it is reproduced by competition (i.e. the competitive processes involving all K3s serve to reproduce capitalist social relations).

K3 defines the units of accumulation controlled by the individual capitalist (notionally firms or corporations), which compete with each other. This is usually thought of as the ‘real’ site of active competition: firms competing in the market.

K1 defines the capitalist’s productive inputs into K3. In the absence of K4, these are merely pieces of machinery etc. It is K4, expressed through the activity of K3 that realises these pieces of machinery as ‘capital’.

K2 defines the fund of money advanced for the operation of K3. In the absence of K4, this is just a fund of money. It is K4, expressed through the activity of K3 that realises this fund of money as ‘capital’ or ‘money capital’.

Within this depiction, K1 and K2 (productive inputs and funds) are social because of K4, but they are nonetheless passive inputs into K3. They are used in competition by K3 and/or they are a produced output of K3. They are what competition seeks to manipulate or act on, but they are not intrinsically competitive items. They are ‘bits’ of capital. For K1 these ‘bits’ are blast furnaces, computers, coffee bushes etc. For K2

---

4 Marx (1849: 159), in a famous reference, made a similar point: ‘A cotton-spinning jenny is a machine for spinning cotton. It becomes capital only in certain relations. Torn from these relationships it is no more capital than gold in itself is money or sugar is the price of sugar.’
these ‘bits’ are dollars and pounds in cash or other claims like credit. Indeed, from the perspective of K4, K1 and K2 are really the same thing – one in the physical form, the other in the money form. But, and this is critical, they are not themselves an active part of the competitive process. They are the objects of competition; not its subjects.

The role of financial derivatives can now be specified. Derivatives have served to bring K1 and K2 directly into the dimension of competition, discrete from their role in K3. K1 and K2 cease to be passive ‘bits’ of capital whose use is defined by their input into an accumulation process – these ‘bits’ are themselves now being constituted competitively and at the centre of the accumulation processes. K1 and K2 are being transformed from being objects to subjects of competitive practice. The effect, we will show, has profound effects for the way we understand K3 and, by implication, K4.

In developing this proposition, it is necessary to further elaborate K3, the individual capital, before we start to consider how it is being reconfigured by the role of derivatives in transforming K1 and K2.

Individual capital is something akin to a firm, or corporation, though it is actually not necessarily the legal entity called the corporation: it is rather a unit of accumulation. The difference between an individual capital and an individual corporation or firm is that a corporation (as an institutional unit of ownership) may undertake a number of discrete production processes (or investments), while an ‘individual capital’ identifies each of these processes discretely (though recognising their interconnections). A large corporation, producing many items at many sites, could be thought of as multiple ‘individual capitals’, though the boundaries between these individual capitals may not always be clear. The concept of ‘individual capital’ emphasises that it is not legal entities, but the processes of accumulation that engage in competition.\(^5\)

A seminal essay by James Clifton (1977) made stark the difference between an individual capital and a firm or corporation in relation to competition. Clifton pointed out that capitalist competition is not for market share or sales, it is competition for profit, and profit is earned on investment. Hence the key strategic decision of the capitalist is what to invest in and the defining characteristic of capitalist competition is the mobility of investment – mobility over space and between different commercial/financial/industrial activities.

\(^5\) It was seen in Chapter 4 that it is important not to define the process of accumulation simply with reference to legal entities.
Competition means that where the rate of profit is low, investment withdraws; where it is high, new investment enters. (There are, of course, issues of barriers to mobility and entry, but we can leave these aside for the moment.) Clifton then makes a key point. It is large corporations, with diverse investment activities, that have come to show the greatest mobility. Those who administer these corporations face choices as to which of their diverse operations to expand, which to contract, which new areas to enter and which to withdraw from. They will attempt to choose systematically to expand profitable activities and contract unprofitable ones.

Competition (in terms of the mobility of investment) is, therefore, something that occurs within corporations, between its various investment options as well as between them. It is competition between what we have called individual capitals. Small firms (the neoclassical ideal type), on the other hand, have no such choice – their administrators can know and act on only a few kinds and sites of investment. Their investment decisions are, therefore, not directly based on their capacity for mobility. Accordingly, while neoclassicals (and radicals) think of large corporations as the antithesis of competitiveness, and small firms the ideal image, Clifton argues, if anything, exactly the opposite.

The point for our analysis is that it is investments, or units of accumulation, or, as we have called them, individual capitals, that are the key to competition; not corporations or other legally defined entities. This framework is important for our analysis, for derivatives serve the role of facilitating the monitoring of asset values in any location, any sector, at any point of time. They are therefore critical to the practice of competition between individual capitals. But we will develop this argument more systematically shortly.

**Competition and the circuit of capital**

At this point there may not appear a direct connection between the ideas of competition and capital and the mechanics of derivative markets. But the gap can be closed readily via one brief elaboration of the theory of the individual capital.

Think of a circuit of individual capital, as set out by Marx in Volume II of *Capital*. It is a circuit that, albeit stripped of its Marxist meanings, is often seen in economic geography texts. The circuit:

\[ M \rightarrow C \rightarrow P \rightarrow C' \rightarrow M' \]

describes the process by which capital (a store of value) in the form of money (M) is converted into commodity inputs (C) (labour and capital)
which are combined in a process of production (P) to produce commodity outputs of expanded value (C'), which are then sold and thereby converted back to money of expanded value (M'). What makes this a circuit is that the M' at the end of the circuit is now available to acquire commodity inputs and undertake a new act of production. The operative word here is ‘available’, for it may be so directed, and the expanded value of M may see the next ‘round’ of the circuit on an expanded scale. Conversely, M could be directed in all or in part to other uses.

Notice the blending of the four concepts of Capital in this circuit. There is the circuit of individual capital (K3) as a discrete process of accumulation. There is capital as a store of value in the form of money (K2) and commodity inputs (K1). Giving context, it is all part of social capital (K4) – the conflicts between labour and capital in production, and (though it isn’t explicit above) between various claimants on the surplus being created in production.

The circuit is a visual characterisation of accumulation as a process of (expanded) reproduction. It could easily be read as a mechanical statement of perpetual growth. Yet the ‘dashes’ that link the circuit are each points of negotiated settlement – there is nothing pre-determined about any of the rates of conversion around the circuit. Each point of negotiated settlement in the conversion of capital from M to C and C' to M' is determining the distribution of surplus between the constituent components of the circuit – money lenders, suppliers of commodity inputs (including suppliers of labour), industrialists and merchants. Who gets what is expressed by terms of exchange within the circuit: by competition.

When thought of in more institutional terms, there are at least three contiguous processes of competition depicted in the circuit:

1. There is competition between labour and capital over the conditions of employment and work, manifesting in the rate at which inputs are converted to outputs, depicted in C-P-C'.

2. There is competition in each of the transactions within the circuit. There is competition between capitals (financial and industrial) over the direction and terms of the advance of M for the purchase of C (and hence where and in what proportion surplus in M’ at the ‘end’ of the circuit accrues and who it accrues to). There is also competition between commerce and industry over the price at which C’ is sold wholesale (and hence what proportion of surplus value in C’ accrues to commerce).

3. There is competition for market share between circuits that use the same inputs (C) or produce the same outputs (C’).
Within these processes, (3) is the focus of the neoclassicals and post-Keynesians. For Marxian competition, (3) is both a form of competition in itself and adds intensity to the competition in (2) and (1), for it constrains the size of the surplus to be fought over. Process 2 shows that all capitals compete with each other for a share of surplus: competition is not just, as in (3), in output markets. Process 1 emphasises the size of the surplus, and hence what is left for the industrial capitalist after (2), and process 3 depends on the capacity to extract surplus from labour in production.

This depiction is useful as far as it goes, but it obscures the intensified dimensions of competition that come with financial derivatives. The institutional framework sees competition as a temporal sequence of completed transactions: M-C is resolved via the determination of a loan agreement for the purchase of inputs; then C-P-C’ is resolved via a labour contract and other production agreements; then C’-M’ is resolved via a selling agreement between producer and purchasers.

The underlying problem that we seek to address here, ironically, is that a perfect competition assumption has crept into the circuit, unannounced, via this ‘sequence-of-transactions’ conception that is part of the institutionalist interpretation. There is the presumption that as capital moves around the circuit, the value of capital is maintained – that the value of capital in the money form (M) is equal to the value of capital in the commodity form (C).6

But this circuit is not a series of discrete, sequential, arms-length resolutions except in a narrowly legal sense. From the perspective of accumulation and the overall process of competition, these ‘resolutions’ keep getting re-calculated.7 Rather than thinking of the process of re-calculation as a retrospective validation (or not) of an initial valuation (for example that the value of output is validated (or amended) when it eventually sells in the market), derivatives make the process of validation and amendment simultaneous: the value of output to be sold in the future can be validated now via a futures contract. The value of M (e.g. a stock of Canadian dollars) gets re-valued over time, and especially across

---

6 Of course, surplus created in production expands the value of capital, but the point here relates to the process of circulation and the exchange of equivalents.

7 In the context of circuits of capital, Marx (1885: 133) emphasises that money capital, commodity capital and productive capital are not independent varieties of capital and distinct branches of business, but ‘simply particular functional forms of industrial capital, which takes on all three forms in turn’. 
space as this M gets converted to other currencies in foreign exchange and interest rate futures markets. The value of C (a tonne of wheat) is in a continuous process of calculation as the wheat futures market keeps amending wheat prices. Hence, the terms of movement from M-C etc. are constantly being recalibrated. Indeed, by this on-going recalculation, derivatives make C and M themselves competitively determined.

A problem of continuity in the circuit: what about time and space?

We can look at the problem of not following this proposed path. C and M in the circuit (K1 and K2 as we have termed them) have different values in different times. A stock of money increases at the rate of interest. Capital equipment will not only deteriorate over time, but its replacement cost will change with innovation in its method of production and its site of production. Innovation in production technology also means that commodities produced at different times embody different internationally competitive production costs. The same concern applies to space. Space is not uniform, and the commensuration of capital in different sites and forms is a moot point. Does a machine in Paris have the same value as that machine in Hanoi, where notions of necessary production costs are different from those in Paris? In the context of globalisation there is the additional question of how we know that the value of capital is preserved in an M-C-M transaction when the two ‘Ms’ may be different currencies.

The problem, stated simply, is that there is no unique ‘M’ and no unique ‘C’ in the circuit: the value of M and C is always contingent, and always in need of mediation, or as we have called it commensuration. This is where derivatives come in, so the point warrants clarification.

Explaining K1 commodity capital

Conventionally, we explain the values of different commodities only in the present, at a particular site. The explanation is in terms of internationally competitive, or market-determined ‘necessary’ production costs. But how do we deal with space and time? Transportation across space is productive (but only if it is deemed necessary by competitive norms), so that commodities have different values in different locations. How we compare those different values – at what spatial point – is a difficulty. For example, if the well-head value of (identical) oil in Indonesia and Kuwait were the same, the transportation of Kuwaiti oil to Indonesia would not see the value of the Kuwaiti oil higher than the value of the Indonesian oil because the transportation did not constitute
socially necessary labour. On the other hand, if there were a shortage of oil in Indonesia, and oil had to be shipped in from Kuwait to Indonesia, the value of the *Indonesian*-produced oil would have to be recalculated to include the costs of shipping Kuwaiti oil to Indonesia, for the latter process is part of competitive production costs in the provision of oil in Indonesia. Hence the problem: in which location is the value of commodity oil being measured?

Transportation over time poses an identical problem. Storage constitutes necessary production costs. But it does so only when the stored commodity meets the norms of necessary production costs in the future. In our oil case, technological change in exploration and drilling may (and indeed has) reduced the necessary production costs required for the production of a barrel of oil. Oil stored from the past, being identical to oil produced in the present, has a value only equal to the necessary production costs required to produce oil in the present, even if that barrel was produced in an era of higher necessary production costs. But if we do not know the value of oil in the future, what is the value now of oil being stored for the future? Hence the problem: what is the time at which the value of commodity oil is being measured?

**Explaining K2 money capital**

If exchange rates do not adhere to the law of one price (purchasing power parity) and if financial assets generally cannot be explained by reference to ‘fundamental market values’ – and they emphatically do not – there is a discontinuity in the value of ‘M’. We have to ask what does our concept of capital make of M having a different value (in terms of commodity equivalence) in different currencies? When different currencies have different interest rates, the future value of M has a double discontinuity. There is, essentially, the same space and time problem as there is for ‘C’ (K1), but with extra layers. Indeed, the fact that the dominant form of swaps contract is not between commodities and money but between different forms of financial assets, is some signal that reconciling different forms of financial asset is more complex than reconciling the value of different physical assets.

In summary, these discontinuities between different sorts of money and different sorts of commodities at different localities and in different times are an irresolvable problem for a concept of capital at least as it is generally understood, yet they are resolved explicitly in practice by derivatives contracts. The huge growth in financial derivative products over the past decade is a reflection of just how many bridges there are to cross in mediating the complex representations of value on a global
scale. The simple point to be made is that derivatives provide a means for the value of Ms and Cs (or K1s and K2s) to be compared wherever they are in the circuit, wherever they are in space and wherever they are in time. This is the process by which our abstracted assumption of the equivalence of value around the circuit is empirically verified.8

Consider the standard interest rate swap, which involves a contract between two or more parties where they agree to exchange (or swap) future interest rate payment commitments on debt contracts. These swaps are often linked to different exchange rates as well, so that if the difference between the reference short- and long-interest rates change, or if exchange rates change, the parties to the swap will have to make payments to the swap counterparty. The net effect of the swap contract is to set the overall cash flow obligations of the debt obligation for the life of the contract. This is important to economic calculation because it allows for a finer calibration of investment and financing decisions by individual capitals, and by extension greater scrutiny over K1 and K2 forms of competition.

Rethinking competition

The abstract version of K3, which assumed an equivalence of value as capital moved round the circuit, can now be thought of as an empirical reality but not, as in the abstracted version, because of the assumption of a spaceless globe and uniform time. Rather, it is an empirical reality because there are systematic mechanisms, in the forms of derivatives contracts, to bridge discontinuities in space and time.

This process leads us to reconsider the process of competition. Derivatives permit any form of capital at any place and time to be compared in value with any other form of capital at any place and at any time. They help to show ‘at a glance’ when any form of capital in any place at any time is over- or under-valued.

Returning to our four conceptions of capital, we see that their relation as depicted earlier is transformed by the operation of derivative markets. K1 (commodity capital) and K2 (money capital) cease to be just ‘bits’ of capital that are utilised in a competitive process (K3). K1 and K2 are now themselves integral parts of a competitive process in an on-going way. It is important to be clear here. In the conventional version of the circuit, K1 and K2 were always acquired via a market transaction – itself a

8 Perhaps a less assertive term than equivalence is thus needed, and a better notion would be continuity of value.
competitive process. But this was a ‘one off’ competitive process – once the money or commodity inputs were acquired, or the commodity output sold, they were no longer themselves subjects of competition; they become quarantined property of the owner – objects of competition (bits of capital) in the individual circuit of capital (K3). The importance of derivatives in competition is summarised in Table 7.1.

The introduction of derivatives to this analysis shows that C and M (K1 and K2) continue to be subjects of competition throughout the circuit of capital. Futures, options and swaps transactions reveal that the value of M and C is not quarantined by a single act of acquisition, but is being continually negotiated and, in the process, benchmarked against other assets. M and C are now available to be actively engaged in driving calculations about the profitability of K3.

With K1 and K2 now understood as perpetual elements of competition, several consequences follow for an understanding of the nature of capitalist competition. The interactive engagement between K3s (individual circuits of capital) now appears too limited a conception of competition: each form of capital (M, C, P) is itself an on-going site of competition. Clifton, as we saw earlier, highlighted that competition be seen as a process within corporations – a competition for rate of return on investment between different activities of the firm. We called this competition between individual capitals. We now identify an additional competition within individual capitals – where the values of C and M as forms of assets are constantly being recalibrated.

Profit, then, shows up not just as an end-of-year account, but as a continuously adjusting account. Corporate strategy follows directly. Underperforming assets can more readily be identified and transformed or sold. Competition between capitals thereby intensifies – it is a daily exercise of verifying the value of every form of asset against every other form of asset through time and across the globe. The result is that many of the traditional sources of monopoly profits are being traded away in derivatives markets: the profits of circulation are being undercut.

Conclusion

Social capital (K4), the class relations between labour and capital, has so far in this chapter been something as a context category – a reminder that the process of competition takes place within and is specific to a particular system of class relations. We can now observe how the operation of derivative markets impacts on our understanding of class relations generally. This is set out in Table 7.1.
**Table 7.1** Competition with and without financial derivatives

<table>
<thead>
<tr>
<th>K1 means of production</th>
<th>Competition without financial derivatives</th>
<th>Competition with financial derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value determined by necessary production costs (for Marxism, this is socially necessary labour time) at a particular location and at a particular time</td>
<td>Value being continually benchmarked and re-calculated against other K1 and K2 across all locations and across time. There is competition in determining the value of K1</td>
<td></td>
</tr>
<tr>
<td>K2 money</td>
<td>Money capital advanced of particular value at a particular time in a particular currency (or at a fixed rate of currency conversion)</td>
<td>Value being continually benchmarked and re-calculated against other K1 and K2 across all locations and across time. There is competition in determining the value of K2</td>
</tr>
<tr>
<td>K3 individual capital</td>
<td>A ‘unit’ of competition. Sometimes thought of as a firm, but more generally a discrete investment (process of accumulation). Capitalist competition occurs between different individual capitals producing the same product and between individual capitals as their circuits intersect</td>
<td>As before, but with the addition that all points of the circuit are continually being re-calculated. Monopoly rents in circulation disappear or are capitalised and traded away, so that competition now focuses directly in the sphere of production: competition to cut costs of production and increase productivity</td>
</tr>
<tr>
<td>K4 social capital</td>
<td>The class relations of capitalism that are articulated through K3 and reproduced by the competitive interactions of K3s</td>
<td>This is no longer just the social context of competition: the changes to K3 make stark the centrality of the labour process as the source of profits</td>
</tr>
</tbody>
</table>
Finance and class relations in production have appeared analytically separated – ‘casino capitalism’ and ‘the working poor’ have become distinct issues. This chapter has sought to show how finance and financial markets are not only providing the means for commensuration across the differences that define the global economy, they impose the imperative for such commensuration.

With financial derivatives, the boundaries between individual capitals have been blurred, the differences between forms of capital (debt and equity) made less important, locational differences in activities made easier to compare, and the nature of assets with different time horizons made less incompatible. Financial derivatives show that all these distinctions are reconciled within the unity of capital as a social relation of accumulation (K4), but they do so in ways that we are still trying to understand.

Derivatives are now continually deployed in re-calculating the monetary values of capital throughout the circuit and in this way financial derivatives have intensified competition and drawn the different notions of capital together. Accordingly, competitive pressure returns to the labour process. The capitalist faced with intense, generalised competition in money and commodity markets must look to the sphere of production (C-P-C’) as the one site where it is possible to ‘get a jump’ on competitors. This is not a case of the ‘race to the bottom’ of wages and conditions nor the ‘race to the top’ of productivity. It is a race for profitability – a process that includes both those tendencies. Labour that cannot deliver globally competitive levels of productivity must compensate, as it were, for its less than frontier productivity by accepting longer hours and lower wages. The effect is to draw labour indirectly into the same mode of calculation as applies to other production inputs. The widely documented intensification of labour over the past two decades, centring on flexibility in skills and working conditions, longer working hours and wage increases less than productivity, follows directly.

Herein lies the direct connection between developments in finance in the past 25 years and the resurgence of capital’s assault on organised labour. Many have simply thrown the label of ‘neoliberalism’ over this era and noted the coexisting resurgence of finance and the shift of income from labour to capital. But the connection is made purely at a ideological level – neoliberalism’s pursuit of ‘free market’ policies. Here we present the connection as an integral part of capitalist competition.