Exchange Rate Policies: Fact or Fiction in the Rise of High Performance Asian Economies

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Abstract

Many economists believe that the nature of exchange rate management was an important reason for rapid economic growth in East Asia. In this view, Asian countries avoided extreme exchange rate appreciations and kept their nominal exchange rates close to market clearing levels. In contrast, the inappropriate exchange rate policies pursued by many Latin American and African countries in the late 1970s and 1980s contributed a great deal towards their poor economic performance. This paper challenges the above views on the type of exchange rate policies adopted by the East Asian, Latin American and African countries. The empirical evidence fails to prove that the exchange rate policies of the East Asian economies were significantly different from those of other developing countries.

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1. Introduction

Many economists have supported the view that exchange rate policies played a pivotal role in promoting exports in "High Performing Asian Economies" (HPAEs). Proponents believe that HPAEs avoided extreme exchange rate appreciations, which contributed to their successful development. For example, World Bank (1993) and Roemer (1994) claimed that exchange rate management was one of the most important reasons for rapid growth in East Asia. In his view, Asian countries kept their nominal exchange rates (NER) close to market clearing levels, while parallel-market premiums were very low. More importantly their real exchange rates (RERs) *remained constant* or *depreciated* gradually. Such views, perhaps ironically, remained prevalent even after the Asian crisis of 1997 when some of these countries were widely blamed for their exchange rate mismanagement. In a recent article Shatz and Tarr (2000) echoed similar sentiments and argued that a large reason for rapid Asian growth was exchange rate management. Therefore, the debate is still relevant and alive.

In contrast, the inappropriate exchange rate policies pursued by many Latin American countries in the late 1970s reduced economic growth rates and were instrumental in unleashing the debt crisis. Overvalued RERs in many African countries were responsible for the dramatic deterioration in agricultural sectors and trade balances (Edwards, 1988). It is often argued that up to the 1980s, Sub-Saharan African states resisted devaluation, and there is strong evidence that the overvaluation of RERs contributed a great deal towards Africa's poor economic performance. Thus, the poor economic performances of African and Latin American countries can partially be explained by their inward oriented trade regimes in general, and overvalued exchange rates in particular. Despite the fact that these ideas became the conventional wisdom of the 1980s and 1990s and were echoed by many researchers,[1] the empirical literature is rather lacking in compelling evidence to support such views. Moreover, proponents are oddly silent as to why these countries have adopted such

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[1] See for example Dollar (1992), Ghura and Grennes (1993), Klau (1998), Sekkat and Varoudakis (1998), Sahn, Dorosh and Younger (1996), Shatz and Tarr (2000) and World Bank (1984, 1993 and 1994). This list includes researchers from the political economy perspective such as Sender and Smith (1988).

disastrous exchange rate policies, and why they were so reluctant to devalue when their currencies were overvalued.

The aim of this paper is to challenge the above views on the exchange rate policies adopted by the East Asian, Latin American and African countries. The empirical results provide no evidence to verify that the exchange rate policies of the East Asian economies were significantly different from those of other developing countries. Therefore the reasoning behind the success story of HPAEs and the dismal performance of other developing countries by their exchange rate policies remains unproven.

The next section briefly deals with the theoretical debate over exchange rate policies. It emphasises the difficulties of defining the equilibrium real exchange rate (ERER). Section three summarises the background of the debate. Section four discusses the alternative measures of real exchange rate. Through the analysis produced in section two, section five abandons the concept of ERER and presents the empirical evidence by initially comparing the RERs of HPAEs with other developing countries. Section six presents concluding remarks.

2. Exchange Rate Policy

There is little disagreement over the necessity of maintaining a "realistic" exchange rate in order to stay competitive in international markets. What is meant by a "realistic" exchange rate is, however, controversial. One opinion, which favours the laissez faire approach, seeks to set the RER at a level that reflects the scarcity of foreign exchange within prevailing markets. An alternative view, however, suggests that, particularly in the case of low-income countries, the value and allocation of foreign exchange can best be handled by government policies. Such policies include import controls, subsidies, taxes and multiple exchange rates (Mengisteab, 1995).

The World Bank and IMF have been consistent advocates of so-called exchange rate "protectionism", as opposed to other forms of protectionism. This is because exchange rate devaluations do not discriminate against the "winner" sectors and allow the principle of comparative advantage to decide which sectors will be competing in international markets. In this view, this is the best policy option for developing countries wishing to stay competitive and eliminate the possible negative

effects of trade liberalisation. Governments should not intervene with trade in any other way but maintain competitiveness by devaluations and let the markets decide which sectors will be the winners (World Bank, 1993).

According to Shatz and Tarr (2000) there are six channels via which an overvalued exchange rate can damage the economy and growth rates: 1. by discriminating against exports; 2. by reinforcing increased protectionism that reduces competition; 3. by reducing productivity advances; 4. by inducing capital flight; 5. through mismanagement in the allocation and rationing of foreign exchange by governments; 6. by provoking a tight monetarist policy response in defence of the overvalued exchange rate that can lead to severe economic recession. Before assessing the precision of the above arguments, there is a need to discuss what is meant by RER overvaluation or misalignment.

Currency overvaluation, or misalignment, is usually defined as a deviation of the actual RER from a theoretical equilibrium long run RER that is assumed to bring the external and internal markets into equilibrium.[2] It is important to stress that this definition is a theoretical dictum and assumes that there is a single, market determined RER level that brings the internal and external markets into equilibrium. In this sense, overvaluation of the exchange rate is a diversion from the functioning of the free market economy and implies protectionism. This is so because an overvalued exchange rate would create a trade deficit by encouraging imports and discouraging exports, and the only way to reduce a trade deficit is to control imports by imposing protectionist policies, such as tariffs and quotas.

The literature acknowledges that the equilibrium real exchange rate (ERER) does not imply a constant RER. It is a moving equilibrium rate that is determined by "fundamentals". The ERER may change as a result of technological progress, permanent shifts in tastes, changes in external terms of trade, capital and aid flows, foreign borrowing, changes in domestic and world interest rates and so on. In general, changes in ERER will be the result of permanent changes in the underlying structural conditions of the economy. There are also, however, "unjustified" departures of the RER from its equilibrium value.

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[2] A theoretical exposition can be found in Parikh and Bailey (2001)

Many authors, however, regard policy variables such as trade restrictions, as one of the fundamentals.[3] The inclusion of trade restrictions as determinants of the ERER implies that RER appreciations resulting from such trade policies will alter the ERER, but will not result in overvaluation. This signifies a marked difference from the free market approach where changes in RER as a result of protectionist measures imply overvaluation. In our view the latter approach is sensible, because it recognises that a change in RER as a result of interventionist trade policies may not imply a decline in competitiveness. But it also exhibits weaknesses. Not only does it imply that such protectionist policies may cause the exchange rate to appreciate, but also that any exchange rate appreciation would inevitably induce or give rise to more protectionist measures. For example Edwards (1988: 22) admits that "[m]isalignments usually are accompanied by the imposition of a battery of exchange and trade controls intended to slow the drainage of foreign exchange reserves that occurs when the actual RER is overvalued". There is an inconsistency in this contention. He, on the one hand argues that ERER will be determined by "fundamentals", including protectionist measures such as import tariffs and quotas, implying that such policies are not a cause of overvaluation. But on the other hand states that overvaluation results in protectionist trade policies. If misalignments are accompanied by the imposition of trade controls, then it makes sense to argue that the reverse is also true; that the imposition of trade controls will result in misalignments. As Sahn, Dorosh and Younger (1996) contend, trade policies in many developing countries have been an integral part of foreign exchange rate rationing and broader exchange rate policies.

In the short-run, overvalued RER can be maintained without imposing trade restrictions. In this case overvaluation will manifest itself as a persistent trade deficit, which will be financed by using foreign currency reserves or by foreign borrowing. This course of action, however, is not sustainable in the long run and a devaluation, and/or trade restrictions, will become inevitable. In the absence of these measures, reserves will be exhausted and the external debt will become untenable. As a consequence, a persistent trade deficit financed from reserves and/or borrowing, may be a sign of overvaluation. An uncontrolled accumulation of debt, however, may also

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[3] See Edwards (1988 and 1994), Elbadawi (1994), Ghura and Grennes (1993). Such policies include restriction on imports either by an increase in import tariffs or a rise in quantitative restrictions, export taxes and subsidies and the composition of government expenditure.

be a sign of a country's persistent economic problems, and differentiating between these two scenarios may be very problematical. Moreover, there is no easy method of calculating at what point foreign borrowing becomes unsustainable.

In our view, defining overvaluation to the exclusion of protectionist trade policies is problematic. Overvaluation may be caused by and indeed lead to more protectionist trade policies.[4] This approach is not concerned with the level of trade, as long as internal and external markets are in equilibrium.[5] Moreover, if, as this view implies, overvaluation cannot be sustained in the long run, it is not easy to argue that Sub-Saharan Africa and Latin American countries have in fact suffered from persistent long-term RER overvaluation.

Therefore the first approach provides a clearer definition of RER overvaluation by proposing that overvaluation is the equivalent of protectionism. Once misalignment is defined in this way, however, one cannot simply argue that RER overvaluation will always lead to poor economic performance. Misalignment may or may not be detrimental depending on country specific circumstances. It may stem from conscious trade policy choice or pure mismanagement. The boundary between these two is thin and there is no easy way of distinguishing between where misalignment as a conscious trade policy ends, and misalignment through pure mismanagement begins.

There are in fact good reasons for a country to have an "overvalued" exchange rate. As Rodrik (1986) argues, a policy that deliberately maintains the exchange rate at a disequilibrium level can be welfare-increasing by promoting structural change. In other words, an overvalued exchange rate can be used as an effective industrial policy tool, which indirectly taxes the traditional exports in order to subsidize the industrial sector. Rodrik argues that in the absence of any more direct means by which this transfer can be accomplished, overvaluation might look very attractive.

From the above it is clear that exchange rate policy cannot be analysed in isolation and should be located in a broader industrial/trade policy context. Overvaluation should be seen within the framework of a set of long-term development goals and not short-term market (dis)equilibrium. Adopting this view would lead us to

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[4] For example overvaluation of the RER will cause trade disequilibrium that will eventually require interventionist policies to restore the balance.

[5] For example, a trade restriction may cause an appreciation of the ERER and reduce trade but this will not be considered overvaluation.

conclude that a currency is overvalued only if it damages long-term development goals, and in parallel with this reasoning it is possible to similarly consider the ERER as "overvalued" if it is damaging to a country's long-term development goals.

Moreover, the idea that RER devaluations will always bring an economy into equilibrium is flawed because it does not take the country specific market conditions into account. Two problems occur with this approach. First, even if devaluations can eliminate external disequilibrium, it may not be in the interest of a country's long-term development objectives to do so. This may be the case, for instance, if devaluations reduce demand for imported inputs, such as machinery, spare parts and fertilizers, by increasing their prices without producing a corresponding rise in exports. Devaluations may also cause inflation through a wage-price spiral. Second, devaluations do not guarantee external equilibrium. The effectiveness of devaluations in achieving external equilibrium will depend on the causes of the disequilibrium, and the structure of the economy. In other words, the relationship between devaluations and external balance is at best inconclusive (Mussa, 1984 and Maizels, 1986). According to Mengisteab (1995: 107) the following factors determine whether devaluations will bring external markets into equilibrium: 1. the level of competition (including responses of competitors to a given country's devaluation) and the export restrictions facing a country, such as quotas; 2. the elasticity of the supply of export commodities; 3. the elasticity of foreign demand for the devaluing country's exports; 4. the elasticity of the demand for foreign products in the devaluing country, and 5. the nature of the causes of the external disequilibrium, i.e. whether it is caused by uncompetitive costs of production or by external factors, such as declining demand and prices on the international market.

External equilibrium for measuring RER overvaluation is not even a robust criterion. If countries do not have access to external finance and do not have significant resources to finance imports, there will always be trade equilibrium, whether or not the RER is overvalued. In this case one needs to determine whether free market equilibrium is superior to a "managed" equilibrium where there are controls over imports. For example when there is an external shock, i.e. a sharp fall in exports, a country may leave everything to market forces and RER will then depreciate to reduce overall imports. As an alternative it may prefer to discontinue

importing certain commodities to allow for the importation of more essential items, without RER depreciation.

Finally it is not entirely true to say that RER cannot be overvalued in unregulated markets. As Ghei and Kamin (1999) argue, market determined RER might reflect expectations, political concerns, capital flight, market imperfections and other speculative factors not directly related to the ERER. Even high domestic interest rates and massive speculative capital inflows ('hot money'), two of the "fundamentals", may also cause an appreciation of the RER and reduce exports.

3. Background of the Debate

It is often argued that, although most developing countries liberalised their trade during the 1980s and 1990s, some countries maintained overvalued exchange rates, which counteracted their trade liberalisation. According to Shatz and Tarr (2000) over 25 percent of countries have overvalued exchange rates that harm their prosperity. In fact, overvalued exchange rates are considered an important reason for protectionism, and in this view, countries with overvalued exchange rates are unable to return to the liberal trade policies that promote economic growth. A number of studies[6] suggest that RER misalignment and variability are strongly related to low economic growth, low productivity, low export growth and low agriculture growth. According to Bouton, Jones, and Kiguel (1994), devaluation of the RER is crucial to successful reforms. They argue that compared to three areas of policy – exchange rate, fiscal, and monetary policies –exchange rate reform has the biggest impact on growth.

In particular, poor economic performance in Africa is attributed to overvalued exchange rates. Many researchers argue that there is strong evidence that the overvaluation of RERs contributed a great deal towards Africa's poor economic performance (Ghura and Grennes, 1993; Klau, 1998; Sekkat and Varoudakis, 1998; Shatz and Tarr, 2000). Foroutan (1997) claims that post-colonial Sub-Saharan Africa adopted remarkably similar economic policies, which produced a strong bias against trade. These policies included import and export quotas and prohibitions, price controls, foreign exchange controls, interest rate ceilings, state-owned enterprises, and

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[6] See for example Cottani, Cavallo and Khan (1990), Edwards (1988 and 1989)

marketing monopolies. As a result, by the early 1980s, many Sub-Saharan Africa countries experienced balance of payments problems and economic deterioration.

Although the role of external shocks in triggering these problems is generally recognised (Bouton, Jones, and Kiguel, 1994), failures of governments to adjust to shocks are blamed for their poor performance. In this view, despite the fall in commodity prices during the early and mid 1980s, governments continued to spend and financed their expenditure by foreign borrowing, which led to the overvaluation of the RER, in the absence of adjustments to NER. This was particularly evident in the case of the CFA zone countries that performed very poorly until the CFA franc devaluation of 1994 (Shatz and Tarr, 2000). Rather than devaluing their currencies, countries responded to RER appreciations by imposing further exchange controls and import restrictions, which aggravated the situation.

In contrast, the achievements of the HPAEs are accredited to their successful exchange rate policies. HPAEs avoided overvaluing their exchange rates to encourage exports. In consequence, their exchange rate management policies are seen as the key to their successful, long-term economic performance. Although it is acknowledged that these countries embarked upon industrialisation with protectionist policies, they subsequently rapidly liberalised their trade and adopted outward oriented trade policies. According to a World Bank report, "several HPAE governments used exchange rate policies to offset the possible adverse impact of trade liberalisation on producers of import-substitutes. A few went beyond this objective [...] and used deliberately under-valued exchange rates to assist exporters."[7] The report argues that during the 1980s, Taiwan, Korea and Indonesia in particular, deliberately under-valued their currencies to boost their exports and "[o]ne can see a fairly clear relationship between devaluations and export growth in the 1980s" (World Bank, 1993:126). Although the above views slightly overstate the role of exchange rate policy in economic success, they are widely accepted by many researchers.[8] This

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[7] World Bank (1993: 125). The report appears not to criticize the "undervalued exchange rates" in these countries. This clearly contradicts the free-market exchange rate approach and implies "mercantilism". As argued earlier from the logic of neoclassical static-efficiency, undervalued exchange rates are as inefficient as overvalued exchange rates.

[8] The majority of empirical work has produced evidence supportive of the above arguments. Some literature, however, has contested these findings. See for example Mengisteab (1995) and Weeks (1993).

section will demonstrate that the above interpretation of the policies adopted by the HPAEs is erroneous and not supported by the evidence.

Before we proceed to present our empirical work, one point should be clarified from the outset. Our analysis will not be based on the concepts of ERER, overvaluation or misalignment. As argued earlier in section two, the ERER is a theoretical construction and strictly rooted in the general equilibrium paradigm. It is a vague concept and in our view, cannot be accurately measured. All of the various methods of measuring ERER are problematical. As a result, the empirical literature on the impacts of overvaluation on economic performance is weak. For the sake of limitations of space, we will not cover the weaknesses of this empirical literature but a comprehensive critique can be found in Rodriguez and Rodrik (2000). Instead the analysis will be limited to a defence of the argument that the exchange rate policies adopted by East Asian countries were not different from those of other developing countries. We will proceed by observing the RER patterns of the HPAEs in order to challenge the idea that the exchange rates of the East Asian countries *remained constant* or *depreciated* gradually (Roemer, 1994).

In other words the focus of this paper shifts from ERER to a comparison of RER movements through time. These two concepts, although related, are distinct and such a shift enables a number of issues that need to be addressed to come to the fore. The former refers to the relation between the actual value of a currency and its equilibrium value at a given point in time, whilst the latter refers to a change in the value of the currency over time. These two are not comparable. The empirical evidence we will present demonstrates that, if anything, the RERs of HPAEs appreciated relative to other countries during the last three decades. This does not, however, necessarily imply that their RERs have become overvalued for two reasons.

Firstly, it could be the case that, the RERs of HPAEs remained undervalued relative to the ERER. In the same vein, African and Latin American countries maintained overvalued currencies, despite the fact that during the time period studied (1970s to 1990s) the RERs of HPAEs may have appreciated (and therefore became less undervalued) and those of African and Latin American may have depreciated (and therefore became less overvalued). Secondly, an appreciation of the RER does not necessarily mean overvaluation as it may simply reflect a change in the "fundamentals".

The first argument can easily be tackled by using the length of the time period studied. The initial level of undervaluation (overvaluation) of the RERs for HPAEs (African and Latin American) is unlikely to be so large as to be maintained in thirty years time period. Moreover, regardless of over/undervaluation, if the RERs of HPAEs have appreciated and those of African and Latin American have depreciated, this would still have a negative (positive) impact on HPAEs' (African and Latin American) exports. Moreover, it can be argued that overvalued RER are as inefficient as undervalued RERs from the logic of the neoclassical economics.

The second issue is more serious. It is indeed true that a RER appreciation may be caused by many factors such as changes in productivity of exportables and home goods, and does not imply a loss of competitiveness. Unfortunately due to the lack of data it is not possible to control such factors. That is the reason why we confine our analysis to challenge the above view that the exchange rates of the East Asian countries *remained constant* or *depreciated* gradually. This argument is clearly presented and repeatedly argued in the literature. Before pursuing these arguments further, a brief discussion of the methods of measuring the RER is necessary.

4. Measuring the Real Exchange Rate

There are two generally accepted measures of RER, both of which yield different results. The conventional measure is called the purchasing power parity RER (hereafter referred to as multilateral RER or MRER) that is defined as:

$$MRER = ER.P_I / P$$

where ER is the nominal exchange rate, P_I and P are international and domestic prices, with the latter being measured by the consumer price index or wholesale price index. The second measure is called the "internal" real exchange rate (IRER) and can be defined as:

$$IRER = P_T/P_H$$

where P_T is an index of the prices of tradable goods, and P_H is an index of the prices for non-tradables or home goods.

Though MRER is the more conventionally used and preferred measure, IRER is more accurate because MRER does not take into account the commodity content of exportables.[9] MRER can only be accurate if all countries produce and export the same bundle of commodities. Conventionally, RER is used to measure changes in competitiveness. It is assumed that if a country's inflation rate is above the world inflation rate, that the country will be uncompetitive in terms of its exports. To increase the competitiveness and profitability of exporters, an exchange rate devaluation is required to keep the RER constant.

MRER, however, does not differentiate between the prices of the specific commodities that are exported. A country may become uncompetitive not only as a result of higher overall inflation, but also as a result of changes in the international market price of exportables. Several factors can account for a change in international commodity prices; demand and supply conditions, a variety of shocks, and productivity increases. These fluctuations are particularly significant for developing countries that usually export a limited number of primary commodities. As the prices of exportables fluctuate sharply and frequently, using a comparison of international and domestic inflation rates to adjust the NER, instead of using the prices of exportable commodities, will substantially distort RERs and not reflect any real changes in competitiveness.

IRER, however, reflects the impact of relative overall price changes (inflation) as well as the impact of the relative price changes of tradables. This can be shown by the following. When the law of one price holds, the domestic and international prices of tradables will be related through the NER:

$$P_T = ER \cdot P_{TI}$$

where P_{TI} is the international price of tradables

and

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[9] For a more in-depth discussion of the alternative measures of the real exchange rate see Hinkle and Montiel (1999), Masters and Ianchovichina (1998) and Holden (1991).

$IRER = ER \cdot P_{TI} / P_H$

Thus, the IRER varies as a result of changes in the exchange rate, changes in the domestic prices of non-tradables and changes in the international prices of tradables. IRER reflects changes in the international prices of tradables produced by market fluctuations and global productivity changes.[10] The differences between the two methods of measuring RER matter because they can produce an inconsistency in results, some of which vary widely. The works of Masters and Ianchovichina (1998) on Zimbabwe, and Holden (1991) on South Africa illustrate this conundrum. In Zimbabwe, MRER showed a depreciation between 1967 and 1987 whereas the IRER, in contrast, demonstrated a sharp appreciation (Masters and Ianchovichina, 1998:469). In the case of South Africa, the opposite is true with the MRER appreciating between 1973 and 1987, while IRER depreciated (Holden, 1991:8-9).

Although better than MRER, the IRER is also not a perfect measure of RER. This is because of the so-called Ricardo-Balassa effect (Masters and Ianchovichina, 1998) that suggests that the RER may appreciate as a result of faster productivity growth in the production of tradables than of home goods relative to other countries. The index could additionally be improved by using the trade-weighted average of several trading partners. Nevertheless, the IRER is a useful tool for measuring RER and has an additional advantage in that it is possible to calculate a composite IRER index across many countries. This allows for a comparison of different regions or country groupings.

In the following section, IRER will be used as a measure of the RER. In some cases, MRER will also be used to assess the consistency of the results. IRER is calculated by using the price levels of home goods and exportables. These price levels in turn are calculated by dividing the nominal values by the real values.[11] A weighted average price for tradables can also be introduced to construct a composite index for the price of tradables. Alternatively, the relative price of exportables to home goods

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[10] This formula can also be adjusted to take into account the ad valorem taxes and marketing margins. See Masters and Ianchovichina (1998: 466).

[11] For example, in order to calculate the price index of exportables (P_X), we divided the nominal export values (in current U.S. dollars) by the real export values (in constant 1995 U.S. dollars). The data is taken from World Bank's World Development Indicators.

(P_X/P_H) can be used, since a change in the NER would not alter the relative price of exportables and importables (P_X/P_M).[12]

5. The Empirical Results

Figure 1 which illustrates the trends in IRER, MRER and NER (an increase implies depreciation) and terms of trade for the HPAEs between 1960 and 1998 provide some interesting insights. In the case of Japan, the IRER, MRER and NER appreciated continuously between 1960 and 1996 and depreciated as a result of the Asian crisis. Hong Kong's IRER also appreciated continuously between 1960 and 1998 particularly from 1974 onwards. The MRER data is available only for the 1990-98 period and shows an appreciation. After a period of fluctuation between 1960 and 1965, Korea's IRER appreciated continuously between 1965 and 1996 (except for 1972-74 and 1979-80), and depreciated considerably after 1996. Therefore, the World Bank's (1993: 126) contention that "Korea used exchange rate protection from 1986 to 1989 when it ran a current account surplus" is not supported by the evidence. In fact this argument is surprising because not only did the IRER but also the MRER and the NER appreciated during this period. Although NER depreciated from 1960 to 1986, MRER fluctuated and indicated no sign of depreciation. For Singapore, the IRER figures are not available for the period before 1979 and after 1993, but the available data shows that IRER appreciated very sharply between 1980 and 1993. MRER and NER were stable between 1960 and 1972, and then they appreciated sharply until 1974. After 1974 NER continued to appreciate whereas MRER slightly depreciated until 1987 and appreciated again slightly. Overall there is sign of depreciation. Thailand's IRER appreciated between 1960 and 1973, then depreciated until 1980, and once again appreciated until the Asian crisis. On average there is no sign of depreciation between 1960 and 1996. For Malaysia and Indonesia, two oil exporting countries, the IRER fluctuated considerably. After a period of appreciation between 1960 and 1972, Malaysia's IRER depreciated until 1980 as a result of oil price increases, and appreciated again until 1996. For Indonesia, the IRER depreciated between 1967 and 1984, again predominantly due to oil price hikes, and then fluctuated between 1984 and 1997. Figure one shows that China is the only HPAE

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[12] In other words, a NER devaluation would change (P_X/P_H) and (P_M/P_H) equally.

country that experienced continues depreciation of its currency between 1960 and 1994. Apart from China and Hong Kong, the impact of the Asian crisis on currencies is clear. The IRER, MRER and NER all sharply depreciated for Thailand, Indonesia, South Korea, Malaysia; and less drastically for Japan and Singapore. This study of the IRER and MRER offers no evidence that validates the argument that HPAEs used RER devaluations for competitive purposes. Apart from China, in virtually all HPAEs, the RER appreciated during the 1980s.

The evidence so far, however, should be interpreted with caution as it does not necessarily disprove the argument that the exchange rate policy may have played an important part in promoting exports for two reasons. Firstly, the appreciation of IRER could result from the Ricardo-Balassa effect. The HPAEs have significantly altered the composition of their exports during the period under review. Therefore, the appreciation of IRER could simply reflect changes in the composition of exports toward goods with a high productivity increase and falling relative prices. In general, observing productivity change for tradables and home goods would reveal useful information. In the absence of relevant data, however, the terms of trade could provide some rough ideas on the significance of the Ricardo-Balassa effect. If the price of exportables declines relative to home goods due to a significantly faster productivity increase, it would also decline against the price of importables. Therefore, one would expect somewhat a positive correlation between IRER (P_X/P_H) and the terms of trade (P_X/P_M). Obviously, if a decline in the terms of trade due to a decline in the international price of exportables were neutralised by nominal exchange rate devaluations, there would be no correlation between the terms of trade and IRER. If a decline in the terms of trade comes from a productivity increase in exportables, however, this would not require any exchange rate adjustments. Therefore, a correlation between the terms of trade and IRER would be expected.

An observation of the terms of trade in figure one provides no evidence for the Ricardo-Balassa effect for none of the HPAEs. If we focus on three countries with clear appreciation of both IRER and MRER, Japan, Hong Kong and Korea, only for Japan there is a sharp decline in the terms of trade between 1972 and 1980. Before 1972 and after 1980 the terms of trade remains fairly stable and there is no meaningful correlation between the terms of trade and IRER. For Hong Kong and Korea the terms of trade remained fairly stable throughout the period covered and improved slightly.

16

Therefore, the terms of trade does not indicate any clear Ricardo-Balassa effect. Moreover, a simple regression between IRER and the terms of trade for the HPAEs provides no positive and significant correlation except for Indonesia and Malaysia. As discussed earlier, both countries export oil and therefore the positive correlation is likely to be a result of variations in prices in international oil markets but not a result of the Ricardo-Balassa effect.

Secondly, during the 1980s, the exchange rates of most countries appreciated following the decade of depreciation in response to the 1970s' oil crisis. Although many countries had responded to the oil price rises of 1973 and 1979 by dramatically devaluating their currencies, they then reversed this policy as oil prices declined during the 1980s.[13] Therefore it is also necessary to evaluate the relative performances of the HPAEs in terms of RER devaluations. Even though their currencies appreciated during this period, the level of this appreciation may have been lower than in other countries.

Observation of the IRER and MRER seems to contradict this view. When countries are percentranked according to their degree of RER devaluation by using both measures of the RER for the 1970s, 1980s and 1990s, HPAEs are not high on the list (see table 1).[14] For example, the first part of table 1 (IRER) indicates that during the 1960s, from our sample of 89 countries, Japan was ranked at the 12% level, Korea at 33%, Hong Kong at 36%, Thailand at 60%. This means that during the 1970s, 88% of 89 sample countries devalued their currencies more than Japan, 67% more than Korea, 64% more than Hong Kong and 40% more than Thailand. Only China is ranked a relatively high 88%. During the 1970s, most countries felt the impact of oil shocks, but in Indonesia and Malaysia export prices were relatively high because, as oil producers, they enjoyed a peripheral share of the windfall prices. The table suggests that during the 1980s only Indonesia (88%), and in the 1990s only China (76%) and Indonesia (60%) experienced relative appreciation of their currencies.

During the same periods, the much criticized Latin American and African countries devalued their currencies more than the HPAEs. The lower part of table 1 shows average percentranks of HPAEs, Latin American, African and East Asian

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[13] See table 2.

[14] Percentrank shows the rank of a value in a data set as a percentage of the data set. It is used to evaluate the relative standing of a value within a data set. In our sample 100 represents the highest and 0 represents the lowest value.

(includes HPAEs) countries. During the 1970s all groups scored the same. During the 1980s and 1990s, however, African and Latin American countries outrun the HPAEs. In other words, during these periods, the average relative depreciation of those countries has been higher than HPAEs. The second part of table 1 supports these findings. The relative RER devaluations of the HPAEs in terms of MRER are not particularly impressive. HPAEs seemed to have devalued their currencies more than African countries in the 1970s and more than Latin American countries during the 1990s. In other periods and on average African and Latin American countries exceeded HPAEs.[15]

Finally, table 2 provides a composite index of the IRER for Sub-Saharan Africa (CFA franc zone and other Sub-Saharan Africa countries), Latin America and the HPAEs. This index is constructed by treating the regions as countries. In other words, the relevant data for all countries were added up in current and constant terms and the relative prices of tradables and home goods were calculated by dividing the nominal values by the real values. Contrary to the previous exercise where percentrank of countries were averaged, thus having equal weight regardless of economic size, in this index larger countries have bigger impact on the final index. Consequently one would expect these indices to produce similar but not identical results. In order to limit the size bias, largest countries from each region were eliminated. These are Japan and China in HPAEs, Mexico and Brazil in Latin America, and South Africa and Nigeria in Africa. As far as we are concerned such a composite index for regions has never been used before. For obvious reasons a composite index cannot be constructed by using the conventional MRER.

The figures show that all three regions responded to the oil crises of the 1970s by substantially devaluing their currencies. During this period, the IRER depreciated more in Latin America than Sub-Saharan Africa and the HPAEs. During the 1980s, however, the IRER appreciated for Latin America and the HPAEs. For Sub-Saharan

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[15] A comparison of these two measures reveals additional information. Although not reported here, our calculations indicate that the percentrank order of some African countries differ substantially between these two measures during the 1980s. In terms of MRER they are ranked very high, but their IRER ranking is very low. For example Ghana, Tanzania and Zaire are ranked at 69%, 97% and 98% according to MRER devaluations, but their IRER devaluations are ranked at 2%, 11% and 47%. This can probably be attributed to a sharp fall in their terms of trade during the 1980s. As the international prices of exportables declined, they responded by devaluing their currencies. But even though the devaluations were substantial, they were unable to eliminate the fall in the relative price of exportables and the IRER declined.

Africa, it continued to depreciate until 1990 and then appreciated slightly. Sub-Saharan Africa, excluding the CFA zone countries, shows a more significant depreciation. Overall, between 1968 and 1997 Sub-Saharan Africa had the highest level of depreciation compared to Latin America and the HPAEs.

The CFA zone countries experienced a major RER appreciation between 1986 and 1993 as a result of the appreciation of the French franc. There is no doubt that such an appreciation cannot be healthy and must have had considerably negative impacts on these countries. However, even in the case of CFA zone countries, the relationship between RER appreciation and export performance is not as clearly established as the literature suggests. Table 3 shows the percentrank of CFA countries according to their degree of RER devaluation, and export performance for the pre-appreciation period (1978-85), appreciation period (1986-93) and post-appreciation period (1994-97).

During the first period (1978-85), most countries experienced substantial RER depreciations. All countries, except for Cote d'Ivoire, the Central African Republic and Mali, were percentranked higher than 50%. During the second period, only half of them experienced a substantial percentrank fall: Gabon, Cameroon, Togo, Senegal, Republic of Congo and Benin. Three countries experienced an increase. The only evidence of a clear negative relationship between overvaluation and export performance occurs in the Cameroon, Togo, Republic of Congo and Benin. For the other countries the relationship is less clear. Gabon for example experienced a substantial percentrank fall in terms of IRER (80% to 3%) and an increase in terms of export performance (14% to 63%) in the second period. Chad, on the other hand, experienced a small percentrank increase in terms of RER (51% to 61%) and a substantial fall in terms of export performance (74% to 26%) in the second period.

The foregoing evidence is sufficient to reject the common assertion that the strong export performances of the HPAEs were derived from RER devaluations. The empirical work we have presented so far does not provide any evidence to suggest that they have used "exchange rate protectionism" for competitive purposes. The World Bank Report for 1993 also argues that HPAEs have been successful in maintaining stable exchange rates, compared to some Latin American countries, thanks to their 'pragmatic macroeconomic management,' and this relative stability is what underlies the Asian success. The stability of the RER reduced uncertainty and stimulated trade

and foreign investment and other financial linkages. Table 4 shows the percentrank order of the countries according to their IRER and export stability indices.[16] Although not particularly impressive, the HPAEs appear to be in a better position in terms of exchange rate and export stability in comparison with Latin American and African countries. To analyse a possible relationship between IRER stability and export performance, the following simple regressions were estimated for 108 countries.

1. Exports growth   = f (IRER instability)   - significant
2. Exports instability = f (IRER instability)   + significant
3. Exports growth   = f (Exports instability) - not significant
4. IRER instability   = f (GNP per capita)   - significant
5. Exports instability = f (GNP per capita)   - significant

The results suggest some interesting insights (see table 5). The first and second regressions provide evidence for a negative relationship between RER instability and export growth, and a positive relationship between RER instability and export instability that seem to support the above scenario. Given these regressions, the World Bank would probably contest that causality may run from RER stability to export stability and export growth. In other words, countries that maintain a stable RER are likely to have more stable exports, thus superior export growth. The third regression, however, sheds doubts about the validity of this argument, as it provides no evidence for a significant correlation between export instability and exports performance. If RER stability has any positive impact on export performance, it must come from its stabilising impact on exports. If there is no significant correlation between export stability and export growth however, IRER stability cannot be an important reason behind the superior HPAE export performance. The lack of significant correlation between exports growth and exports stability is somewhat surprising. However even if

[16] Export stability is calculated by estimating the following simple regression:

  Ln X = f (T) or (Ln X = a + bT), where X is exports in logarithmic form and T is time trend. Residuals from this regression were saved and their absolute values were divided with the fitted (estimates) values and summed $\Sigma|e/Y^\wedge|$ where e is residual and $Y^\wedge$ is fitted (estimate) value. This gives variability of the variable around the time trend.

      Real exchange rate stability can be calculated in two ways. One is the simple coefficient of variation through time and the second is the above regression method. Here both methods are employed since some countries show clear trends in their exchange rates such as China, Chad, Guinea-Bissau,

there was a significant relationship between these two variables, one could still argue that the causality may run from a good export performance to stable exports and IRER. In other words countries that have good export performance (that may result from appropriate industrial policies and stable international demand) are likely to have more stable export performance and countries that have more stable export performance are likely to have more stable IRER. In this view, in the second regression the causality could run from export instability to IRER instability as countries respond to export fluctuations by adjusting their RER. The fourth and fifth regressions provide support for this argument as the IRER and export instabilities are negatively correlated with per capita GNP, which suggests that fluctuations in export performance are related to a country's level of development and the nature of the commodities produced. Exports, and thus the IRER performance of developed countries, are more stable. Thus, it is plausible to argue that HPAEs had relatively more stable IRERs and good export performances due to their good industrial and trade policies.

6. Conclusion

The debate on RER management is a subset of the broader debate on trade and industrial policy and, as such, cannot be analysed in isolation. In this view, "overvaluation" may or may not result from exchange rate mismanagement but is seen as an integral part of overall industrial/trade policy. The line between these two is thin and there is no coherent way of identifying when overvaluation is a result of mismanagement or as a result of trade policy. There are conceptual problems and ambiguities in measuring ERER that render it difficult to construct a reasonable empirical framework from which to gauge the impact of RER policies on trade performance. Existing empirical literature does not produce a persuasive argument nor provide credible evidence to support the common assumption that the RER policies adopted by HPAEs were fundamentally different from those adopted by Latin American and Sub-Saharan Africa countries.

Sierra Leone and Singapore which make their exchange rate variation in terms of CoV very high. When this trend is removed, however, their exchange rates are more stable around this trend.

Rather than seeking a better measure of RER distortions, this article questions the view that the exchange rate policies adopted by HPAEs played an essential role in promoting exports by comparing changes in two measures of RER for HPAEs, Latin American and Sub-Saharan African countries. The empirical work undertaken provides no evidence to support the argument that the RERs of HPAEs remained *constant* or *depreciated* gradually while Latin American and African countries experienced massive overvaluations. The exchange rate policies of these East Asian countries were in no way different to those of other developing countries. In the time period studied, there is no empirical evidence to suggest that the HPAEs relied on exchange rate policies to promote exports and one needs to look elsewhere to find an explanation for success in stimulating exports.

A caveat is necessary here to buttress the emphasis in section four, that the focus of this paper is not on ERER but on a comparison of RER movements through time. The empirical evidence we have presented demonstrates *only* that the RERs of HPAEs did not *depreciate* (in fact appreciated) between 1970 and 1998 compared to Latin American and African countries. It could be the case, however, that African and Latin American countries maintained overvalued currencies, despite the fact that their currencies depreciated relatively. Nevertheless, given the time period studied, the initial level of overvaluation is unlikely to be so large as to be maintained. As discussed earlier, the RER measures that are used in this paper, both IRER and MRER, suffer from various weaknesses that are well recognised in the literature and the evidence should be interpreted cautiously. Therefore it is safer to argue that RER policies of the HPAEs have not been proven to be relevant to their economic performance than arguing that they have been irrelevant. Despite their weaknesses these measures are widely used in the literature as we do not yet have a better measure and both measures consistently indicate no RER depreciation for the HPAEs.

Finally, it is important to note that none of the above arguments challenge the necessity of maintaining a "realistic" exchange rate in order to stay competitive in international markets. Good exchange rate policies are an essential part of a successful development strategy. However, simplistic arguments that endeavour to explain development on the basis of one or two policy related issues are misleading and harmful. Development is a complex and multi-dimensional issue. Even though a focus on the role of trade policies can be educational, a narrow concentration on policy

(mis)management can be deceptive. As Mason *et al.* (1998: 2) point out '[t]here is much more to economic development than sensible monetary, fiscal, and foreign exchange policies.' To have a better understanding of why certain countries have succeeded and others have not, there is a need to consider broader social, political and historical factors.

Tables and Figures

Table 1: Percentrank order of countries according to internal real exchange rate (IRER) and multilateral real exchange rate (MRER) devaluations

Countries	Percentrank of countries according to IRER devaluations					Percentrank of countries according to MRER devaluations			
	1970s	1980s	1990s	Average 1970-99		1970s	1980s	1990s	Average 1970-99
China	88	48	76	70		NA	NA	NA	NA
Hong Kong	36	60	11	36		NA	NA	NA	NA
Indonesia	81	88	60	76		33	86	79	66
Japan	12	23	17	17		9	14	12	11
S. Korea	33	42	10	28		91	30	62	61
Malaysia	67	14	25	35		51	36	27	38
Singapore	NA	NA	NA	NA		41	24	16	27
Thailand	60	27	67	51		73	41	40	51
Average for:									
HPAEs	53	43	38	45		50	39	39	42
Latin America	53	45	39	46		66	45	33	48
Africa	53	59	66	59		40	65	64	56
East Asia	48	42	43	45		44	44	36	41

Source: Constructed from raw data obtained from the World Bank World Development Indicators.

Note: High (low) value means more (less) depreciation. The relevant data is not available in World Bank Database for Taiwan. For IRER 89 and for MRER 103 countries are used. HPAE includes 7 countries for IRER and 6 countries for MRER, the same figures for Latin America is 20 and 25, for East Asia 10 and 12, and for Africa 29 and 25.

Table 2: Internal real exchange rate index (IRER), by region

	Sub-Saharan Africa	CFA franc zone	SSA without CFA	Latin America	HPAEs	WORLD
1968	100	100	100	100	100	100
1975	108	117	139	187	149	125
1980	124	112	184	226	160	140
1985	116	125	160	207	142	120
1990	139	69	179	155	125	108
1993	120	103	147	134	104	95
1997	125	102	143	115	93	89

Source: Constructed from raw data obtained from the World Bank World Development Indicators.

Note: High (low) value means more (less) depreciation. In order to limit the size bias, largest countries from each region were eliminated. These are South Africa and Nigeria in Africa, Mexico and Brazil in Latin America, and Japan and China in HPAEs. Taiwan and Singapore were also excluded due to lack of complete data.

Table 3: Percentrank order of CFA franc zone countries according to internal real exchange rate (IRER) devaluations and export growth rates (average rates across years).

	IRER Devaluations				Export growth rates		
	1978-85	**1986-93**	**1994-98**		**1978-85**	**1986-93**	**1994-98**
Gabon	80	3	98		14	63	22
Cameroon	57	5	94		99	4	12
Cote d'Ivoire	7	6	84		84	11	78
Togo	82	15	87		62	3	77
Cen. Afr. Rep	15	20	6		18	9	100
Mali	21	27	79		69	53	87
Senegal	60	28	97		12	23	33
Congo, Rep.	92	39	95		78	15	63
Benin	89	53	99		83	14	4
Chad	51	61	81		74	26	67
Burkina Faso	77	73	88		68	47	5
Niger	94	75	53		4	5	29

Source: Constructed from raw data obtained from the World Bank World Development Indicators.

Note: Ninety-nine countries were included. High (low) value means more (less) depreciation.

Table 4: Percentrank order of countries according to export and internal real exchange rate (IRER) stability. (1968-97)

	IRER stability (regression method)	IRER stability (CoV method)	Export stability			IRER stability (regression method)	IRER stability (CoV method)	Export stability
China	93	7	84		HPAEs	75	48	68
H. Kong	91	81	71		East Asia	61	44	60
Indonesia	42	24	67		Africa	43	41	29
Japan	92	52	82		LA	32	39	48
S. Korea	74	54	41					
Malaysia	48	45	53					
Singapore	100	49	83					
Thailand	58	76	63					

Source: Constructed from raw data obtained from the World Bank World Development Indicators. The calculations includes 8 HPAE, 24 Latin American, 12 East Asian and 35 African countries.

**Note:** Lower means unstable, higher means stable

**Table 5: Regressions on IRER instability, export instability, GNP per capita and export growth (1968-97)**

	Dept. var.	Indept. Var.	Coefficient	Constant	R-Bar-Squ	DW	F-test & DF	Country dummies
1	Export growth	IRER instability	-0.237 [-3.678]*	2.234 [56.823]*	0.538	1.718	25.970* [102]	Trinidad & Tobago, Kuwait, Libya, Sierra Leone
2	Export instability	IRER instability	0.383 [7.002]*	0.019 [0.352]	0.309	1.924	49.038* [106]	
3	Export growth	Export instability	-0.026 [-0.579]	2.196 [46.709]*	0.478	1.869	20.673* [102]	Trinidad & Tobago, Kuwait, Libya, Sierra Leone
4	IRER instability	GNP pc	-0.165 [-4.788]*	1.455 [5.641]*	0.170	1.747	22.932* [106]	
5	Export instability	GNP pc	-0.385 [-9.316]*	3.408 [11.027]*	0.445	2.103	86.796* [106]	

* significant at the one-percent level of confidence.

Figure 1: Nominal, Multilateral and Internal exchange rates of HPAEs

China

Hong Kong

Indonesia

28

Japan

South Korea

Malaysia

29

Singapore

Thailand
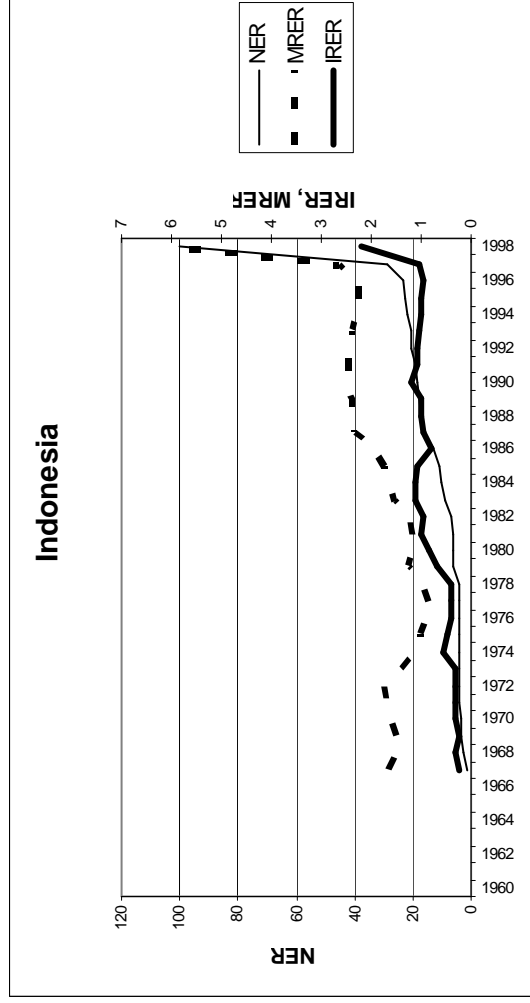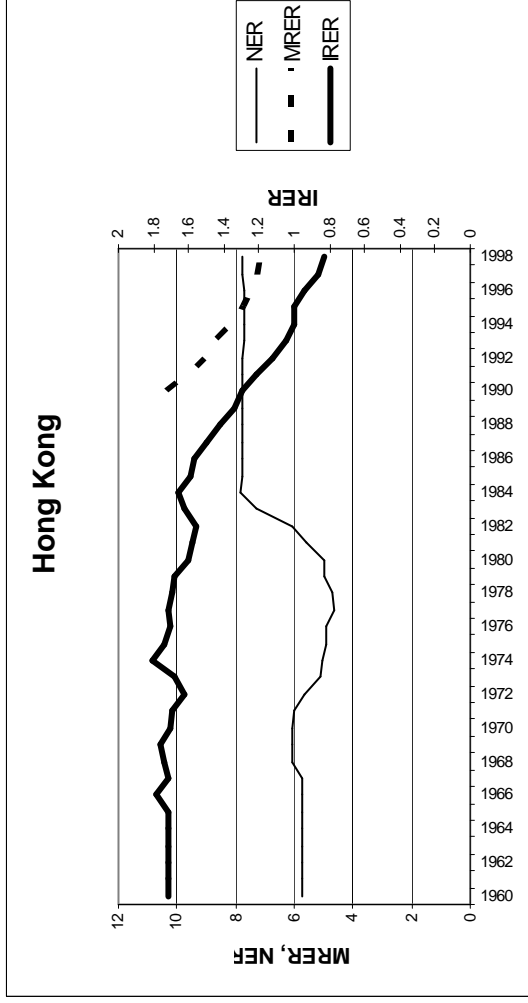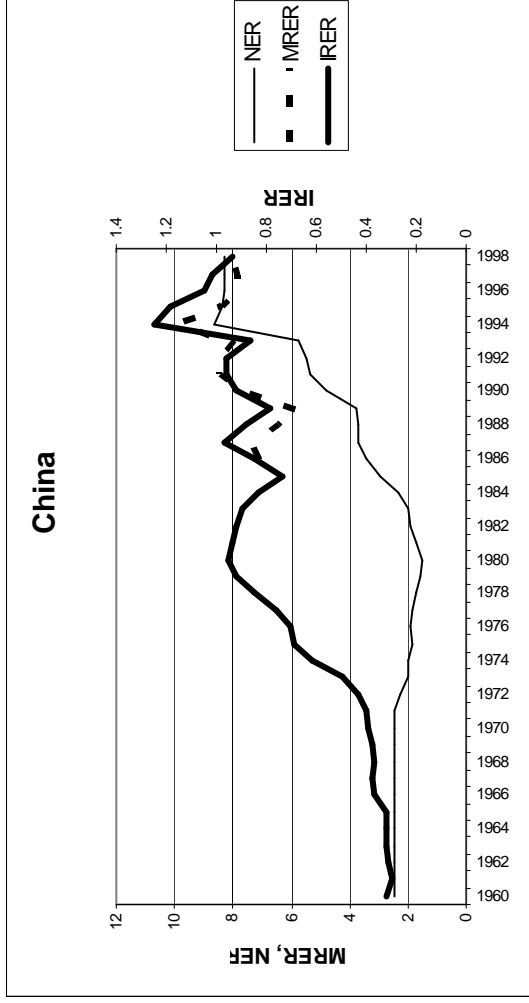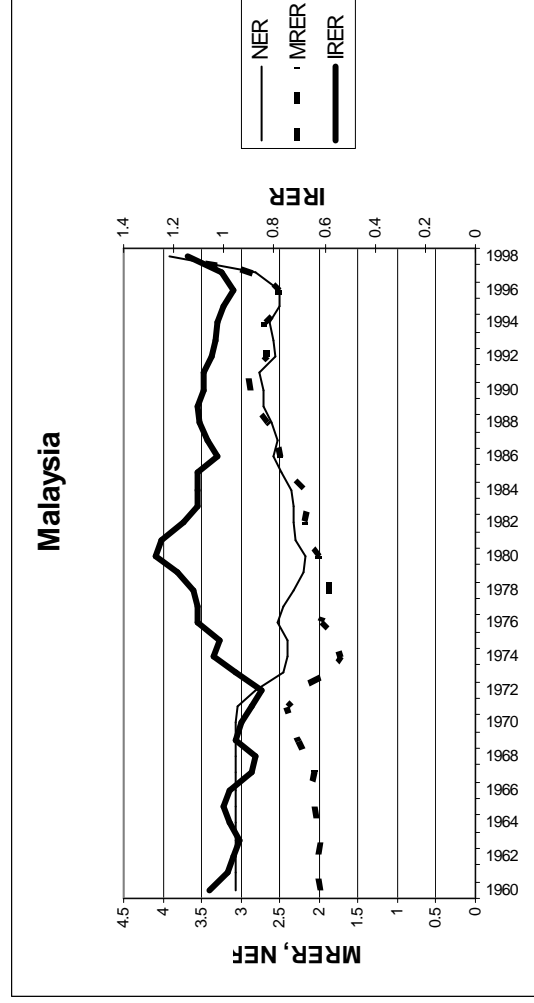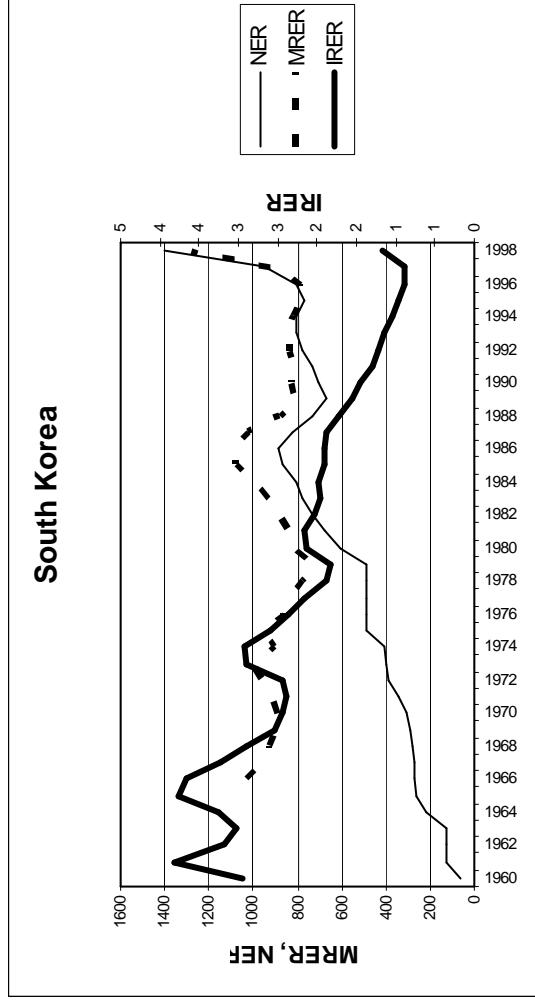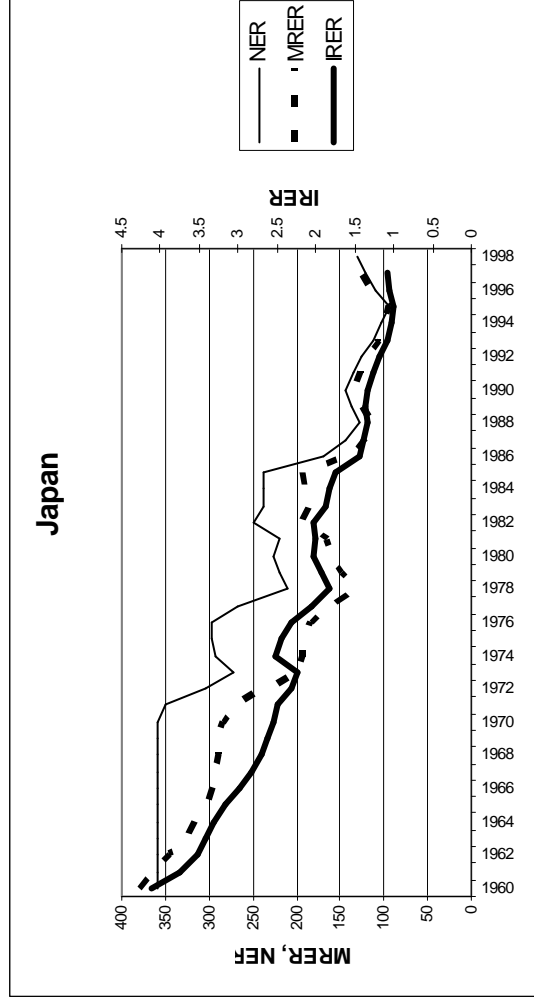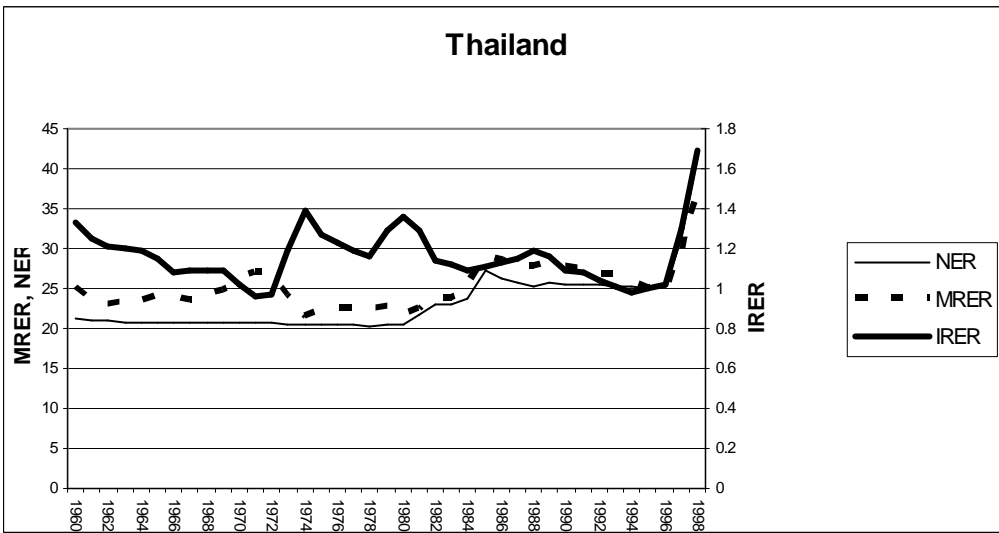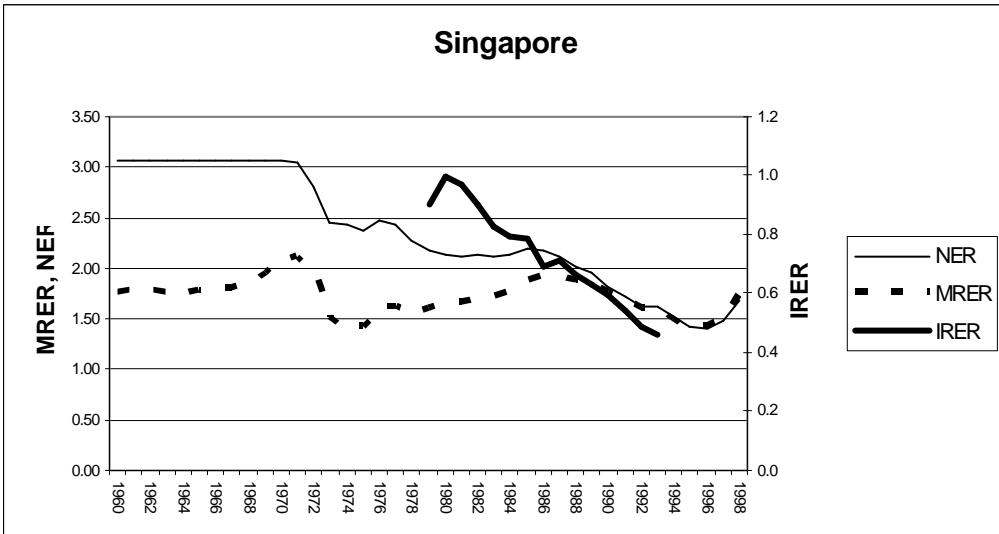
Note: An increase means depreciation

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