Hong Kong Monetary Authority

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THE PROSPECT FOR THE US DOLLAR AND IMPLICATIONS FOR THE HONG KONG ECONOMY

Key points :

- *The US dollar is estimated to be overvalued as at end-2000 and is expected to adjust to a more sustainable level in an orderly manner. However, the possibility of a sharper depreciation of the dollar in the short run cannot be ruled out, particularly if the current account overshoots due to capital outflows.*

- *An orderly depreciation of the US dollar will benefit the Hong Kong economy, at least in the short run. Simulation of a small macroeconomic model with respect to a hypothetical US dollar depreciation suggests that domestic economic activity would be stimulated and deflationary pressures would be dampened in the short run, but the initial gain in competitiveness engendered by the US dollar depreciation would abate as domestic prices rise over the long run.*

- *The effective exchange rate of the Chinese renminbi is likely to be more sensitive than that of the Hong Kong dollar to changes in the value of the US dollar, reflecting the fact that a larger portion of the currencies of Hong Kong's trading partners is fixed to the US dollar. Because a large part of Hong Kong's re-exports are related to China, the competitiveness of, and demand for, the Mainland's exports play a more important role, than those of our own, in determining our re-exports.*

- *A depreciation of the US dollar would benefit Hong Kong largely through the effect on re-exports originating from the Mainland; a hypothetical depreciation of the Hong Kong dollar against the US dollar would do little to help our exports; and Hong Kong should maintain and enhance its trade relation with the Mainland, which has been and should continue to be one of our greatest comparative advantages.*

- *It is worth emphasising that the change in Hong Kong's nominal effective exchange rate as a result of a depreciation in the US dollar has decidedly different implications from a hypothetical depreciation of the Hong Kong dollar against the US dollar. First, the former is not expected to destabilise our financial market. Second, as mentioned above, Hong Kong will benefit from an increase in re-exports related to China in the former case but not in the latter.*

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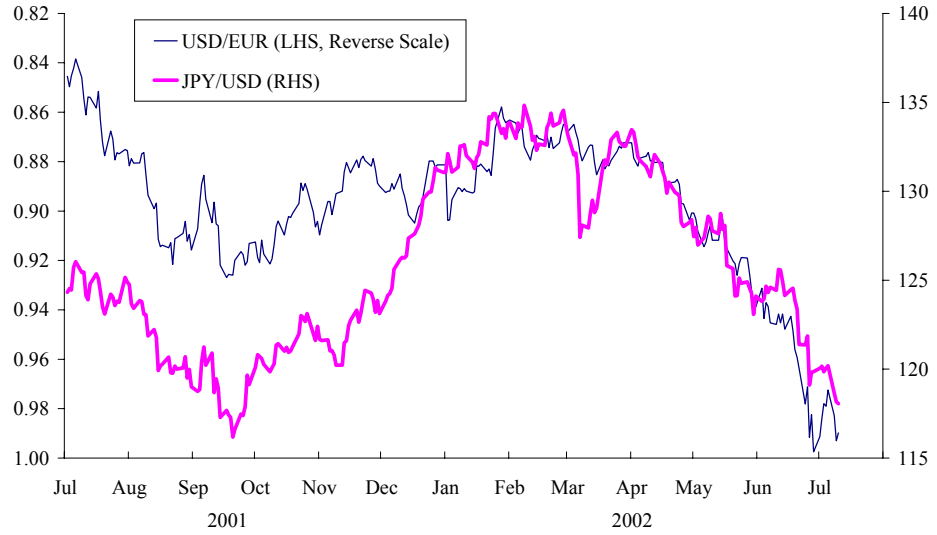
I. INTRODUCTION

The US dollar has weakened considerably against the other major currencies, depreciating so far this year by about 10% against both the euro and the Yen (Chart 1). Issues arise as to why the dollar has been weakening, how much further it is likely to depreciate, and more importantly, what are the implications for the Hong Kong economy.

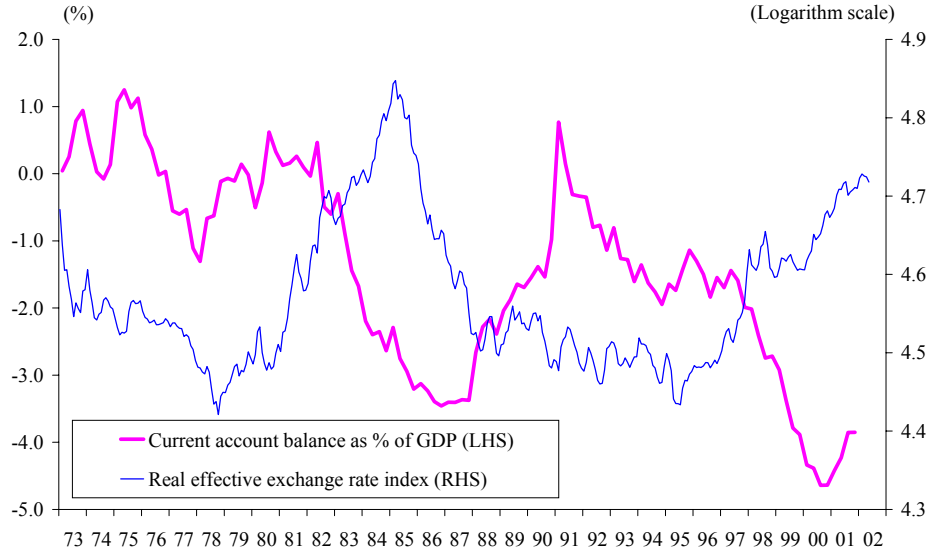
Chart 1. US Dollar Exchange Rate



Source: Datastream.

Economic theory and international experience suggest that the currency of a country is overvalued when its current account deficit reaches an unsustainable level. The current account deficit of the US widened sharply in the past decade, from 1½% of GDP in 1990 to 4½% in 2000. In particular, strong US growth relative to its major trading partners and the appreciation of the dollar contributed to a considerable widening of the external imbalance in the late 1990s (Chart 2). The deficit shrank somewhat to around 4% in 2001, but is still at a level significantly higher than the historical average. Furthermore, there were signs of a widening gap again in recent months. The large current account deficit was financed by massive capital inflows, which was induced in part by a more rapid increase in productivity in the US.

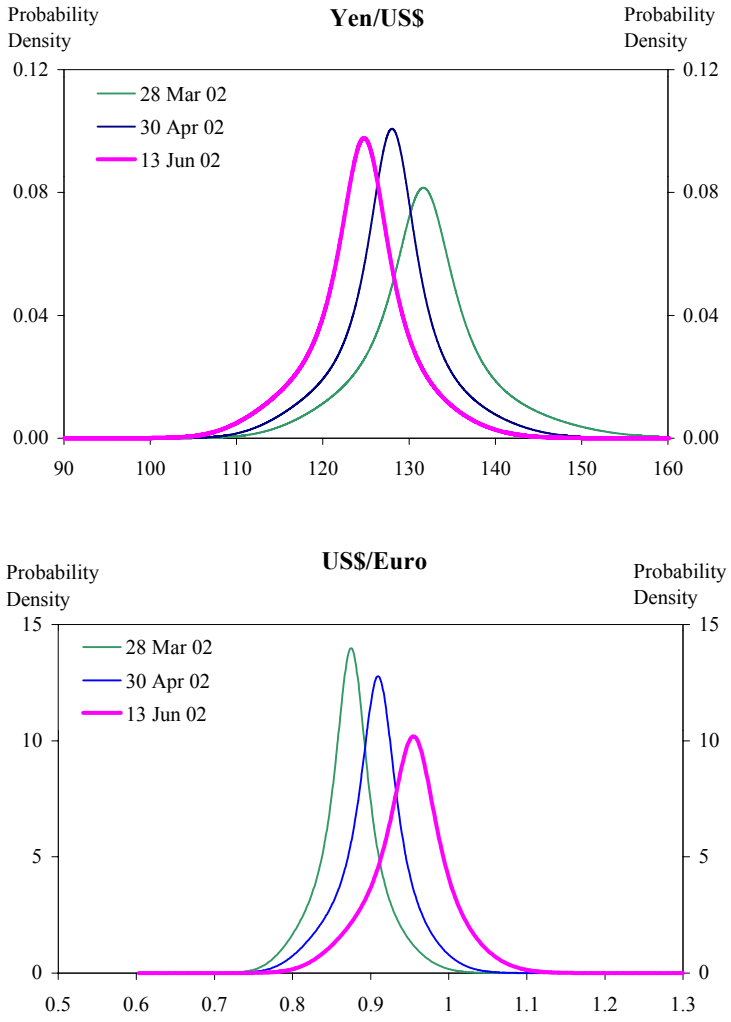
Chart 2. US Current Account Balance and Real Effective Exchange Rate



Source: CEIC.

As the capital account is the mirror image of the current account, it is important to consider the factors behind a possible slowdown or a reversal of capital flows to the US. While the recent developments reversed some of the earlier fears of a prolonged recession, it is uncertain whether US assets could regain the level of appeal to international investors as they did in the last boom. This is because the pace of economic recovery appears to be moderate and corporate profits remain weak. Furthermore, the US financial sector is clouded by uncertainties in the political and security areas and issues of corporate governance. These would increase the probability of a further depreciation of the US dollar and an unwinding of the external imbalance. Probability distributions of future exchange rates calculated from option prices suggest that market participants expect the US dollar to depreciate further against the euro and the Yen in the immediate future (Chart 3).

Chart 3. Probability Density Functions Implied by 3-Month Option Prices



Source: HKMA.
Note: The computation method is based on the approach of Malz (1997).

The following analysis focuses on two aspects. First, a measure of equilibrium exchange rate of the US dollar—the fundamental effective exchange rate (FEER) — is estimated. This sheds light on the extent of overvaluation — if any — of the US dollar. Secondly, the trade and macroeconomic implications for Hong Kong of a hypothetical US dollar depreciation are examined.

II. THE FEER APPROACH

The concept of the FEER is based on the notion of macroeconomic balance, which has both internal and external dimensions.[1] Internal balance is identified as the level of output consistent with both full employment and a low and sustainable rate of inflation. External balance is characterised as an equilibrium position in the current and capital accounts reflecting sustainable net flow of resources between countries. The equilibrium exchange rate derived from this approach is termed as fundamental equilibrium exchange rate, as it emphasises the medium-term determinants.

The belief that current account developments impose a constraint on the exchange rate in the long run rests on the notion that large and persistent imbalances are unsustainable, together with the perception that adjustment can be achieved through changes in real exchange rates. Thus, given the time paths of other variables that influence the current account, the real exchange rate needs to adjust to correct unsustainable imbalances. Exogenous developments that permanently affect the current account, ceteris paribus, change the equilibrium level of the real exchange rate. In this context, the definition of exchange rate equilibrium depends on the equilibrium path of employment or economic activity. It says little, however, about the likely responses of exchange rates to temporary supply or demand shocks or other developments, such as short-term capital flows, that have transitory effects on the current account.

The core of the FEER approach is the identity between the current account (CA) and the (negative) capital account (KA):

$$CA \equiv -KA \tag{1}$$

The current and capital account identity can be converted into an equilibrium relationship, where the equilibrium current account is expressed as a function of its fundamental determinants that are set at full employment levels:

$$\overline{CA} = \alpha_0 + \alpha_1 FEER + \alpha_2 \bar{y}_d + \alpha_3 \bar{y}_f = -\overline{KA} \tag{2}$$

$\alpha_1 < 0$, $\alpha_2 < 0$, and $\alpha_3 > 0$.

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[1] The literature of the FEER has grown considerably since Williamson (1985) first popularised the concept. See, for example, Williamson and Miller (1987), Wren-Lewis (1992), Clark, et al., (1994), and Clark and MacDonald (1998). The framework has been widely used at the IMF for assessing the currencies of the industrial economies. Peng and Cheung (1999) applied the method to assess the equilibrium value of the Hong Kong dollar.

where

$\overline{CA}$: equilibrium current account position at full employment,

FEER: equilibrium REER at full employment,

$\bar{y}_d$: potential domestic output,

$\bar{y}_f$: potential foreign output.

$\overline{KA}$: equilibrium capital account position.

Solving equation (2) for the exchange rate gives the fundamental effective exchange rate:

$$FEER = -(\overline{KA} + \alpha_0 + \alpha_2 \bar{y}_d + \alpha_3 \bar{y}_f) / \alpha_1 \tag{3}$$

Thus, the FEER is the real effective exchange rate that will bring the current account — which would prevail at full employment — into equality with the equilibrium capital account.

By focusing explicitly on the current account, the FEER approach provides a transparent and systematic way for policymakers to assess exchange rates based on their views regarding equilibrium or sustainable current account positions. However, estimates of the FEER provide a broad indicator rather than a precise estimate of the equilibrium exchange rate, because the methodology is subject to ad hoc assumptions and judgements as well as the uncertainty of the parameter estimates.

III. AN APPLICATION TO THE US DOLLAR

We estimate the FEER for the US dollar, with a view to assessing possible deviation from equilibrium of the current level of the REER. As mentioned above, a FEER calculation requires parameter estimation and judgement involving: (1) a current account model, (2) estimates of potential output of the economy under study and its main trading partners, and (3) an estimate or judgement regarding $\overline{KA}$.[2]

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[2] Debelle and Faruqee (1996) equate equilibrium capital account with equilibrium saving-investment gap, which is estimated as a behavioural function of output gap, dependency ratio, the fiscal deficit. The FEER is then calculated as the real effective exchange rate that will generate a current account equal to the equilibrium saving-investment gap.

We derive a long-run relationship between the current account balance on the one hand and the real effective exchange rate, domestic output, and foreign output on the other, by estimating a small VAR system involving the four variables as in the following equation:

$$CA/Y = \alpha_0 + \alpha_1 \log(REER) + \alpha_2 \log(GDPUS) + \alpha_3 \log(GDPF) \quad (4)$$

where

CA/Y: ratio of current account balance to GDP,
GDPUS: US real GDP,
GDPF: trade-weighted average of foreign real GDP,
REER: real effective exchange rate,

We find a co-integrating vector characterising the long-run determination of the ratio of the US current account balance to GDP. As we cannot reject the hypothesis that the elasticities with respect to domestic and foreign output are of the same magnitude but have opposite signs, we impose the restriction that $\alpha_2 = -\alpha_3$.

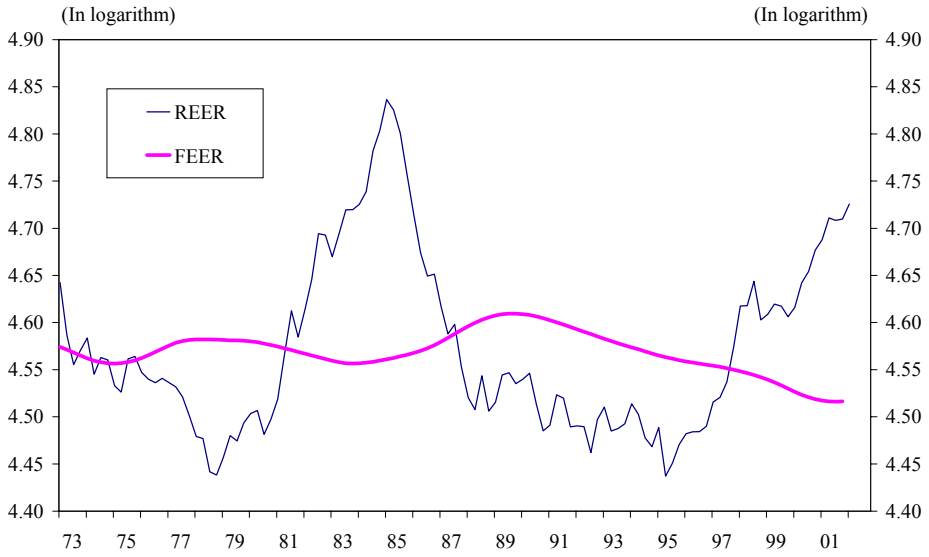
The results indicate that a 10% appreciation in the REER, ceteris paribus, would lead to a deterioration of 1¼ percentage point in the current account-to-GDP ratio (Table 1). As for the activity variables, a 1% increase in domestic (foreign) output would lead to a deterioration (improvement) of about ½% in the current account-to-GDP ratio. Because the elasticities of the current account-to-GDP ratio with respect to domestic and foreign output are statistically equal, the REER is more likely to bear the brunt of restoring equilibrium for the current account balance, if the growth rates of the US and its trading partners converge over time.

Table 1. Estimation Results

	Coefficient	t-statistics
α_1	-0.126	-4.15
$\alpha_2 (-\alpha_3)$	-0.427	-3.27
Sample	1975Q4–2001Q4	

We solve for the US FEER through equation (3), using estimates of the US potential output by the Congressional Budget Office (CBO) and deriving potential output of US major trading partners using the Hodrick-Prescott (HP) filter, and assuming an equilibrium US current account deficit of 1½-2% of GDP, which approximates the average level of the past two decades. The estimates of FEER suggest that the US real effective exchange rate has been increasingly overvalued since 1997 (Chart 4). Specifically, it was about 20% above the estimated value of FEER at end-2001. The FEER was relatively stable during the 1970s and 1980s, but depreciated gradually during the 1990s. This is because the US current account deficit widened sharply during the past decade, from below 1½% in 1990 to over 4% in 2001. As a result, a more depreciated FEER would be needed to bring the current account balance towards the assumed equilibrium level. Indeed, an earlier depreciation in the US REER could have helped to bring the current account to a more sustainable level. Nevertheless, the US REER appreciated rapidly instead during the second half of the 1990s due to large inflows of capital seeking higher returns to investment.

Chart 4. REER and FEER of the US



The estimated FEER is subject to considerable uncertainty and needs to be interpreted with caution, as it is predicated on assumptions about the long-run growth paths for the US and its trading partners, and the equilibrium current account balance of the former. In this respect, sensitivity analysis is carried out, assuming alternative paths of potential growth and a different level of the equilibrium current account balance of the US. Specifically, when IMF estimates of potential growth rates are used, the estimate of the US FEER is little

changed.[3] However, when the equilibrium current account deficit is assumed to be 3% of GDP—the average level since mid-1990, the current level of the US REER is estimated to be overvalued by about 12%.[4] Our estimate of the US FEER and sensitivity analysis suggest that the US dollar may be overvalued by up to 25% as of end-2001, consistent with studies by some market analysts.[5] For example, Morgan Stanley (2002) estimates that the US dollar is overvalued by 15%. In any event, it should be understood that the estimated overvaluation of the US dollar does not necessarily mean that the US effective exchange rate will fall to the equilibrium path in the near term, as the pace of adjustment would be influenced by a number of factors that are difficult to predict.

IV. IMPLICATIONS FOR HONG KONG OF AN US DOLLAR DEPRECIATION

An orderly depreciation of the US dollar will benefit the Hong Kong economy by strengthening the competitiveness of our exports in the short term, because the Hong Kong dollar is pegged to the US dollar. In the long run, however, domestic prices would rise to offset the initial gain in competitiveness. This section provides a quantitative assessment of trade and macroeconomic effects of a hypothetical depreciation of the US dollar. In the following analysis, we assume that the US REER would depreciate, in an orderly fashion, to the point estimate of the equilibrium path over the next three years, similar to the pace of adjustment that took place during the second half of the 1980s. This implies that the US dollar nominal effective exchange rate (NEER) would depreciate by about 20%, if inflation rates of the US and its major trading partners are similar.[6] Below we investigate the relationship between the effective exchange rates of the Hong Kong dollar and the US dollar, and estimate equations for major macroeconomic variables, including exports.

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[3] The estimated deviation of the REER from the FEER remains at around 20% as of end-2001. As IMF estimates of potential output cover only developed economies, we estimate the potential output of China and Mexico using the HP filter.

[4] On the other hand, the overvaluation is estimated at about 40%, when the current account is assumed to overshoot to a surplus of 1% of GDP in the short term—similar to the adjustment in the second half of 1980s (see Chart 2).

[5] As the sample period of our study covers up to the fourth quarter of 2001, it is important to note that the US dollar has depreciated significantly against other major currencies in the first half of this year, as mentioned above.

[6] IMF's (2002) projections of inflation rates of the US and its major trading partners imply that there would be no substantial inflation differential between the US and its trading partners in the next couple of years. For instance, the US inflation rate and the trade-weighted average inflation of its major trading partners are calculated to be about 1½% and 1¾% in 2002, and 2½% and 2% in 2003, respectively, using the projections put out by the IMF.

a. The effective exchange rate

Under the Linked Exchange Rate system, the bilateral exchange rates of the Hong Kong dollar vis-à-vis major currencies move with those of the US dollar. However, the effective exchange rates of the two currencies may not change proportionally, because of the different trade baskets of the two economies. For instance, China accounts for only 6½% of the total trade for the US, but over 40% for Hong Kong (Table 2).

The econometric study shows that only 30% of the variation in Hong Kong's NEER is attributable to changes in the US NEER (Table 3).[7] This reflects the fact that the currencies of Hong Kong's largest trading partners are generally more stable, in relation to the US dollar, than those of US trading partners.[8] For example, the currency of Hong Kong's largest trading partner — the renminbi — is de facto fixed to the US dollar, while the US dollar values of the euro and yen — the currencies of the largest trading partner of the US — have been less stable. It is important to note that China' NEER follows the US NEER more closely than Hong Kong's NEER does. A similar analysis shows that over 50% of variations in China's NEER is associated with changes in the US NEER (Table 3). This is because the US dollar exchange rates of China's trading partners are less stable than those of Hong Kong's trading partners. For example, about 55% of the currencies of Hong Kong's major trading partners are fixed to the US dollar, compared with 27% for the currencies of China's major trading partners (Table 2).

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[7] Peng and Cheung (1999) obtained a similar result.

[8] The standard deviation of the US NEER is three times as large as Hong Kong's NEER.

Table 2. Major Trading Partners of the US, Hong Kong and China (2001)

US		Hong Kong		China	
Trading partner	Share	Trading partner	Share	Trading partner	Share
Canada	20.3%	China	40.3%	Japan	17.2%
Euro area	14.9%	US	14.3%	USA	15.8%
Mexico	12.4%	Japan	8.7%	Euro area	12.1%
Japan	9.8%	Euro area	8.7%	Hong Kong	11.0%
China	6.5%	Taiwan	4.7%	Korea	7.0%
UK	4.4%	Singapore	3.4%	Taiwan	6.3%
South Korea	3.1%	Korea	3.2%	Singapore	2.1%
Taiwan	2.8%	UK	2.8%	Russia	2.1%
Singapore	1.7%	Malaysia	1.7%	UK	2.0%
Hong Kong	1.3%	Thailand	1.4%	Australia	1.8%
Total of the above	77.2%	Total of the above	89.2%	Total of the above	77.4%
of which:		of which:		of which:	
With fixed exchange rate to the USD	7.8%	with fixed exchange rate to the USD	54.6%	with fixed exchange rate to the USD	26.8%

Sources: CEIC and HKMA staff estimates.

Table 3. Influence of US NEER on HK's and China's NEERs

NEER	Long-run elasticity	R^2	D-W	Sample
Hong Kong	0.29 (9.48)***	0.22	1.92	1984Q1 2002Q1
China	0.52 (9.84)***	0.76	1.94	1994Q2 2002Q1

Notes: t-statistics are in parentheses, *** indicates statistical significance at 1% level. Error-correction models are estimated following co-integration tests. The sample period for the China excludes episodes of renminbi devaluation.

Thus, when the US dollar depreciates, the NEERs of Hong Kong and China are likely to decline by smaller proportions than the dollar. The results above suggest that the assumed depreciation of 20% of the US NEER may be associated with a depreciation of 6% of the Hong Kong dollar and 10% of the renminbi.

It is important to note that the change in the Hong Kong dollar NEER as a result of a depreciation of the US dollar has decidedly different implications from a hypothetical depreciation of the Hong Kong dollar against the US dollar. First, as will be further discussed below, Hong Kong will benefit, in the former case, from an increase in re-exports related to China, as the renminbi is de facto fixed to the US dollar. Second, the former is not expected to destabilise the financial market in Hong Kong.

Next, the present situation of the Hong Kong dollar is accessed by updating the previous study of the FEER by Peng and Cheung (1999). Using the same methodology and assuming an equilibrium trade surplus of 2-2½% of GDP—the average level of the past decade — the current level of the REER is estimated to be undervalued by about 6-7%.[9] Sensitivity analysis is carried out, assuming an equilibrium trade balance-GDP ratio of 6%, which is about the average of the past three decades. The current level of the REER is then estimated to be similar to the FEER. The results point to a high probability that the Hong Kong dollar is currently undervalued. It is worth noting that the FEER was overvalued not long ago, for example, by an estimated 12% in 1998.[10] It appears that Hong Kong's competitiveness improved significantly over the past few years, owing largely to price flexibility, which is reflected by sizable downward adjustments in domestic prices.

b. Trade effects

To assess the impact of a depreciation of the US dollar on Hong Kong's exports, it is useful to briefly review the transmission mechanism through which the nominal effective exchange rate affects exports. First, a depreciation of the US dollar would stimulate Hong Kong's re-exports, which accounts for 90% of total merchandise exports. This is because the nominal effective exchange rate of the renminbi, which is tied to the US dollar, would fall together with the US dollar, boosting China's exports. As an entrepot for the Mainland, Hong Kong will see its re-exports rising accordingly. Secondly, domestic exports would rise, as Hong Kong's NEER would also depreciate together with the US NEER, albeit to a lesser extent. Third, exports of services would increase due to improved competitiveness and a rise in service-related activity brought about by the increase in merchandise exports.

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[9] The overall trade balance instead of the current account balance is used for Hong Kong, due to data availability problem.

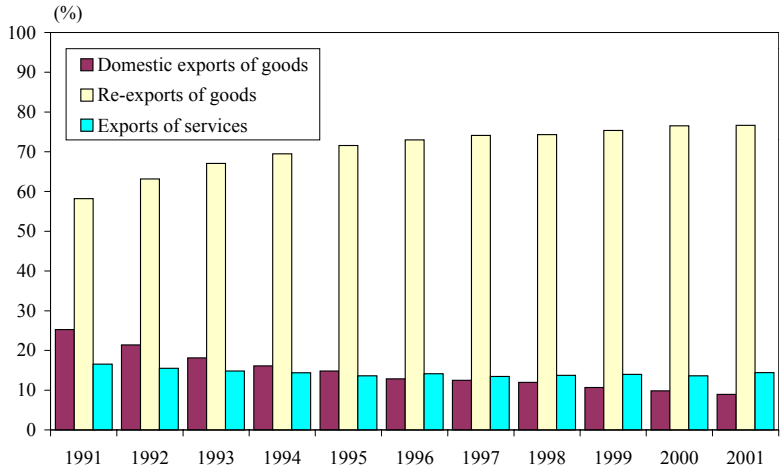
[10] Peng and Cheung (1999) estimate that the overvaluation was around 15% in 1998.

To investigate the relationship between Hong Kong's exports and their key determinants, equations for the major components of exports are estimated. The results in Box A suggest that Kong Kong's re-exports depend more importantly upon the competitiveness of, and demand for, China's exports than those of its own. As discussed above, China's effective exchange rate is more sensitive to the US dollar than that of Hong Kong. Thus, a depreciation of the US dollar would benefit Hong Kong primarily through the effect on re-exports related to China. In fact, a hypothetical change of the exchange rate of the Hong Kong dollar relative to the US dollar may not significantly benefit Hong Kong, because the share of domestic exports is smaller. By contrast, to the extent that Hong Kong maintains its role as an entrepot for China, a depreciation of the US dollar would benefit Hong Kong.

BOX A. ESTIMATING EQUATIONS FOR HONG KONG'S EXPORTS

This box presents estimates of the export functions. Hong Kong's total exports can be divided into three components: re-exports of goods, domestic exports of goods, and exports of services. Shares of the three components are shown in Chart A1. Specifically, the share of re-exports increased steadily to over 70% over the past decade, while the share of domestic exports declined.

Chart A1. Share of Real Exports



Re-exports

Equations for different components of exports are estimated separately, allowing for a possibility of differing explanatory variables and elasticities. Firstly, an equation for re-exports is estimated, which initially includes Hong Kong's and China's real effective exchange rates and the trade-weighted foreign outputs as explanatory variables. The sample period starts from the first quarter of 1995 to avoid the effect of the renminbi devaluations that took place in 1986, 1989 and 1994. The results suggest that re-exports are not responsive to Hong Kong's real effective exchange rate or trade-weighted foreign demand, but to China's real effective exchange rate and its trade-weighted foreign demand, because about 60% of Hong Kong's re-exports originate from China. We subsequently exclude Hong Kong's real effective exchange rate and foreign demand from the regression. Equation (A1) shows that all variables are of correct signs and statistically significant. Specifically, a 10% depreciation in China's REER and a 1% increase in its trade-weighted world output are estimated to boost Hong Kong's re-exports by about 5½% and 2¼%, respectively, in the long run.

$$\Delta rxg_t = \underset{(2.75)^{**}}{1.28} - \underset{(-4.26)^{***}}{0.51}\,(rxg_{t-1} + \underset{(2.58)^{**}}{0.55}\,reer^C_{t-1} - \underset{(-10.02)^{***}}{2.34}\,fgdp^C_{t-1}) + \underset{(3.33)^{***}}{1.88}\,\Delta fgdp^C_t \qquad \text{(A2)}$$

Sample: 1995Q1–2001Q4 $R^2 = 0.64$ D-W = 2.18

Notes: t-statistics are in parentheses, *, ** and *** indicate statistical significance at 10%, 5% and 1% levels.

where rxg = logarithm of real re-exports of goods
$reer^C$ = logarithm of China's real effective exchange rate
$fgdp^C$ = logarithm of real GDP of China's major trading partners
Δ = the first difference operator

Domestic exports

By contrast, we find that domestic exports of both goods and services are influenced by Hong Kong's own real effective exchange rate and its trade-weighted foreign demand. The estimation results are shown in Equations (A2) and (A3) below. Specifically, a 10% depreciation of the REER and a 1% increase in the world output are estimated to raise domestic exports of goods (services) by 3½% (7¼%) and 2¼% (1%), respectively. A trend variable is significantly negative in the regression for domestic exports of goods, reflecting a structural change in Hong Kong's manufacturing sector, as firms have relocated their production base to the Mainland, where costs of production are much lower. It is interesting to note that exports of services are estimated to be more sensitive to the exchange rate and less responsive to output, as compared to exports of goods.

$$\Delta dxg_t = 2.79 - 0.53\,(dxg_{t-1} + 0.34\,reer^H_{t-1} - 2.16\,fgdp^H_{t-1} + 0.04\,Trend) \quad \text{(A2)}$$
$$(2.06)^{**} \quad (-4.27)^{***} \quad (1.80)^{*} \quad (-3.09)^{***} \quad (3.77)^{***}$$

Sample: 1993Q1–2001Q4 $R^2 = 0.30$ D-W = 1.82

$$\Delta dxs_t = 3.40 - 0.38\,(dxs_{t-1} + 0.72\,reer^H_{t-1} - 1.10\,fgdp^H_{t-1}) + 1.46\,\Delta fgdp^{HK}_t \quad \text{(A3)}$$
$$(2.58)^{**} \quad (-2.77)^{***} \quad (6.13)^{***} \quad (-17.66)^{***} \quad (1.90)^{*}$$

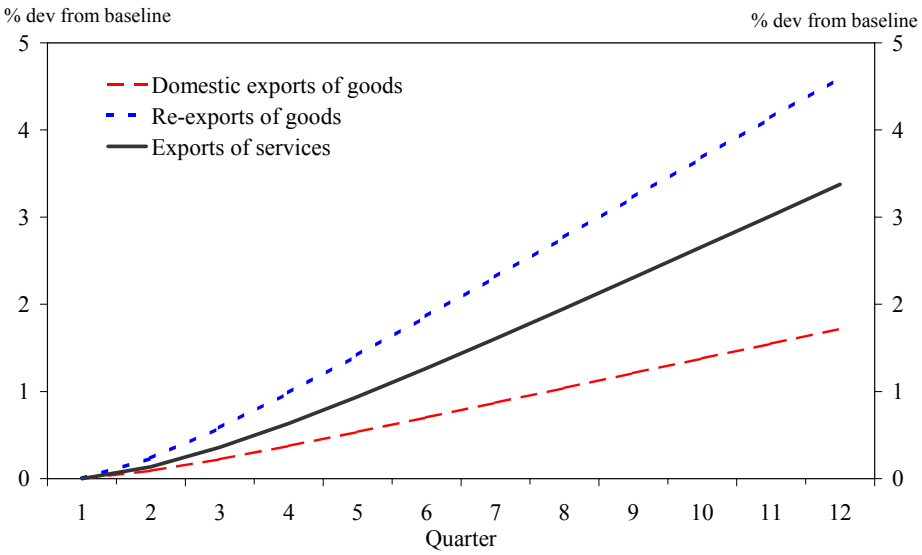
Sample: 1993Q1–2001Q4 $R^2 = 0.36$ D-W = 1.91

Notes: t-statistics are in parentheses, *, ** and *** indicate statistical significance at 10%, 5% and 1% levels.

where dxg = logarithm of real domestic exports of goods
dxs = logarithm of real exports of services
$reer^H$ = logarithm of Hong Kong's real effective exchange rate
$fgdp^H$ = logarithm of real GDP of Hong Kong's major trading partners
$Trend$ = time trend

Simulations of Equations (A1)-(A3) show that the hypothetical depreciation of the US dollar and the corresponding changes in the effective exchange rates of the Hong Kong dollar and the renminbi could raise Hong Kong's re-exports of goods, domestic exports of goods, and exports of services by about 4½%, 1¾%, and 3½%, respectively, over a three-year period (Chart 5), all else being equal. This implies an increase of 4% in total exports of goods and services.

Chart 5. Effect of a 20% depreciation of the USD on HK's Exports



c. Overall macroeconomic effect

The overall macroeconomic effect of the depreciation of the US dollar is assessed by simulating a small macroeconomic model.[11] The rise in Hong Kong's exports engendered by the US dollar depreciation would stimulate output growth, reducing the output gap, which would in turn help restrain price deflation in the short run. As a result, real interest rates would fall, further stimulating growth, through the wealth and substitution effects (see Ha and Leung (2002) for a more detailed discussion of the transmission mechanism).

The simulation results show that compared with a baseline case, in which no depreciation of US dollar is assumed, Hong Kong's output and price level would rise by 1¼% and 1½%, respectively, and the unemployment rate would fall by ½ percentage point over a three-year period (Chart 6). However, the REER would depreciate by only 3% in the short run and would return to the baseline level in the long run. This is because the depreciation in the NEER is offset by increases in domestic prices.

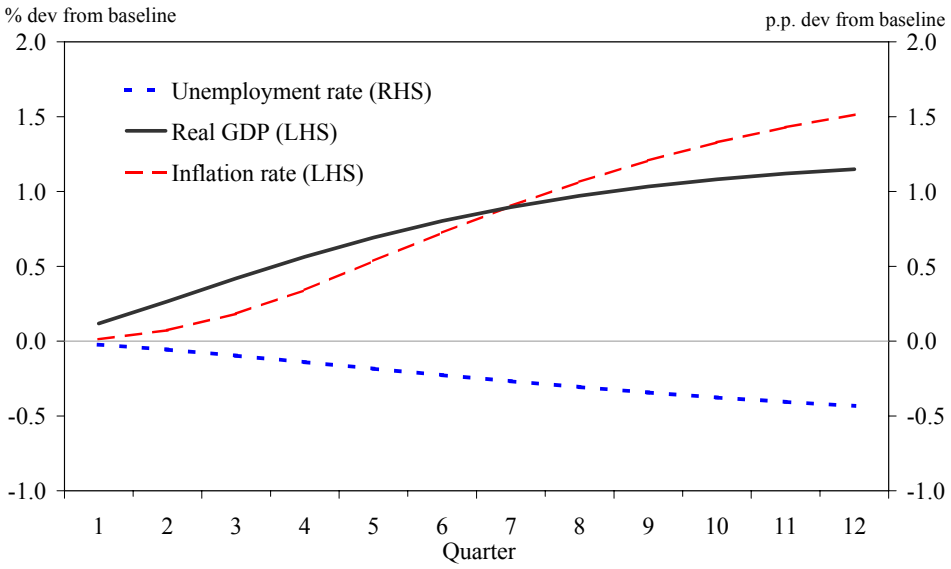
The simulation results are best seen as indicative and need to be interpreted with caution, in part because they take no account of possible changes in other external variables in response to the assumed US dollar depreciation, such as an increase in the inflation rates in the US and China, which could further alleviate deflation pressures on Hong Kong and thereby reduce real interest rates.

[11] See Ha, Leung, and Shu (2002) for a detailed description of the model.

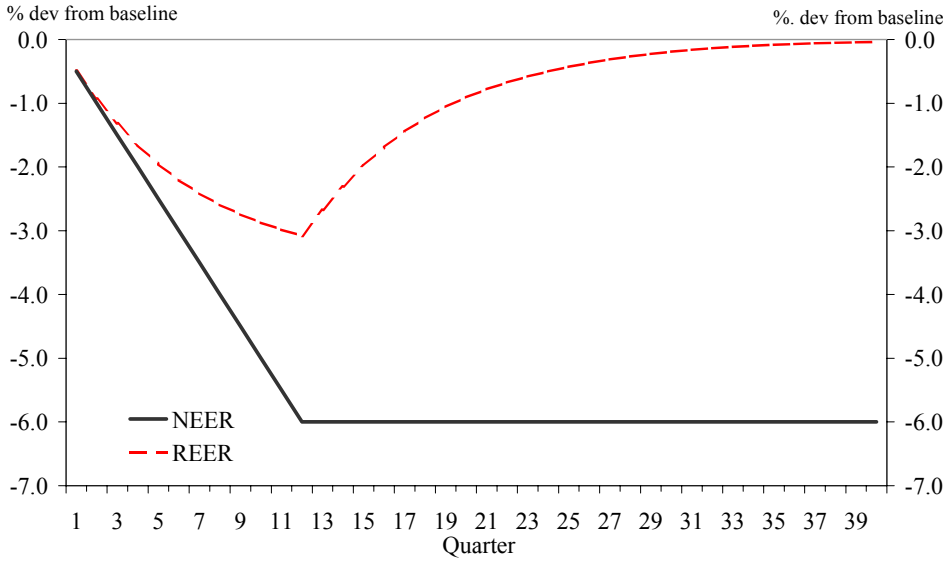
On the other hand, if the US dollar depreciation turns out to be excessively inflationary, the Federal Reserve may feel compelled to raise interest rates.

Chart 6. Effects of a 20% US Dollar Depreciation on the Hong Kong Economy
(Simulation of a small macroeconomic model)

a. Short-run effects



b. Long-run effects on effective exchange rates



V. CONCLUDING REMARKS

A measure of the equilibrium real effective exchange rate of the US dollar—the fundamental equilibrium exchange rate—is estimated. The results suggest that the dollar is likely to be overvalued, reflecting a widening of the current account deficit to a level, which appears to be increasingly unsustainable. Despite noticeable adjustments in the exchange rates of the US dollar against other major currencies in the recent months, a considerable distance in the direction of depreciation probably lies ahead.

A study of the relationship between the NEER of the US dollar and those of the Hong Kong dollar and the renminbi reveals that the latter is likely to be more responsive than the Hong Kong dollar to a change in the exchange rate of the US dollar. Furthermore, estimation of export equations indicates that the competitiveness of, and demand for, the Mainland's exports play a more important role, than those of Hong Kong, in determining our re-exports, which account for the bulk of Hong Kong's total exports. These results imply that a depreciation of the US dollar would benefit Hong Kong largely through the effect on re-exports related to the Mainland, and that a hypothetical depreciation of the Hong Kong dollar may not significantly bolster our exports.

Simulation of a small macroeconomic model with respect to a hypothetical US dollar depreciation suggests that domestic economic activity would be stimulated and deflation would be constrained in the short run, but the initial gain in competitiveness arising from the US dollar depreciation would be fully offset in the long run due to rises in domestic prices.

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