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THE DOLLARISATION OF THE WORLD THROUGH CRISES

10.1 The purchasing power parity and the imparity of the currencies' power

Shortly after the conversion of the international monetary system to floating exchange rates, Rudiger Dornbusch and Paul Krugman wrote: "Under the skin of any international economist lies a deep-seated belief in some variant of the PPP [purchasing power parity] theory of the exchange rate" (Dornbusch and Krugman, 1976: 540). For PPP is like the cipher of universal capitalism, for which only the diversity of units of account circulating on the foreign exchange market would preserve the remains of a time when nations developed at unequal rates and in specific ways. This theory is based on the principle that any monetary unit should be able to be exchanged for the same quantity of good regardless of the country in which the exchange takes place, so that its exchange rate with any foreign currency represents the inverse of the relative price of the good expressed in these two currencies. Thus, purchasing power parity (PPP) means a real exchange rate equal to 1: Real exchange rate = Nominal exchange rate × Domestic price/Foreign price. The theory of PPP therefore considers money exclusively in its general exchangeability form, i.e. as a unit of account and transaction currency. Here the exchange rate is not affected by any other variable than the domestic and foreign price level and only the trade balance determines the stability of exchange rates (Cassel, 1932: 658). PPP therefore discards all influences relating to money as a financial asset (capital flows, speculation) or as a store of value (trade balance). According to the principle of PPP, neither the capital account nor even the balance of payments affects the exchange rate (Einzig, 1962: 269). That this theory considers money as a mere medium of exchange is demonstrated by the fact that its first modern formulations are found in the Salamanca school, in the early Bullionists such as Wheatley and Ricardo, and especially

DOI: 10.4324/9780429261299-14

in the report of the Bullion Committee (Einzig, 1962: 206). In reality, Cassel's theory was born in the same conditions that had inspired Ricardo's quantity theory, except that Cassel, whose thinking developed in the wake of the suspension of gold payments during the First World War, was directly motivated by the search for a new parity of currencies with gold with the prospect of a return to convertibility (Taylor, 2006: 2). In the absence of a generalised peg of national currencies to gold, Cassel was in fact proposing a new monetary policy rule for which the parity of currencies with gold would only be the sign of its right application (Cassel, 1923: 173). He transferred the uniqueness of the universal currency that gold had previously constituted to the price level. Indeed, he believed that PPP reproduced exactly the same mechanisms as the gold standard system when imbalance appeared in the balance of payments. A balance of payments deficit, for example, would cause the exchange rate to depreciate to such an extent that, with the currency undervalued relative to its domestic purchasing power, it would become more attractive for trading partners to buy the undervalued currency. In doing so, the currency would appreciate back to its PPP level. Thus, both the balance of payments and the exchange rate would return to their equilibrium level (Humphrey, 1978: 6).

But with the liberalisation of the foreign exchange market and the capital account, the exchange rate has ceased to reflect the state of the current account and has become dependent on international capital movements and financial transactions based on expectations about the evolution of interest rates and exchange rates themselves: these transactions are a hundred times higher than those related to trade (Plihon, 2017: 41). However, these capital movements do not fulfil the balancing role of the international trade laws: sometimes they compensate for the effect of the current account, while sometimes they aggravate it and thus provoke lasting misalignments of exchange rates: "Gone are the days when a lasting surplus logically allowed a country to see its currency appreciate" (Norel, 1995: 3). And these movements can hardly be relied upon to monitor the evolution of exchange rates. Thus, it has been noticed that some currencies appreciated or stabilised while outflows accelerated (the deutsche mark in 1986 and 1987, the French franc in 1994). Not only does the distinction between residents and non-residents no longer cover capital movements, but more and more currency transactions between residents themselves are weighing on the exchange market (interbank transactions, risk hedging, etc.). And conversely, when non-residents buy domestic assets with funds borrowed from domestic banks, they leave a trace on the capital balance, not on the foreign exchange market (Norel, 1995: 7). Finally, when capital movements influence exchange rates, it is because of the inertia of prices relative to the extreme mobility of speculative capital, to increase their volatility. This is why the financial operators' assessment of the monetary authorities' capacity to maintain a non-inflationary internal policy geared towards the stability of the nominal exchange rate constitutes a much more important determinant of the exchange rate than the competitiveness indicated by the current account balance. Under these conditions, interest in the

study of the determinants of the exchange rate grew in inverse proportion to the development of financial globalisation, in which operators gave less credence to fundamental economic variables, which are supposed to influence exchange rates, than to past developments (Frankel, 1984), even and especially when they contradict these variables.

Thus, portfolio choice or exchange rate overshooting models (Dornbusch, 1976; Miles, 1978; McKinnon, 1982) have replaced the old Cassel theory by treating money, like Keynes and Friedman, as a specific financial asset whose exchange rate results from arbitrages between assets with different returns and risks (Drunat, Dufrenot and Mathieu, 1994).[1] However, not only do these models not renounce the principle of PPP, even if it means postponing its application to a distant and uncertain future (Bénassy-Quéré, Béreau and Mignon, 2009), but they retain it as a guide for monetary action in the absence of a fixed exchange rate (Kadochnikov, 2013: 118). But more fundamentally, these models retain from PPP the dichotomous principle of quantity theory according to which the structure of relative prices is given prior to the determination of the price level by the quantity of money thrown into circulation (Cassel, 1916: 62). Although financial models of the exchange rate consider money as a mere financial asset in the short term, as soon as they take into account the long-term effect of this "financial" exchange rate on the market for goods and services, money again appears as a transaction currency and the price level is again determined by the supply of money.

This is because the monetarist conception of the exchange rate validates PPP by over-determining it through its assumptions on the supply and demand of financial assets (Driver and Westaway, 2005). Thus, the assumption of perfect substitutability of domestic and foreign capital, as well as monetary and non-monetary capital, neutralises any effect of the current account on the exchange rate (Frenkel, 1976; Frankel and Rose, 1995; Taylor, 1995). It assumes that the exchange rate is the relative price of two currencies that is determined by supply and demand in the different money markets. Although this principle considers money as an asset, the effect of the supply of money on domestic prices through the interest rate determines this price itself (Taylor and Taylor, 2004). Causality therefore runs from money to domestic prices and the exchange rate (Humphrey, 1978).[2] The variations in the prices of goods compensated on the exchange market by variations in the relative price of currencies are therefore the effects of strictly monetary causes (Taylor and Taylor, 2004: 141).[3]

It has been shown in the analysis of the demand for money in quantity theory how, in spite of its a-monetary character, the formation of relative prices presupposes in fact the existence of a numeraire fulfilling the monetary function of unit of account. But it is at the international level that this presupposition reveals the deep link of quantity theory with the gold standard system and, in default, with the existence of a fiat universal equivalent. Of course, monetarism assumes the existence of n convertible currencies. But there is always one currency that must serve as the unit of account against which the $n - 1$ exchange rates of currencies

are established (McKinnon, 2010: 2). In fact, the very existence of international goods presupposes this currency in which the prices of goods are expressed. For not only are these prices determined on international markets by the country with the lowest cost of production, i.e. the one with the highest productivity, but the very existence of a single price presupposes the existence of an international unit of account to which the different currencies relate in order to determine PPP. While under the gold standard the entry and exit points of gold regulated the balance of payments and exchange rate equilibrium, the law of one price ensures this equilibrium in PPP. The assumption of single prices has been criticised for being applied to goods that are in reality not substitutable or perfectly mobile, etc. But these are practical objections to PPP. The problem is theoretical, since the law of one price actually presupposes a single common unit of account in which all national prices coexisting in local markets are expressed (Taylor and Taylor, 2004: 137).[4]

Just as quantity theory makes money superfluous in domestic prices, the monetarist approach to exchange rates makes the diversity of national currencies superfluous in relation to international prices. "Everything happens as if the different currencies were sub-multiples of a single money supply" (de Brunhoff, 1986: 110), except that this supply refers to a reference currency that is never defined in monetarism. Even equilibrium exchange rate models, which no longer seek to explain the exchange rate theoretically but to account for its evolution as a function of fundamental variables supposed to influence the real exchange rate in the medium term (FEER) (Williamson, 1985) or the long term (BEER) (Clark and MacDonald, 1998), presuppose a common unit of account to compare real exchange rates and their evolution, despite the fact that money is absent from these models (Joly, Prigent and Sobczak, 1996). It is probably this presupposition that led Rogoff to say that most economists "instinctively believe in some variant of purchasing power parity as an anchor for long-run real exchange rates" (quoted in Taylor, 2006: 2).

By the time new currency parities were discussed after the Nixon shock, monetarist ideas on exchange rate flexibility had already gained ground with the US authorities. Among these authorities, Treasury Secretary Schultz pretended to be concerned about the exchange rate problem, but everything in their attitude led to the endorsement of a floating exchange rate system. Friedman (1953) argued that exchange rate fluctuations would absorb most of the imbalances between surplus and deficit nations, between those favouring full employment at the cost of inflation and those choosing price stability at the cost of inevitable unemployment if wages were rigidly downwards. Each nation could "pursue the mixture of unemployment and price trend objectives it prefers, consistent with international equilibrium, equilibrium being secured by appreciation of the currencies of 'price stability' countries relative to the currencies of 'full employment' countries" (Johnson, 1969: 18). But we forget that Friedman's model assumed no capital flows (Flanders and Helpman, 1978) and that it inspired the US authorities at the very moment when the major currencies

were under incessant speculative attack through the ebb and flow of capital on the Eurodollar market. In this context, even the central bankers of the time were opposed to floating currencies, because "the small number of important banks and multinational corporations that dominated the markets were frequently prone to irrational, bandwagon behavior unrelated to changes in fundamental economic conditions" (Helleiner, 1994: 117). On the basis of capital mobility, any divergent movement of prices or costs from a supposed equilibrium would be immediately sanctioned by an overshooting of exchange rates (Guttmann, 1994: 144–45). Most importantly, flexible exchange rates not only do not protect nations from global financial shocks or cycles (Obstfeld and Taylor, 2017: 17) but they fuel them through changes in exchange rate expectations.

The reason why the US considered that the liberalisation of capital movements could preserve its monetary policy autonomy was that only the country whose currency serves as the international unit of account and the global financing currency could benefit from this regime: when the exchange rate fell, current accounts improved and external revenues increased; when it rose, foreign products became cheaper and thus lowered domestic prices, allowing monetary policy to lower interest rates. For other countries, especially developing countries, a fall in the exchange rate increases the dollar bill, the debt burden and the capital drain, while a rise in the exchange rate not only reduces competitiveness but also exerts inflationary pressure by attracting foreign capital. Here, we can grasp the practical significance of the monetarist presupposition of a common unit of account. For in a regime of inconvertible currencies, the presupposed unit of account is necessarily one of the national currencies in relation to which all other currencies gravitate. Monetarism is to the foreign exchange market what MMT is to monetary policy: it brings to theoretical generalisation the presuppositions specific to the particularity of the dollar as a universal currency.

10.2 The dollar in currency crises

With PPP no longer valid in the short term, the monetary authorities had to be given new criteria for action. Thus, the author of the Washington Consensus, whose effects on the fate of Latin America in the 1990s will be analysed shortly, proposed the so-called theory of exchange rates target zone theory (Williamson, 1986), in which the equilibrium exchange rate is said to be fundamental when, in the medium term, the securities market is assumed to be in equilibrium and wealth (the stock of assets) is considered to be stable.[5] In reality, the writer of the Ten Commandments of financial globalisation was taking note of the fact that for the markets, the equilibrium exchange rate defines nothing more than the rate against which some basic variables such as a balance of payments deficit are considered sustainable, i.e. financeable by external loans. The greater the financial openness of a country, the greater the margin of sustainability of its deficit in the operators' eyes, but also the greater the mobility of capital and with it the risks of currency crises.

However, the source of all the misunderstandings about the exchange rate crises which followed one another from the 1980s onwards lies in the fact that the effects of financial liberalisation were confused with the key role of the dollar in the post–Bretton Woods currency hierarchy. Calvo and Goldstein (1996) pointed out at the time that capital account liberalisation triggers a substitution of foreign assets for domestic assets that increases exposure to exchange rate risk and default risk.[6] Financial globalisation means nothing more in monetary terms than the globalisation of the dollar. But regardless of the fact that the universal role of the dollar was prepared for a long time, the floating exchange rate regime cannot do without a reference currency.[7] Even in the absence of a central currency, a "hierarchical compromise" is established between the need for an international unit of account and the maintenance of the specificity of national currencies. With the liberalisation of the foreign exchange market and therefore international financial competition, this hierarchy is expressed in the level of priority given to the external objectives of low inflation and high remuneration of money over the internal objectives of growth, employment, social protection, etc. It may be said that only the US, as the issuer of the reserve currency, is spared this concern. But the international role of the dollar also requires it to meet the new international standards of finance, even if this means increasing inequalities, reducing real wages and making the labour market as flexible as possible.

Referring to the cycle of international financial crises in the 1990s, Rose said, "Within the profession, we have to admit that we have a poor understanding of what triggers a crisis, especially in the case of currency crises" (Bordo et al., 2001: 75), and even questioned whether these currency crises really have macroeconomic causes (Cartapanis, 2004: 7). This is because, just as exchange rate theories presuppose the existence of a common unit of account in their real exchange rate models, crisis analyses presuppose the existence of key currencies without realising that these currencies do not merely serve as an anchor for secondary currencies: they also perform monetary functions whose modalities give crises their particular forms. What economists have called the three generations of currency crises are not so much generations of models as stages in the growth of the dollar – but also of the deutsche mark in the case of Europe – as a general equivalent at the world or continental level.

10.2.1 The first-generation currency crises: the dollarisation of the Public Treasuries

However, the Mexican crisis of 1982, although it represented the first major exchange rate crisis after the abolition of the fixed exchange rate system, was not caused by the floating of the peso against the dollar. On the contrary, the defence of exchange rate fixity was one of the very factors that caused the crisis. Nor did the crisis owe its brutality and severity to financial liberalisation: Mexico had not yet liberalised its capital account and its public debt was not securitised at that time. But it is the first great crisis of universalisation, not of the dollar as a mere

key currency, but of the dollar as money-capital, as universal financial capital issued by the central bank of a particular country guided by its national interests. Thus, after years of massive borrowing on the Eurodollar market, the emerging countries suffered the combined effects of Volcker's rise in the US interest rates and thus their increased level of indebtedness, and the rise in commodity prices on which their trade depended. The Mexican government soon declared that it was suspending payments on its debt (excluding interest). But what turned this external debt crisis into a currency crisis was that Mexico, in order to gain the confidence of foreign investors, had moved to a fixed exchange rate regime with the dollar after years of uncontrolled inflation. The rise of the dollar worsened Mexico's balance of payments, which had already been worsened by the loss of competitiveness of Mexican products and the fall in the price of oil, of which it was a major supplier (Wolfson, 1986: 103). It is fair to say that this balance of payments was mainly worsened by the continuous increase in public spending fuelled by government borrowing in dollars. But this borrowing owed its effects on the balance of payments mainly to the increase in the debt burden caused by the rise in the US interest rates. Similarly, inflation rates close to 100% were certainly Mexico's business, but the rise in these rates was itself fuelled by capital flight accelerated by successive peso devaluations.[8] It is therefore the combination of the rise in interest rates, the value of the dollar and the flight of capital in dollars that gives the Mexican crisis its specific character and explains its magnitude relative to the fundamentals pinpointed by the so-called first-generation models of currency crises (Krugman, 1979; Flood and Garber, 1984). However, although these models explain the triggering of crises by the deterioration of fundamentals such as the current account balance or the budget deficit, Flood and Garber themselves recognised that the crisis depended as much on downward speculation on the peso as on Mexico's fundamentals (Flood and Garber, 1984: 6). Similarly, Krugman admitted that, among the variables responsible for the fall in reserves, portfolio movements provoked by simple expectations on the evolution of prices were decisive (Krugman, 1979: 379).

In these three effects of the dollarisation of Mexican public debt, the contradiction between the dollar acting as financial capital and the peso fulfilling the functions of a means of circulation, i.e. of the equivalent of goods and services sometimes exchanged on the international markets and sometimes spent in the domestic sphere, is actually expressed. In this sense, the 1982 crisis expresses not so much the contradiction between the need to anchor the currency and the mobility of capital, in which Eichengreen sees the ultimate source of the ills of financial globalisation (2008: 1), as the contradiction immanent in borrowing in dollars to finance economic policies applied to a monetary space in which the local currency continues to fulfil the functions of unit of account and medium of exchange. The role of fundamentals in first-generation currency crises is that they are related to transactions and expenditures carried out by the domestic currency where the source of these transactions and expenditures depended on the reference currency of the international monetary system. While the government,

although running a capitalist sate, fulfilled its internal public functions through the social functions of the domestic currency, it was dependent on creditors for whom the dollar fulfilled a private function of monetary capital.

However, after the debt crisis triggered by the changes in the US monetary policy, these government bonds were replaced by market instruments such as Brady bonds, at the request of the banks themselves, which were seeking to develop more active management of their portfolios. Thus "successive issues of Brady bonds in the following years created very large markets for dollar-denominated sovereign securities, on the basis of which the financial and secondary markets were able to develop very rapidly" (Sgard, 2002: 22). The consequences of this change were the diversification of investors, the very wide opening of the capital account of emerging countries, exposing them to volatile short-term capital movements, with new issuers such as corporations and commercial banks suddenly accessing international currency markets. These changes led to one of the largest waves of investment into peripheral economies: from $35 billion a year in the 1980s to $280 billion a year between 1995 and 1997 (Sgard, 2002: 22).[9] After offshore banks had dollarised their Treasuries, investors dollarised the financial markets of emerging countries.

10.2.2 The second-generation currency crises: the dollarisation of private markets

The Mexican crisis of 1994 has been described as a second-generation crisis because of its self-fulfilling character, due to the predominance of the financial sector in the dollar debt (Masson, 1999). Unlike the 1982 crisis, therefore, this one is less a solvency crisis than a liquidity crisis provoked by a market reversal (Pesenti and Tille, 2000: 7. See also Jeanne, 2000: 37–38). But it has not been sufficiently emphasised that this change of generation expressed a change in the role of the dollar in the nature of this crisis. Unlike in 1982, indeed, the entire private sector was exposed to the dollar and at the mercy of dollar investors. The financial liberalisation that began after the first crisis and was accelerated by the Washington Consensus actually meant the financial globalisation of the dollar itself. Compared to 1982, the Mexican economy in 1994 was different in that with the deregulation of financial markets and the reprivatisation of banks, not only were markets opened to the issuance and circulation of foreign securities, but banks borrowed massively in dollars to fuel a debauchery of real estate and consumer loans (Musacchio, 2012: 12). While in 1982 this was direct government dollar debt to private banks, 12 years later it is indirect debt, mediated by the capital market in addition to the banks.

Let us recall the context of this new influx of dollars into Mexico. Firstly, depressed activity in the US, Canada and the UK, and the resulting fall in interest rates, whetted investors' appetites for emerging markets with high growth potential (Solomon, 1999: 116). In addition, there was debt deflation in Japan, with falling prices for securities, land and the yen, but also the first Iraq war

and the rise in the price of oil (*Ibidem*). Above all, there was the triple financial revolution, endorsed by the Washington Consensus and, in the case of Mexico, the Brady Plan organising the securitisation of Mexican debt: deregulation of the markets, internationalisation of capital, and financial innovations launched by the Brady bonds, among others. The active role of institutional investors, who had free rein to diversify their investments, encouraged the influx of capital from advanced countries, which rose from 65 billion per year in the years 1975–79 to 460 billion in 1989 (Solomon, 1999: 109–10).

This influx was facilitated by the fact that from 1989 onwards, Mexico had gone from being a prodigal child to a model pupil: the budget became in surplus in 1992–93, inflation was reduced to single-digit levels, GDP accelerated and it was less dependent on oil exports than in the early 1980s. This transformation was rewarded by Mexico's entry into the GATT (later WTO) and the OECD, and especially by the signing of free trade agreements with the US and Canada (Solomon, 1999: 120). Nevertheless, the gradual depreciation of the exchange rate[10] did not prevent its real appreciation due to the resumption of inflation after 1990. Yet the resulting current account deficit was easily financed by capital inflows and in fact foreign exchange reserves continued to rise until the first quarter of 1994. But in the meantime interest rates in the US rose: both long rates and the federal funds rate as a result of monetary tightening measures by the Fed (Solomon, 1999: 120–21).

The government was responsible for the resulting inflation only to the extent that it borrowed itself by issuing dollar-denominated Treasury bills (*tesobonos*): on the eve of the crisis, the Mexican economy owed more or less all of its financing to the US dollar. The larger the balance of payments deficit, the more the government borrowed to maintain its exchange rate. Since a simple reversal of capital flows could immediately trigger a devaluation of the exchange rate, the crisis could have been a textbook case of the second-generation model, but political events provided a rational basis for the sudden reversal of capital flows: the assassination of the PRI candidate in the 1994 elections and the unfortunate announcement by his elected replacement of a new team at the Ministry of Finance, combined with the decision to widen the exchange rate band, precipitated the withdrawal of capital and soon the floating of the peso. Not only did these political events justify in hindsight the fears of investors who would have used even more innocuous events as a pretext for the downturn, but the markets reacted sharply to the only action the government had to take in the circumstances, namely to loosen the exchange rate stranglehold on the Mexican economy.[11] One analyst, comparing the 1994 crisis to that of 1982, asked:

> Why then did Mexico not treat these sudden outflows as they treated in 1982 the dollar deposits in Mexican banks? To answer: 'Because to do so would violate the new rules of the game' of what Chairman Greenspan of the Federal Reserve has referred to as 'the internationalized capital markets. The possibility that one might impose exchange controls precludes

> one from access to these capital markets because the last thing that any mutual fund manager can tolerate is the possibility that he or she might not be able to quickly dump a holding and shift elsewhere.
>
> *(Lichtenstein, 1995: 1775)*[12]

Money has no homeland, but neither do its owners: the first peso-to-dollar conversions came from the Mexicans themselves, and an IMF report revealed that the pressure on foreign exchange reserves during 1994 came from Mexican residents, not from foreign investors or from speculative positions taken by those investors (Solomon, 1999: 123).[13]

Frankel and Rose were surprised to discover that neither the current account nor the fiscal deficit "appear to play an important role" (1996: 20) in emerging market currency crises. All of the factors considered, however, involve both a reference currency as a financial asset and the price of that reference currency, i.e. the interest rate. However, given the strangeness of these crises in relation to the traditional variables affecting exchange rates, specialists confined themselves to see the effect of a strategic game between the markets and the authorities and to explain the crisis as the result of a simple self-fulfilling prophecy.

10.2.3. Third-generation crises: the dollarisation of global investment

Dornbusch (2001) has contrasted the "old style crises", which are mainly linked to real exchange rate distortions and unsustainable external imbalances, with the "new style balance sheet crises", whose source lies in banking fragilities. However, third-generation models are usually distinguished by the bank liquidity crisis that goes with the currency crisis (Chang and Velasco, 1998). By doubling the financial crises with banking crises, the third-generation model of currency crises endorsed the presence of the dollar at all stages of financial intermediation in peripheral currency areas. This change is reflected in the fact that the indicator of fragility is no longer expressed by the ratio between the level of foreign exchange reserves and the balance of payments deficit, but by the ratio between these reserves and the amount of short-term external debt (Furman and Stiglitz, 1998: 23–24). The question is therefore not whether the crisis expresses a banking liquidity problem (Chang and Velasco, 1998) or whether it is the inevitable result of deteriorating fundamentals (Corsetti, Pesenti and Roubini, 1999). The question is whether the exchange rate plays a role in both the liquidity crisis and the deterioration of fundamentals.

No doubt the banking crisis coming with the currency crisis reveals an overindebtedness of banks. But this coupling with the currency crisis would be a coincidence if other indicators did not give the twin crises their specific character: the ratio of banks' external liabilities to GDP, the interest rate of creditor countries or the spreads demanded of emerging country debtors (Kamin, Samuel and Schindler, 2001). However, under a fixed exchange rate regime, banks are not aware that they are taking a foreign exchange risk. By accepting deposits and credits in dollars, any questioning of the parity can only precipitate the banking crisis. Even

if the banking system were properly supervised, a change in parity would put all the risks on the banking system because in emerging countries "banks are responsible for a larger share of financial intermediation there than in most advanced countries" (Solomon, 1999: 158). In this case, the causality runs from the currency crisis to the banking crisis and not the other way round, as econometric studies on panel data teach (Boyer, Dehove and Plihon, 2004: 29). They are therefore not collateral effects of banking crises, as Krugman (2001a) thinks, for example (see also Cartapanis, 2004: 21). Pesenti and Tille see in the twin crises the effect of a reciprocal causality between the liquidity crisis and the currency crisis:

> A currency crisis has an adverse effect on the banking sector when banks' liabilities are denominated in a foreign currency. A devaluation suddenly and sharply increases the value, expressed in the domestic currency, of these liabilities. As banks typically lend domestically in the local currency, a devaluation exposes them to a sizable currency mismatch and a deterioration of their balance sheets. In turn, a banking crisis can lead to a currency crisis through the burden it imposes on the fiscal side of the economy.
>
> *(Pesenti and Tille, 2000: 7)*

But the difference between the two causalities is that the banking crisis could not have been caused without the currency crisis.

To justify the insane orgy of short-term foreign currency (dollar) loans made by international banks to Asian banks prior to the 1997 crisis, analysts were quick to condemn governments for implicitly guaranteeing these loans, either directly or indirectly through IMF support programmes, thereby creating moral hazard, i.e. the "apparent neglect of the standards for sound risk assessment" (Corsetti, Pesenti and Roubini, 1999: 8). For example, the ratio of short-term foreign liabilities to foreign exchange reserves was over 100% in Korea, Indonesia and Thailand on the eve of the crisis. With regard to exchange rates, the appreciation of the dollar and the depreciation of the yen led to a loss of competitiveness in the region, particularly vis-à-vis Japan, and more generally to an appreciation of the real exchange rate – albeit unevenly – of currencies pegged to the dollar. But the level of appreciation was modest compared to the appreciation of the peso before the Mexican crisis. In fact, real exchange rate indicators had not changed significantly in South Korea, Thailand and Indonesia. Although current accounts had deteriorated in the region, even the most severe analysts admit that there is little evidence of when current account deficits reach excessive proportions to create expectations of devaluation, speculative withdrawals or financial crises (Corsetti, Pesenti and Roubini, 1999: 312). Moreover, it is admitted that in the case of Asia, GDP growth rates remained remarkably high until the eve of the crisis (investment rates ranged between 30 and 40 in most countries in the region (Corsetti, Pesenti and Roubini, 1999: 316), although the returns on these investments tended to decline). Moreover, the savings rate was roughly equal to the investment rate, so that current account deficits could not be attributed to excessive government spending. Finally, unlike in Mexico, the inflation rate remained

relatively low (Corsetti, Pesenti and Roubini, 1999: 322) despite the huge capital inflow, indicating that the real exchange rate appreciation was entirely due to the appreciation of the dollar and the depreciation of the yen.

While Indonesia suffered the largest currency debacle in the region, it was the country with a rigid exchange rate policy against the dollar whose currency experienced less real exchange rate appreciation than the others. More generally, if we look at the estimates proposed by the World Bank, none of the countries hit by the crisis presents a serious problem. Indeed, the debt-to-GDP ratio for many of these countries had remained relatively low and the share of short-term debt in total debt, although increasing, had remained relatively modest (see table 24 in Corsetti, Pesenti and Roubini, 1999). The only worrying indicator was the ratio of external liabilities to foreign assets: domestic banks had borrowed heavily from foreign banks to lend to domestic investors. But

> [i]n normal times a high ratio of foreign liabilities to foreign assets may not cause concern, as short-term foreign debts are easily rolled-over. In the presence of a rapid currency depreciation, however, this imbalance may cause serious financial problems (especially if the foreign borrowing is in foreign currency while the domestic lending is in domestic currency). Foreign lenders may suddenly refuse to roll over short-term lines of credit to domestic banks, precipitating a credit crisis. To a large extent, this is what happened in 1997.
>
> *(Corsetti, Pesenti and Roubini, 1999: 341)*

In fact, the only notable event before the crisis broke was the market euphoria over the investment opportunities offered by Malaysia: its interest rates were too attractive to ignore. As a result, capital inflows exploded in 1996, from $2.4 billion in 1995 to $11.3 billion in 1996, causing property prices to rise by 25% (Corsetti, Pesenti and Roubini, 1999: 347). If the excess borrowing and the resulting crisis are to be explained by the weakness of the banking and financial systems, this weakness does not explain the form in which the crisis hit Asia or the spread of the crisis to countries that were not experiencing excess investment.

> By the end of the summer, the combined effective devaluation of about 30 percent in 3 months for the currencies of Thailand, Indonesia, the Philippines and Malaysia had a strong negative impact on the other currencies in the region. For instance, the Singaporean currency that was formally on a float started to depreciate on the wheel of the sharp deterioration of the ringgit – the currency of its close neighbor and trading partner Malaysia. By the end of September, the Singaporean currency had lost 8 percent of its value relative to the beginning of 1997.
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> *(Corsetti, Pesenti and Roubini, 1999: 352).*

The large devaluations that followed the first depreciations were due to market reactions to monetary policies aimed at limiting the outflow of capital and

especially speculative pressures on the foreign exchange market, in order to avoid too much monetary contraction and too high an interest rate. What does this mean? It means that the authorities had chosen to gradually relax their exchange rate at the same time as they sought to exert control over capital. The only country having resisted a speculative attack on its currency, Hong Kong, did not hesitate to drastically increase its interest rates, no doubt because of the predominance of its financial sector compared to other countries in the region. In any case, it convinced the markets of its commitment to maintain its fixed parity with the dollar (Corsetti, Pesenti and Roubini, 1999: 354). And while all the measures to prevent interest rates from rising had caused market panic and capital flight in Asia, what was able to restore speculators' confidence was… the lowering of interest rates in the US, a sign that the Fed was ensuring the cheap availability of the universal equivalent.[14]

The Asian crisis shows that both a fixed and a floating exchange rate regime would have led to great financial fragility. Thus a floating exchange rate regime would have caused a real appreciation of the exchange rate and a loss of competitiveness of the export sector anyway. As for the fixed exchange rate regime, which prevailed to a variable extent depending on the country, it is at the origin of the financial fragility, i.e. the excess of short-term loans in foreign currencies and the resulting maturity mismatch. Thus, in a fixed exchange rate regime, the pressure on the nominal exchange rate is relieved by the accumulation of reserves by the central bank. However, in order to avoid an excess supply of domestic money and therefore inflation and a real appreciation of the currency, the monetary authorities proceed to sterilisation policies leading to an increase in interest rates. This is what happened in Thailand. But as long as the belief in the currency peg to the dollar lasts, the rise in interest rates causes a shift in the composition of capital inflows to unhedged short-term debt. As a result, banks were exposed to an excess of short-term foreign currency debt. In addition, this inflow of short-term capital stimulates domestic demand and, when the supply of non-tradable goods is less elastic, raises the relative prices of these goods, which encourages investment in the non-tradable sector. Thus, the price of domestic assets rises and encourages speculative bubbles, especially in real estate, while these bubbles, in turn, bring in new capital. Thus the ability of banks to repay their short-term foreign currency debts depends not only on the return on the domestic investments they are financing with these liabilities, but also on the exchange rate between the currency in which their liabilities are denominated and the currency in which their assets are recorded.

10.3 The hierarchical compromise in the European monetary system crisis

So far, the analysis of the crises has shown how the penetration of the dollar into the peripheral economies, through which the process of relative autonomy of the dollar in relation to the US economy was accomplished, was inseparable

from the hierarchical compromise between the dollar and the currencies hit by the currency crises. But one would not believe that, conversely, the hierarchical compromise is inseparable from the autonomisation of the currency at the top of this compromise. Just as the hierarchical compromise is not necessarily organised between a key currency and the currencies of developing or emerging countries. This is what the crisis of the European monetary system (EMS) revealed a few years before the creation of the euro. Here again, the role of fundamentals must be put into perspective: even more than in Mexico, the transformation of European currencies into pure and simple financial assets had freed the movement of the foreign exchange market from any fundamental basis and left it to the whims of speculation. Under these conditions, the crisis represents nothing more than the random outcome of a game of influence between the monetary authorities and the markets, where macroeconomic aggregates are reduced to mere variables of strategic choice (Cartapanis, 2004: 11–12). Faced with the sterility of the debate on the role of fundamentals in second generation crises, Obstfeld simply retorts: "The interesting question is not whether the crisis was 'justified' by fundamentals, since everyone agrees the fundamentals play and must play a role, but whether the fundamentals were such as to make the crisis the inevitable and unique outcome" (Comment on Krugman, 1996: 395). Not only do the analyses agree that they were not, but the European crisis reveals that the outcome depended on the place of the different currencies in the hierarchy of the EMS.

Eichengreen (2000) sees the crisis as an expression of the difficulty of anchoring exchange rates in the global context of high capital mobility. And although he does not include the problem of currency hierarchy in his analysis of the crisis, he supports the dollarisation of Latin America, with a view to forming a monetary union with the US. The only other solution that he imagines to be suitable for the current system is a floating exchange rate regime (Eichengreen, 2000: 2). But what happened from 6 September onwards, when the UK asked to leave the EMS? Not only did Italy follow the UK, but all the currencies in the system, except the deutsche mark and the Dutch gulden, which was firmly pegged to the former, were attacked. However, this crisis cannot be considered as a crisis of current account deficits, as before the crisis these deficits were more significant in Germany due to the expenses necessary for reunification. It is true that deficits had increased everywhere to avoid importing the recession to the US and the UK, and the fall in the dollar that the fall in interest rates brought about to cope with this recession weakened the competitiveness of European countries, but there is no justification for comparing the European crisis to the Mexican crisis from the point of view of the nature of the deficits, as Eichengreen suggests. Following this view, he notes the curiosity that in the first case, it was the fall in the US rates that caused the crisis, whereas in the second case, it was the rise in rates that caused Mexico to plunge. The explanation would be that, in the case of Europe, it was a crisis of current account deficits, and therefore of competitiveness, while in the case of Mexico, the capital account was responsible for the crisis (Eichengreen, 2000: 18). But not only was the Mexican crisis the

result of a competitiveness crisis linked to the pegging of the peso to a dollar that had appreciated after 1992, but the EMS crisis hit countries that, like France, had comfortable trade surpluses until the eve of the attack. What these two crises have in common, however, is that in both cases the markets doubted the viability of their respective pegs to the reference currency, the dollar in the case of Mexico and the deutsche mark in the case of France. In the case of France, it was the rise in interest rates, demanded by Germany so as not to have to respond to the rise in domestic demand with inflation; that made the markets doubt the survival of the franc in the EMS.[15] Eichengreen himself acknowledges that much of the speculative attacks are poorly explained by the first-generation model of currency crises (competitiveness crisis) (Eichengreen, 2000: 19). No doubt the first attacks had targeted the most fragile countries in the system – those with the highest current account deficits, unemployment rates, public debt and weakest banking systems. But it is also accepted that these fragilities would only be a source of crisis if there was a capital outflow, i.e. a reversal of investor confidence, proving that the crisis was also a capital account crisis as in Mexico.

Eichengreen is surprised that the banking and financial systems were hit to an extent unusual for developed-country crises (Eichengreen, 2000: 39), attributing this strange phenomenon to financial deregulation and capital account liberalisation. But he should have asked why Germany and the Netherlands were spared. Instead, what all the attacked countries had in common was that they had pegged their respective currencies to the deutsche mark, which, despite Germany's budget and trade deficits, high unemployment and inflationary pressures on its domestic products, was a key currency together with the dollar and the yen. Eichengreen calls this crisis the first crisis of financial globalisation (financial deregulation and capital account liberalisation) (Eichengreen, 2000: 45), but it is above all the first crisis in which deregulation and liberalisation are in direct contradiction with the need for peripheral currencies such as the franc, the lira and even the pound sterling to be anchored in a reference currency, even though on the foreign exchange market currencies are treated as perfectly substitutable assets, as stated in the Modern Portfolio Theory. The so-called second-generation crises are distinguished not so much by the minor importance of fundamentals relative to market psychology (self-fulfilling prophecies) as by the importance of the anchoring of peripheral currencies to the key currency in the fate of these fundamentals: interest rate policy, budgetary policy, exchange rate policy. Through the opening of financial markets to foreign capital, all private investment becomes subject to the vagaries of the reference currency and its effects on the exchange rate.

10.4 The dollar zone

The exchange rate crises, and especially the 2008 crisis, have in no way slowed down the financial integration of the world economy or the pegging of currencies to key currencies, despite the diversity of exchange rate regimes. On the contrary, the financial crises have acted as powerful levers for financial integration,

banking concentration and the over-determination of exchange rates by reference currencies. Thus, the conflicting centralisation under the aegis of the dollar that Suzanne de Brunhoff observed in the 1980s now delineates a genuine dollar zone alongside the other monetary zones, whether de jure like the euro zone or de facto like the yen zone, and which brings together "economies with currencies that are relatively stable against the dollar" (Ito and McCauley, 2018: 1). Within this zone, cross-border investment and borrowing in dollars imposes a zone bias on investors' portfolio choices: this reduces currency risks relative to more diversified portfolios. Under this approach, the dollar zone would cover 50%–60% of global GDP. In reality, for both the euro and the dollar, the reduction in their respective shares of world GDP has been more than offset by growth in their respective areas (Ito and McCauley, 2018: 8).

On this basis, the US current account deficit should be assessed in relation to the current accounts of the dollar zone, which would be in balance. Thus, an exchange rate crisis within the dollar zone is less likely to occur as the "dollar bias" makes a "sudden stop in response to heightened perception of currency risk less likely" (Ito and McCauley, 2018: 10). Moreover, the dollar zone perspective reveals that, whatever the crisis in the dollar zone (Mexico in 1982, Asia in 1997 or the US in 2007–8), "current accounts tend to redistribute themselves within the dollar zone" (Ito and McCauley, 2018: 11). This is not the case in the euro area, where surpluses in the centre after the 2012 crisis have not been offset by deficits in the periphery (i.e. in European countries that do not belong to the euro area in the strict sense). Therefore, we cannot correlate exchange rates with the current account deficits of the reference-currency-issuing countries or regions, but to the aggregate balance of payments of the currency area in question. Thus, at the same time that investors were becoming wary of Asian deficits (Thailand, Korea), the opposite was happening with the dollar: despite the widening current account deficits, the dollar appreciated in 1997. Solomon acknowledges that the law according to which a current account deficit leads to a depreciation of the exchange rate has no longer applied since the 1990s, neither for the dollar nor for the deutsche mark (Solomon, 1999: 144).[16] And the appreciation of the dollar, despite the huge current account deficit in 2006, is explained as soon as we observe that this deficit is exactly offset by the sum of the surpluses of all the countries in the dollar constellation. In the same way, the surplus of the official euro zone is put into perspective if we take into account the deficits of the countries whose currencies are more or less rigidly anchored to the euro (mainly Central and Eastern Europe). Financial and banking integration, consolidated in particular by the transnational role of the central banks issuing the key currencies, has now reached such a degree that investors exclude the possibility of a 1990s-style currency crisis. Moreover, the financial circuits through which key currencies are spread across borders (international banks, non-financial companies, central banks) completely reverse the traditional relationship between exchange rates and the balance of payments (Bruno and Shin, 2015). Thus, an appreciation of the dollar, for example, while it improves the trade balance of

the US' trading partners, increases the cost of borrowing in dollars, depresses investment and worsens the capital account of these same partners.[17] However, with the rigidity of prices of tradable goods invoiced in dollars (Boz, Gopinath and Plagborg-Møller, 2017), this effect now outweighs the trade balance (Avdjiev et al., 2019). As a result, in the exchange rate movement between the dollar and the currencies belonging to the dollar zone, the financial current now dominates the traditional trade current. The dollar so dominates global trade relations that the bilateral exchange rate of a currency with the dollar is the main determinant of the prices and quantities of that country's imports, regardless of those goods' country of origin (Casas et al., 2016). Moreover, the dollar exchange rate has become a key predictor of the overall volume of trade with the rest of the world and of both producer and consumer price inflation (Boz, Gopinath and Plagborg-Møller, 2017: 40). Similar phenomena can be observed for the euro area, albeit to a lesser extent. New contradictions result: no longer the Mundell-Fleming trilemma but the impossible dilemma between monetary policy independence and capital mobility (Rey, 2015). Thus the floating exchange rate regime is by no means sufficient to guarantee this independence, given the impact of US monetary policy on the global financial cycle ("via the endogenous response of leverage and the pro-cyclicality of cross-border credit flows" [Rey, 2015: 22]). This can be seen in the persistent deviations from the principle of covered interest rate parity, as set out by Keynes in his 1923 *Tract*. This is presented as a quasi-economic law according to which the interest rate differential between two currencies on the spot market – i.e. on the interbank market – must be equal to the differential between the forward exchange rate and the spot exchange rate – i.e. between the exchange rate as anticipated by the market and the actual exchange rate. If a difference between these two differentials were to appear, agents' arbitrage would immediately reduce this differential to zero. For example, if the dollar were cheaper in terms of yen on the forward exchange market than the rate stipulated by the covered exchange rate, a dollar borrower on the spot market would take advantage of the situation by selling dollars against yen on the spot market and buying them back later at a cheaper rate on the forward market. As a result of the increased demand for dollars in the forward market, the dollar would appreciate until the spread between the forward rate and the spot rate equalled the borrowing rate in the dollar market. However, since the 2007 crisis, this law of covered parity has ceased to apply to the dollar, as shown by the persistence of the so-called cross-currency basis, which indicates the amount by which the interest paid to borrow one currency against another on the currency swap market differs from the interest paid to borrow that currency directly on the spot market. In other words, the exchange rate of the dollar against the major currencies in the forward market has been consistently maintained at a level such that the spread with the spot foreign exchange market exceeds the spread between the interest rate in the dollar market and the interest rate in the market for other currencies. After trying several explanations, BIS analysts found that only the demand for the dollar as a safe haven, i.e. as a universal equivalent,

could explain this persistent deviation (Avdjiev et al., 2019b). A strong dollar, for example, with larger deviations from the covered interest rate parity and a decrease in cross-border dollar lending. Thus, the level of dollar appreciation becomes a proxy for the shadow price of bank leverage. Despite the easing of concerns about bank credit quality and the resumption of wholesale funding in dollars, financial firms are still seeking to hedge their foreign exchange with dollars. And because of the new regulations constraining banks' arbitrage activity between different financial assets (including currencies), this deviation, which in competitive markets should have been cancelled out by arbitrage, is continuing.

In fact, this phenomenon is not new. It had already puzzled observers after the 1982 recession, when the dollar exchange rate should have fallen to compensate for the differential between the US and foreign interest rates (see Solomon, 1999: 12). And they should have fallen all the more so because the US inflation rate was higher than in Germany and Japan and the balance of payments deficit was widening even as the reverse was happening in Germany and Japan. We have seen that the Plaza agreements for concerted intervention in the foreign exchange market put an end to this situation. And the subsequent Louvre Accords, as well as the crash of October 1987, were a direct consequence of these interventions.

10.5 Krugman and Stiglitz: the critique of capitalism in the service of the dollar

Stiglitz blames the IMF in the same way that Proudhon criticised monetary gold: he defends the status of the dollar and Wall Street where Proudhon defended money and commodity production. Thus, in relation to the Asian crisis, he holds the fiscal restraint measures imposed by the IMF responsible for the spread of the crisis, even though the course of the crisis has left us in no doubt as to the role of the foreign exchange market in triggering the crisis, regardless of the fiscal situation of the country affected. And when he acknowledges that no other policy would probably have prevented the crisis, it is to blame the brutality of the capital outflow on the opacity of local banking systems: "Because of the lack of transparency, the market shut off the supply of capital to all firms, or charged all of them a high risk premium, thus exacerbating the downturn" (Furman and Stiglitz, 1998: 71). Similarly, he rails against the IMF's obsession with the balance of payments indicator, even though it is merely a symptom of an excess of private investment over private savings (1998: 34). Is this not because the balance of payments is, in the eyes of the market, an indicator of the sustainability of the exchange rate, which is precisely what the IMF has its eye on?[18] He is therefore surprised by the contradiction of the IMF, which advocates the ideology of the free market except when it comes to the foreign exchange market (Stiglitz, 2002a: 148–49). Yet by defending the exchange rate at all costs, not only does the IMF not encourage companies to protect themselves against exchange rate depreciations (on the derivatives market), but it pushes for higher interest rates, budgetary restrictions, i.e. measures protecting international lenders to the detriment of these same reckless borrowers

(Stiglitz, 2002a: 149). But Stiglitz never asks whether this defence of the exchange rate was not precisely the condition for the inflow of capital that he calls for. The interests of the financial community that he criticised the IMF for defending at all costs expressed nothing other than the very conditions of financial globalisation that he himself defended and wished to strengthen by mitigating its excesses. The man who, a few years earlier, had proposed a model aimed at guaranteeing creditors against the risks of default by over-indebted emerging countries (Eaton, Gersovitz and Stiglitz, 1986) now reproached the IMF for exclusively defending the interests of these same creditors, whereas all the reforms that had conditioned the entry of capital into the emerging countries were carried out precisely to guarantee the security of their investments.

When, following Krugman's good advice to negotiate with the banks instead of taking control of its capital account, Latin America undergoes austerity policies, Stiglitz asks in "Lessons of Argentina" why the countries of the North do exactly the opposite in a crisis. And the Nobel Prize-winning economist replies: "Unfortunately, I can not give […] a good answer" (Stiglitz, 2002b: 161). Similarly, Stiglitz says he does not understand why Latin America is being forced to liberalise trade while the US is at the same time taking protectionist measures on steel, for example. His solution for Argentina is for the US to open its market to Argentine beef, which would be good for Argentine trade and good for the American consumer. But as he hesitates to advise capital controls, he imagines an ideal world where labour mobility would replace capital mobility (Stiglitz, 2002b: 165).

In "What happened to Asia?" (1998), Krugman calls the Asian crisis a crisis of financial excess (as if that did not describe the Mexican crisis three years earlier), in relation to which the currency and the exchange rate were only ever symptoms of the crisis. Yet, we have seen how the fixed exchange rate system was at the very origin of this "financial excess". But for Krugman, this financial orgy is rooted in a lack of regulation, laxity on the part of the authorities, implicit guarantees by governments, etc. (Krugman, 1998). And when he mentions the symptom of the exchange rate (after all, the Asian crisis is indeed an exchange rate crisis), it is to deplore, in a paper entitled "Analytical afterthoughts on the Asian crisis", the lack of firmness of governments to maintain the fixed exchange rate whatever the cost, before blaming this same fixed exchange rate a few lines further on for the excess of firms' debt in foreign currency (Krugman, 2001a: 252). But the financial excess results from the fact that the authorities have chosen to maintain parity with the dollar at all costs. Yet for Krugman, the Asian crisis can be summed up as the bursting of an asset bubble inflated by excessive debt and institutions "whose liabilities were perceived as having an implicit government guarantee, but were essentially unregulated and therefore subject to severe moral hazard problems" (Krugman, 1998). But when the US economy was in recession in 2001, he commented in the *New York Times* about the housing market: "Most of the credit probably goes to the dogged optimism of American consumers, but the Fed's dramatic interest rate cuts helped keep housing strong even as business investment plunged" (Krugman,

2001b). And while in Asia he blames the authorities for creating these bubbles, in his own country, in the same journal he condemns them for having made them disappear too quickly: "To fight this recession the Fed needs more than a snapback; it needs soaring household spending to offset moribund business investment. And to do that [...] Alan Greenspan needs to create a housing bubble to replace the Nasdaq bubble" (Krugman, 2002).

Krugman fully acknowledges that emerging countries owe their financial crises to excessive short-term foreign currency debt (Krugman, 2000: 95). Not, as the sequence of events suggests, because the fixed exchange rate regime caused the massive influx of capital, but because the fixed exchange rate actually guaranteed firms against possible currency risks. Hence his advice to tax or discourage Asian firms from borrowing in foreign currency. But, even if it means imposing even greater flexibility on them and hence the crises that would necessarily result (Krugman, 2000: 76), it would still be better to dollarise their economies completely than to impose capital controls, as India and China are doing: the risk of discouraging Wall Street speculators is too great (Krugman, 2000: 99–100).[19] Instead of the possibility of capital controls in times of crisis, Krugman prefers a "standstill negotiated with banks" (Krugman, 2000: 89), the draconian conditions of which the latter have imposed on states before any rescheduling, new borrowing, etc. (cite examples). Even if it means borrowing from the big banks or the IMF if necessary, dollarisation is better than the indiscriminate use of the printing press to save financial institutions. But a year after dollarisation, dollarised Argentina plunged into the worst financial crisis in its history: direct investment in the country had almost quadrupled in 1999 compared to the previous year, reaching its highest level since the end of the war (see World Bank graph). As for its exports and imports, indicators of its trade integration, they had respectively more than doubled and more than tripled between 1991 and 2000 (see IMF statistics).[20]

Stiglitz calls for reform of the entire international monetary system, including the mandate and scope of the IMF, but without ever raising the place of the US and the role of the dollar in the functioning of this system (Stiglitz, 2002c). No more than Krugman, Stiglitz does not question the dependence of developing or transition countries on foreign capital or on the dollar as the pivotal currency of the international financial system. Moreover, Krugman and Stiglitz only criticise the fixed exchange rate regime insofar as it contradicts the foreign trade of the country whose currency is pegged to the dollar. For example, Stiglitz advocates opening up the US market to Argentina's agricultural products, which is the only way to justify the dollarisation of the Argentine economy. Thus, they both focus on financial liberalisation and deregulation, in the same way that an epidemiologist would focus on the density of human interaction as the cause of mortality in an epidemic without considering the effect of the virus on the human body. But unlike the epidemiologist, their scotomisation of the dollar within the international monetary and financial system is due to their very function within that system.[21]

Most analyses of the currency crises of the 1990s in emerging countries have denounced the role of capital mobility in financial fragility and the triggering of

crises, but without ever drawing the consequences of the fact that capital flight on the eve of crises invariably takes refuge in the reference currency, the dollar – even when this flight takes the form of speculative gambling on the fall of the exchange rate of the peripheral currency under attack. In the same way, there is debate about what exchange rate regimes would prevent the recurrence of these crises, but without recalling that the peg to the dollar, whatever the official exchange rate regime, was the very condition for the inflow of this volatile capital. The profound imperialism of Krugman's and Stiglitz's interventions on these crises stems from the fact that the problem of the dollar's place in the hierarchy of currencies is presupposed but not posed. If it had been posed, all these crises would have appeared immediately for what they are, namely the expression of the contradiction between this hierarchy and the process of forced unification of financial markets under the aegis of the dollar and Wall Street. The role of the banks in the depth of the crisis or the actual state of the fundamentals on the basis of which the markets decide to turn around, or even the level of real appreciation of the exchange rate, matter only insofar as these factors signal the depth to which dollarisation determines the activity of the country hit by the crisis and the channels by which this penetration is achieved.

10.6 Final considerations

Eichengreen sees the succession of financial crises after Bretton Woods as an expression of the contradiction between the need to anchor currencies in some exchange rate regime and the freedom of movement of capital. And it is true that all emerging market crises invariably repeat the same scenario of capital flight coupled with the depletion of foreign exchange reserves. "The only truly common denominator of international financial crises", said Jeanne, "is the concomitance of a foreign exchange crisis and a capital flight in several countries" (2003: 1).

But this flight makes manifest a deeper contradiction in the internationally distributed functions of money: between the universal money-capital function of the dollar and the monetary functions of unit of account and medium of exchange of local currencies. With the liberalisation of the foreign exchange market, all particular currencies have become local means of circulation into which the dollar (or the deutsche mark in the EMS) converts according to the market exchange rate where it is invested as financial capital. It is well known that the phenomenon of dollarisation is measured by the number of functions of the currency fulfilled by the dollar in place of the domestic currency. It begins when dollar reserves replace local currency reserves (asset substitution) and ends once the greenback circulates from hand to hand in domestic transactions (currency substitution) (Rochon and Seccareccia, 2003: 1). But currency crises have shown that domestic currencies do not need to give up any of their functions to be subordinated to a reference currency. As soon as domestic investment or expenditure is financed by funds in dollars, for example, whether these funds

are raised by borrowing or by issuing securities, the functions of the currency are redistributed between the dollar, which, as loan capital, occupies a function of reserve of value in the domestic space, and the domestic currency, which is reduced to circulating goods within this space. The three generations of crises are like the three degrees of extension of the dollar's function as a store of value in the monetary and financial space of this local space. And this extension proceeds in a top-down movement: first the state with the external debt crisis; then the markets; finally the banks and companies, until the very laws of international trade are overturned. It is under its general form of value that the dollar has gradually imposed itself as a universal equivalent, dragging the emerging markets open to it into what is now called the dollar zone.

But these currencies do not merely ensure the exchange of goods in their circulation spaces. They also function as money-capital, as investment money that is valued in the very process of production and circulation of goods. Thus, their existence as financial assets on the foreign exchange market depends on their capacity to reproduce themselves as a general equivalent, i.e. on their capacity to represent the universal equivalent through the monetary functions they fulfil in their spheres of exchange. From this point of view, it does not matter whether this capacity is compromised by fundamental macroeconomic variables (first-generation crises) or by irrational market beliefs (second-generation crises). For in all cases, this capacity is verified according to two criteria: the interest rate (the remuneration of money-capital) and foreign exchange reserves (the conversion into universal money-capital).[22] For the foreign exchange market, only these two variables are said to be fundamental, insofar as they are the only ones to indicate to the markets the capacity of domestic currencies to represent the requirements of universal capital.

Notes

1 Aftalion (1927) was one of the first to reverse the causality of the PPP between the exchange rate and prices by pointing out that currencies were sought after not only for their purchasing power but as financial assets and means of speculation.
2 In addition to the orthodox flexible price approach where the PPP applies continuously (Frenkel, 1976), Dornbusch (1976) proposed a variant in which prices are rigid, thus explaining the phenomena of exchange rate overshooting before the PPP is verified in the longer term.
3 "Cassel's references to the stability of price level and of the supply of money as the pre-conditions (additionally to the domestic monetary policy) to the stability of a currency may be regarded as his own version of the quantity theory of money and of the monetary view on exchange rate determination" (Kadochnikov, 2013: 1108).
4 The Balassa-Samuelson effect, which is supposed to express the effect of international prices on the real exchange rate of developing countries through their effect on the real wages of the exposed sector, in fact assumes the law of one price (LooP). For if we look at this law in detail, we notice that (i) in order to determine the relative price between the two goods produced locally and abroad, it is necessary to assume a common unit of account, as we saw in the chapter on the history of monetary thought; and (ii) the single price is fixed by the country with the best production conditions, since the exchange rate evolves precisely as a result of the catching up of the less advanced country as manifested in the evolution of the real wage. It is therefore in relation to the currency of

the advanced country that the real exchange rate of the less advanced country appreciates. It should also be noted that the hypothesis of pure and perfect competition, which implies in particular the perfect mobility of capital, should lead to the establishment of identical production conditions in all the countries producing tradable goods and thus to an alignment of all the corresponding exchange rates, so that we would have only one currency denominated under different account names.

Rainelli (1986) wants to stress that PPP and LooP cannot be confused since PPP does not refer to the prices of individual goods but to the general price level and is based on a demand function for foreign currency. Moreover, Cassel rules out any price index calculated solely on the basis of tradable goods. Thus, the LooP would only lead to PPP if all goods were perfectly tradable and substitutable. But what LooP has in common with PPP is the dichotomous approach: in both cases, we have relative prices without money, or rather relative prices expressed in a common unit of account distinct from the currencies traded in the foreign exchange market.

5 Like the BEER model (Clark and MacDonald, 1998), the FEER model (Williamson, 1985) does not aim to explain the exchange rate theoretically but to account for its evolution, in particular in order to evaluate misalignments of the current exchange rate. In the first model, the source of exchange rate change is the capital account; in the second, the change is the result of the current account. But neither of these models predicts better than the random walk models that predict that tomorrow's exchange rate will be today's exchange rate.

6 Thus, Mishra, Gupta and Sahay (2003), in particular, show that the more a currency crisis is preceded by intense capital flows (of all categories) with foreign countries, the more powerful its depressive effect is when the capital account is liberalised: they estimated that an additional inflow of foreign capital of 10% of GDP induces a relative contraction in growth of between 2.6% and 3.5%, all other things being equal.

7 After 1972, not only did the states not settle their balance of payments, contrary to what the monetarist doctrine suggested with the abolition of fixed exchange rates, but above all the central banks did not get rid of their foreign exchange reserves or their gold reserves (de Brunhoff, 1978: 51–52).

8 The banking system was spared less by emergency aid than by the end of the US recession and the fall in interest rates from the second half of 1982. If we add to these functions a more accommodating monetary policy on the part of the Fed and a counter-cyclical fiscal policy on the part of the US Treasury, the 1982 crisis already shows on a regional scale the role of the global financial cycle of the dollar in the economic and social destinies of emerging countries. In 2003, Jeanne wondered about the relationship between the recent financial crises:

> Wall Street could be not only a vector of propagation, but also a source of shocks. Capital flows to emerging countries are characterised by boom and bust dynamics that are difficult to justify in terms of economic fundamentals, a phenomenon that is seen in many other financial markets. Thus Wall Street could be a source of correlated shocks between countries that have nothing in common other than being in the same risk class.
>
> *(Jeanne, 2003: 6)*

9 Sgard notes that short-term capital movements were not included in the list of reforms promoted by the Williamson's Washington Consensus (1990).

10 Without disturbing the markets, the Mexican authorities had already introduced a floating exchange rate regime in 1989 and set up a system of fluctuation bands in 1992 allowing the gradual depreciation of the peso but setting a ceiling on the exchange rate with the dollar.

11 The banking system recovered more or less quickly from this crisis but with a new look as it became almost entirely controlled by foreign banks: "By 2008 foreign banks controlled about 80% of assets of the commercial banking system, including the largest Mexican banks" (Musacchio, 2012: 23).

12 The author refers to the risk of contagion from the 1982 Mexican crisis to the entire global financial system to explain why the G10 states outside the US participated in the resolution of the crisis, whereas they would have washed their hands of it in 1994. The big difference with the latter crisis, however, was the role of the IMF in the rescue of the country, which was due to the fact that the default involved the Mexican state itself (Vallée, 2016).
13 The current system is certainly more effective and stable "but one that was lending less to the private sector and has some of the most expensive fees and commissions in the world" (Musacchio, 2012: 23).
14 The financial crises in emerging countries are an empirical refutation of the monetary theories based on the notion of trust. These theories assert that distrust of a given payments system undermines hierarchical trust and hence the monetary order as a whole, which, according to this theory, is based on the organic links between money and the state and the sovereignty of the institutions of money, namely the central bank and the government. Thus, ethical trust, the apex of the system of trust in money, would be "the belief that the power of money is not deployed to satisfy arbitrary goals in favour of groups of private actors or partisan political interests" (Aglietta and Valla, 2017: 217). When ethical trust is undermined, legal tender is no longer perceived as legitimate (*Ibidem*). But all the financial crises that have affected emerging countries have occurred at the same time as states have been facing speculative attacks "from groups of private actors" that are particularly voracious and desperate to retain their sovereignty, by maintaining the nominal peg of their currency at the expense of their foreign exchange reserves and fiscal balance. The loss of "ethical trust" was not the result of questioning the sovereignty of the monetary institutions, but rather the impossibility of remaining in a system of monetary subservience to the dollar. In each case, it was the threat of a repossession of their sovereignty that caused the loss of trust in a payments system entirely subject to the dollar standard.
15 Moreover, the dollar, as a reference currency, played a non-negligible role in the speculative attacks on the EMS. If we compare this crisis with the Mexican crisis two years later, we would have to say that the former was caused by the weakening of the dollar and therefore by the loss of competitiveness in Europe, and the latter by the rise in the US interest rates and therefore by the flow of capital back to the US: in the first case, it was only a problem of the balance of payments resulting from the hierarchical relationship between the currencies of the industrialised countries; in the second case, it was a problem of arbitration between securities denominated in pesos and dollars.
16 See Solomon (1999, Figure 6.1) on the evolution of the relationship between the exchange rate and the US current account deficit. See also p. 146 on the embarrassment of economists when misalignments coincide with exchange rate appreciation.
17 The role of the dollar in financing export activities is reflected in the fact that "over 83% of cross-border payments associated with credit-related activity is denominated in US dollars" (Bruno and Shin, 2020: 1). This dependence of exporting firms on international credit is due to the lengthening of value chains and delays in receiving payments.
18 Stiglitz himself is so obsessed by the IMF that he also criticises it for implicitly guaranteeing loans taken out by emerging countries, thus generating moral hazard for borrowers (Stiglitz, 2002a: 201).
19 When it comes to alternative models to market liberalisation and the Washington Consensus, for example, for South East Asian countries to regionalise their relations around Japan, Krugman does not hesitate to compare them to the worst decisions in history (Krugman, 1995: 42).
20 What is striking about Krugman's exchange rate model (1991) is that he introduces the exchange rate into his equations on the macroeconomic equilibrium of a developing country without ever specifying to which foreign currency or monetary standard the domestic currency relates.

21 At the time they were commenting on currency crises, Krugman was a member of the Group of Thirty, composed of leading financiers and central bankers, and Stiglitz was a member of the Council of Economic Advisers under President Clinton, a position he held simultaneously with that of Chief Economist of the World Bank.
22 The banking crisis that goes with the currency crisis comes from the fact that the interest rate is also the price of local investment – and therefore of growth and employment – and that devaluation also means higher dollar borrowing.