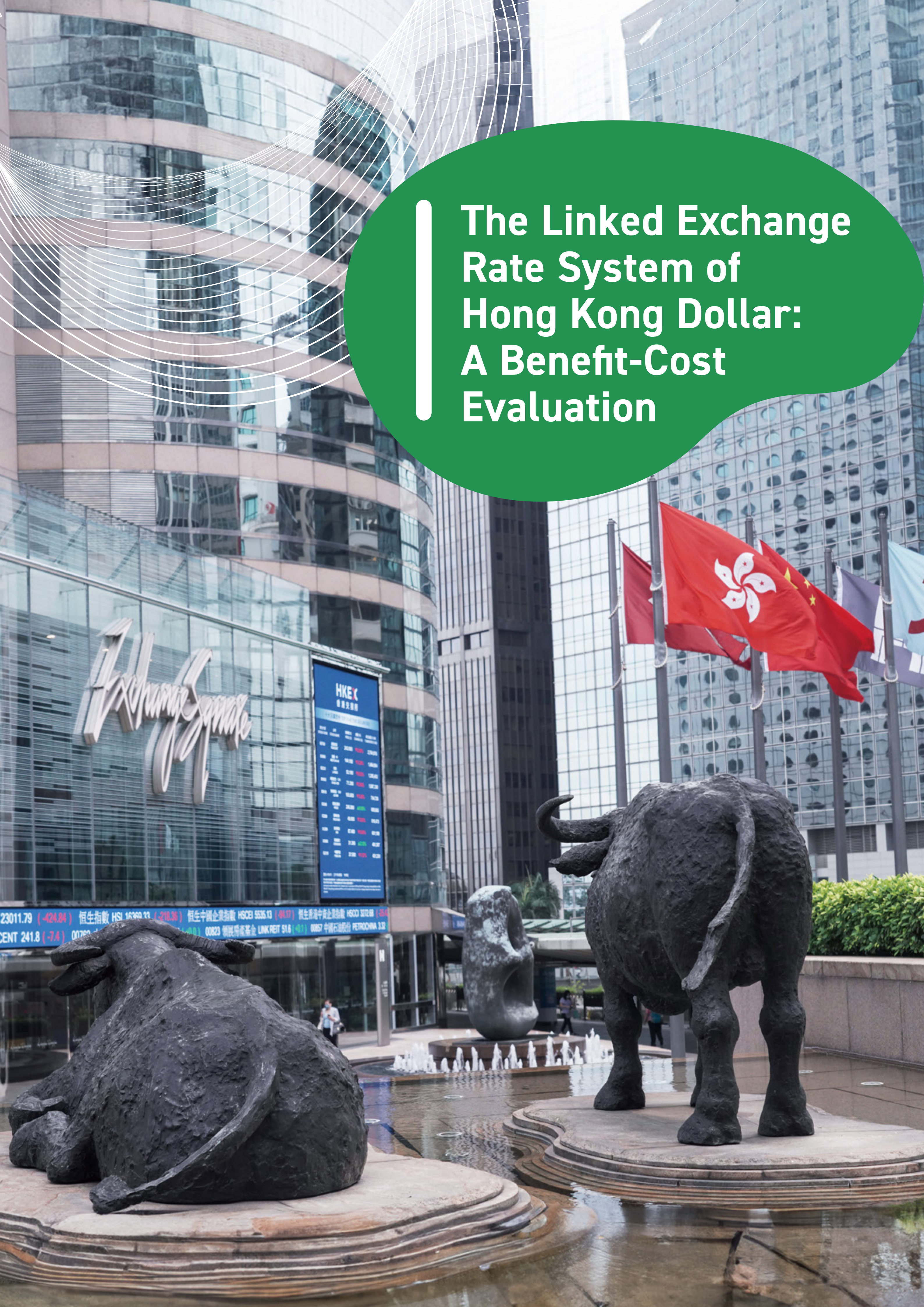
The Linked Exchange Rate System of Hong Kong Dollar: A Benefit-Cost Evaluation



The Linked Exchange Rate System of Hong Kong Dollar: A Benefit-Cost Evaluation

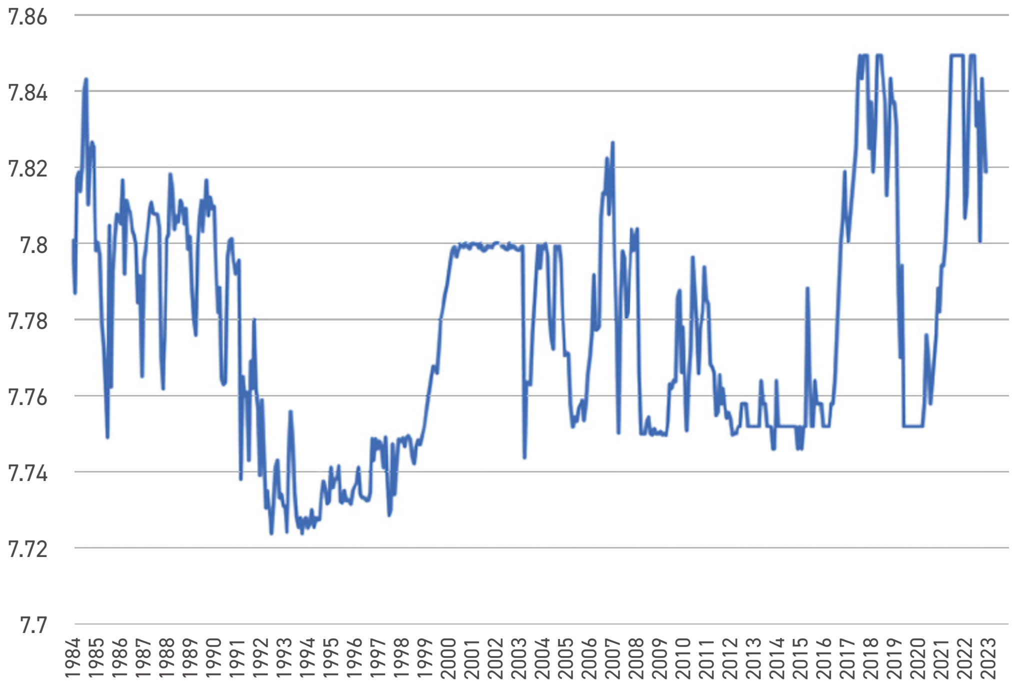
Xiang Fang　Yang Liu

Hong Kong has had a linked exchange rate system with the US Dollar (USD) since 1983. Over the past 40 years, this system has operated stably and successfully weathered major challenges such as the 1997-98 Asian financial crisis and the 2007-08 global financial crisis. To mark the 40th anniversary of the linked exchange rate system, this article explores the current status and development of the system in the new international economic situation. Based on the latest academic research in international economics, we quantitatively analyze the gains and losses for Hong Kong under different exchange rate systems.

1. The linked exchange rate system

Under the current linked exchange rate system in Hong Kong, the exchange rate of the Hong Kong dollar to the US dollar is maintained within a narrow range of 7.75 to 7.85 HKD per USD. Unlike many other fixed exchange rate economies, Hong Kong's monetary base is 100% backed by US dollar assets, meaning any changes in the monetary base are accompanied by corresponding changes in the quantity of US dollar assets held by the Hong Kong Monetary Authority's Exchange Fund. The ample international reserves provide a solid foundation for implementing the linked exchange rate system smoothly. The system is implemented through the Convertibility Undertakings provided by the Hong Kong Monetary Authority: the authority commits to sell Hong Kong dollars at the strong-side Convertibility Undertaking of 7.75 HKD per USD and to buy Hong Kong dollars at the weak-side Convertibility Undertaking of 7.85 HKD per USD. When there is excess (insufficient) demand for Hong Kong dollars, the Monetary Authority sells (buys) Hong Kong dollars in the market to stabilize its price. Over the past 40 years, although the linked exchange rate system has undergone several technical adjustments, it has operated smoothly overall. As shown in Figure 1, the exchange rate of the Hong Kong dollar to the US dollar has successfully remained within the target range.

Figure 1. HKD/USD Exchange Rate



Source: Global Financial Database.

In recent years, there have been significant changes in the international economic and political environment, leading some to suggest that Hong Kong should consider adjusting its linked exchange rate system. The two most important changes are the increasingly frequent economic and trade linkages between Hong Kong and the mainland, and the growing complexity of US-China relations. In addition, the US Federal Reserve has raised interest rates from zero to over 5% in the 17 months from March 2022 to July 2023. Although Hong Kong has not experienced the same level of inflationary pressure as the US, due to the linked exchange rate system, it is forced to raise interest rates, which is detrimental to the local economy. The exchange rate of the Hong Kong dollar to the US dollar reached the weak-side Convertibility Undertaking of 7.85 HKD per USD several times in the past few years. Hong Kong's foreign exchange reserves have declined by 15% since their peak in 2021. Several well-known hedge funds have publicly announced that they are shorting the Hong Kong dollar through options positions, betting that the current linked exchange rate system will come to an end. The linked exchange rate system is indeed facing challenges.

However, we believe that the international economic and political challenges facing Hong Kong are temporary, while the benefits brought by the linked exchange rate system will be more long-lasting.

In the following sections, we will explore various aspects of the Hong Kong exchange rate system. Section 2 discusses the benefits of the linked exchange rate system for Hong Kong's financial and trade sectors. Section 3 explains why the benefits of a floating exchange rate for the Hong Kong dollar have not been as significant as anticipated. Section 4 highlights the challenges faced in maintaining the linked exchange rate system and proposes possible solutions. Section 5 analyzes the possibility of linking the Hong Kong dollar to the Chinese renminbi.

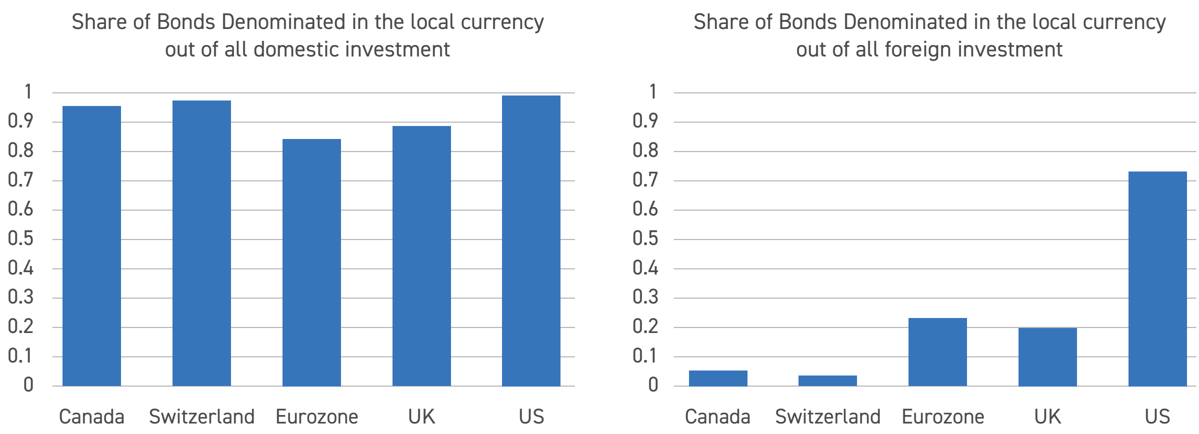
2. The benefits of the linked exchange rate system

International Finance

As an international financial center, Hong Kong is an important financing platform for businesses, attracting a large amount of funds from around the world. In 2022, Hong Kong's foreign debt financing reached $1.5 trillion, four times the GDP, and significantly higher than equity financing. The robust development of debt financing could not have been achieved without the linked exchange rate system.

First, if Hong Kong were to abandon the linked exchange rate system, businesses would face significant limitations in their financing capabilities. Recent research has shown that debt investors have a strong currency preference and tend to hold bonds denominated in their home currency. As shown in Figure 2 (left), domestic investors in various countries hold around 90% of their own currency bonds, and for US investors, this proportion is close to 100%. In comparison, foreign investors generally do not hold bonds denominated in the issuing country's currency, but instead seek bonds denominated in their own currency. Therefore, if the Hong Kong dollar were floating, businesses would struggle to attract foreign investors through Hong Kong dollar debt and would need to issue foreign currency debt such as US dollars, euros, pounds, or yen to attract the corresponding investors. Large enterprises would face higher financing costs and risks, while small enterprises would have no choices. Further research has found that even in developed countries, small and medium-sized enterprises in Europe, the UK, and Canada find it challenging to issue foreign currency debt and can only rely on US dollar debt to attract foreign investors. In sharp contrast, small and medium-sized enterprises in the US can easily obtain financing from abroad through US dollar debt. This is one of the many advantages of the US-dominated international financial system for the United States. Under the current linked exchange rate system, businesses in Hong Kong also enjoy this financing advantage.

Figure 2. Share of Bonds Denominated in the local currency



Source: Maggiori, M., Neiman, B., & Schreger, J. (2020).

Second, issuing foreign currency debt exposes businesses to significant exchange rate risk. When the Hong Kong dollar depreciates, the amount of foreign currency debt to be repaid remains the same, but rises for local currency debt. One of the important advantages of debt as a fixed-income financial instrument is certainty. However, foreign currency debt generates high uncertainty in terms of cash flows, which is unfavorable for businesses' production, investment, financing, and other decision-making processes. According to Figure 2 (right), 73% of external debt for US companies is denominated in US dollars, while other countries, including eurozone countries, can only issue 20% of their debt in their own currency, exposing the remaining 80% in foreign currency debt to exchange rate risk. This suggests that decoupling the Hong Kong dollar from the US dollar would lead to $1.2 trillion (HKD 9.4 trillion) of currency risk exposure for Hong Kong, out of its $1.5 trillion debt. Assuming a general annual exchange rate fluctuation of 10%, there is a 30% chance that the Hong Kong dollar will depreciate by 10% within a year (one standard deviation). Even if the amount of debt denominated in foreign currency remains fixed, this would lead to a rise of HKD 900 billion in Hong Kong dollar-denominated debt, equivalent to 34% of the GDP, creating systemic risk. While businesses have hedging methods available, these methods come at a higher cost, and in practice, not many companies fully hedge their exposure.

In addition to increasing financing channels and eliminating exchange rate risk, pegging to the US dollar also has the advantage of lower financing costs. The US dollar is considered a safe-haven asset and attracts a lot of capital. While the traditional view is that this advantage is mainly reflected in US Treasury bonds, recent studies have found that this effect also extends to all fixed-income products denominated in US dollars. Compared to other currency bonds with the same risk, US dollar bonds have an average yield reduction of 1.8% – an extremely attractive advantage. The additional discount enjoyed by US Treasury bonds over US dollar bonds is only around 0.2%. Hong Kong dollar bonds can partially enjoy the low financing cost advantage of US dollar bonds. Hong Kong businesses can choose to finance in US dollars without being exposed to exchange rate risk. In contrast, companies in other countries have to bear exchange rate risk to enjoy the low-cost advantage of US dollar bonds.

The various financing advantages mentioned above not only benefit the businesses and individuals seeking financing, but also contribute to the development of Hong Kong's financial institutions. One-fifth of Hong Kong's GDP comes from the financial industry, and the prosperity of the financial sector largely depends on financing activities, financial transactions, and capital flows. While capital and financing may come from all over the world, the value created through financial activities benefits the local economy and people in Hong Kong. The linked exchange rate system creates favorable conditions for capital to choose Hong Kong, as it eliminates concerns about exchange rate risk and increases demand for Hong Kong dollar assets among investors. This helps attract international capital inflows and financial transactions, further driving the prosperity of Hong Kong's financial industry and the overall economy.

International Trade

As an important international trade hub, Hong Kong's trade volume is more than four times its GDP. Few other major economies have trade volumes exceeding their GDP. Trade, like finance, accounts for one-fifth of Hong Kong's GDP and plays a crucial role in driving the development of the entire economic system. In an economy highly dependent on trade, exchange rate fluctuations have a significant impact on companies' income and profits. Due to the lower risk of local business activities compared to international trade, companies often hesitate to engage in international trade due to exchange rate volatility, which affects the breadth and development potential of the entire market. Although there are financial instruments that can help companies hedge against exchange rate risk, these tools often come with high costs, making the cost of reducing exchange rate risk quite substantial. The linked exchange rate system adopted by Hong Kong provides free risk hedging for import-export companies, and creating a relatively stable exchange rate environment for businesses.

Entrepot trade accounts for a large proportion of Hong Kong's international trade, as Hong Kong plays the role of trade intermediary and logistics center. In trade settlement, currencies of other countries and regions, including the Chinese yuan, have a certain proportion besides the Hong Kong dollar and the US dollar. Some traditional views advocate pegging to a basket of currencies weighted by trade volume to reduce exchange rate risk. However, recent studies have shown that regardless of the currency used for settlement, the price of goods in international trade remains stable against the US dollar. In other words, using local currency for settlement does not eliminate exchange rate risk in trade, and the best way to reduce risk is to peg to the US dollar.

According to research, fixed exchange rate systems increase bilateral trade volume by 38% compared to floating exchange rate systems under the same conditions. Based on the existing trade volume and its contribution to GDP, the stable trade environment brought about by the fixed exchange rate has significantly increased Hong Kong's total import and export trade volume, as well as the value added of the trade industry, resulting in an 8% increase in Hong Kong's GDP. However, in recent years, Hong Kong's port cargo throughput has declined, which may indicate that Hong Kong's position in the international trade arena is facing challenges. In the current diversified and highly competitive international trade market, Hong Kong's linked exchange rate system can maintain its core competitiveness and position as an international trade center.

3. The gains and costs of a floating currency

The often criticized downside of fixed exchange rates is central banks' loss of autonomy in monetary policy. For example, from March 2022 to July 2023, the US Federal Reserve raised the federal funds rate from zero to 5.25% to address high inflationary pressures. Due to the linked exchange rate system, Hong Kong is forced to raise interest rates at the same pace, despite facing different inflationary pressures than the United States. This passive monetary policy may be inconsistent with the policy objectives of the local economy and may even result in efficiency losses in local investment and financing activities. Over the past 25 years, the correlation between inflation in Hong Kong and the United States has been only -0.02. Similarly, during a downturn in the local economy, Hong Kong does not have a flexible monetary policy to stimulate the economy or rescue the financial markets.

In this section, we argue that international financial centers like Hong Kong have limited autonomy of monetary policy, even with exchange rate fluctuations. Based on Hong Kong's primary involvement in entrepot trade, the role of monetary policy in stimulating the economy should not be overestimated.

The global financial spillovers to floaters

In recent years, global financial markets have become increasingly integrated, and cross-border capital flows have grown rapidly. According to recent research, global capital flows and the prices of risk assets are driven by the same common factors and are highly correlated with US monetary policy. When the Federal Reserve raises the federal funds rate by 1%, global risk asset prices decline by 8%, and both domestic and foreign credit in various countries decrease by 5%. This phenomenon is equally applicable to countries with floating exchange rates, which has led people to reassess the advantages of floating exchange rates. The floating exchange rate regime is not as capable as traditional views suggest of absorbing external economic shocks and protecting domestic financial markets from external economic disturbances.

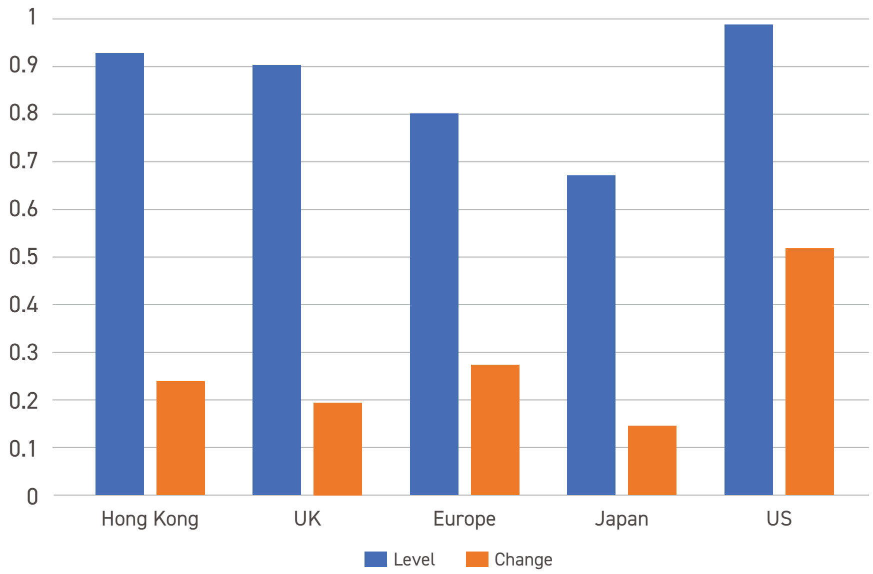
One of the transmission mechanisms through which US monetary policy has a strong cross-border impact is its influence on the risk appetite of international investors. As the dominant currency in global capital markets, any changes in US dollar interest rates can alter the risk-taking behavior of international investors, particularly institutional investors. Studies have shown that US rate hikes significantly decrease investors' risk appetite. As an international financial center, Hong Kong has long been subject to substantial inflows and outflows of capital. Even with a floating exchange rate regime, Hong Kong would naturally be influenced by US monetary policy through the risk-taking preferences of international investors.

Many expect that adopting a floating exchange rate regime will restore autonomy of monetary policy. However, in reality, countries with floating exchange rates also have limited autonomy in monetary policy. According to research, the dependency of interest rate changes in floating exchange rate countries on changes in the US federal funds rate is 0.54. This means that if the Federal Reserve raises the federal funds rate by 25 basis points, on average, floating exchange rate countries will increase their policy rates by 13 basis points.

From another perspective, for local financial market participants, actual borrowing and lending rates are more important than the direct policy rates of the central bank. The spread between the actual borrowing and lending rates and the central bank policy rates reflects the supply of and demand for funds and the liquidity situation in the market. Taking Hong Kong's interbank rate (HIBOR) as an example, Figure 3 shows that its correlation with the US federal funds rate is as high as 0.93. In comparison, the correlation between the US interbank rate (LIBOR) and the federal funds rate is 0.99, while the correlations between the interbank rates of other major floating exchange rate economies such as the pound, euro, and yen and the federal funds rate are 0.90, 0.80, and 0.67, respectively. Although these economies all adopt floating exchange rate regimes, their interest rates are highly correlated with US interest rates, similar to Hong Kong. In comparison to interest rate levels, interest rate changes can better reflect the degree of linkage between short-term interest rate fluctuations in various countries. If we assess the correlation between changes in interbank rates and changes in the federal funds rate, the correlation for the Hong Kong dollar is only 0.24, while the correlations for the US dollar, pound, euro, and yen are 0.52, 0.20, 0.27, and 0.14, respectively.

Figure 3 conveys two important messages. First, even under a floating exchange rate regime, there is still a high correlation between interbank lending rates and the US federal funds rate. Second, there is a low correlation between the actual Hong Kong dollar interbank rate changes and changes in the US federal funds rate. This difference reflects the supply and demand factors in the local financial market and indicates that there is still room for adjustment of Hong Kong dollar interest rates even under the linked exchange rate system.

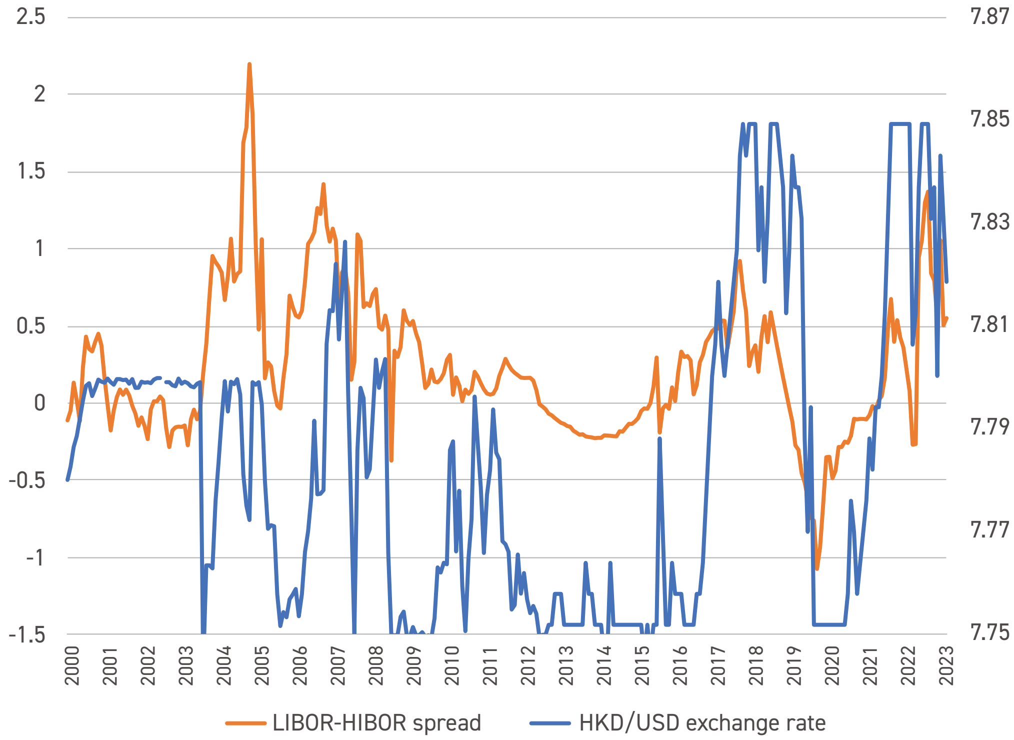
Figure 3. Correlation between the US Federal Funds Rate and the Interbank Rate



Source: Global Financial Database.

Figure 4 further explains the significant economic and financial market conditions reflected in the differences between US dollar and Hong Kong dollar interbank rates, which are related to the fluctuations of the Hong Kong dollar exchange rate. The left axis of the chart shows the difference between US dollar and Hong Kong dollar interbank rates, and the right axis shows the exchange rate. When the Hong Kong dollar interbank rate is higher than the US dollar rate, it usually suggests that there is strong demand in the Hong Kong dollar market, which can lead to capital inflows to the Hong Kong dollar market and a subsequent appreciation of the Hong Kong dollar. This mechanism still works even when the Hong Kong dollar exchange rate approaches the weak-side Convertibility Undertaking of 7.85 Hong Kong dollars per US dollar: the Hong Kong dollar will immediately appreciate when interbank lending rates rise.

Figure 4. LIBOR-HIBOR Spread and the HKD/USD Exchange Rate



Source: Global Financial Database.

The benefits of monetary autonomy are limited for Hong Kong

The previous analysis shows that a floating Hong Kong dollar cannot give Hong Kong a high degree of monetary policy autonomy. In this section, we further explain that autonomous monetary policy and floating exchange rates have limited benefits for Hong Kong. The traditional view is that if a central bank can autonomously formulate monetary policy, then monetary policy can adjust local employment and inflation, while a floating exchange rate can achieve external balance. However, this logic only applies to large countries where manufacturing of tradable goods is the main production, not to economies like Hong Kong, where re-export trade is the main activity. Standing in the middle of the global value chain, Hong Kong plays an important role in the trade of products between mainland China and other countries. The final import and export quantities still depend heavily on the supply and demand relationship between the final places of production and sale. A floating Hong Kong dollar can only change the relative prices of the value-added part in Hong Kong – a small proportion of the overall trade volume. Therefore, the prices of imports and exports are mainly affected by the exchange rate between the final place of production and the final place of sale, rather than the Hong Kong dollar as a transit point.

Furthermore, the majority of global commodity trade is priced in US dollars, making import and export prices relatively stable against the US dollar. Therefore, a unilateral depreciation of the Hong Kong dollar cannot promote exports because the prices paid by consumers do not decrease due to the depreciation of the Hong Kong dollar exchange rate. This factor further diminishes the benefits of a floating Hong Kong dollar.

4. Managing the linked exchange rate system

Managing a linked exchange rate system is not costless, as demonstrated by the challenges faced during the 1997-98 Asian financial crisis. Multiple currencies in Southeast Asia came under speculative attacks, and some abandoned their linked exchange rate systems. Hong Kong overcame this crisis and continues to maintain a well-functioning linked exchange rate system. However, this experience reminds us to be prepared to face the challenges of managing a linked exchange rate system at all times.

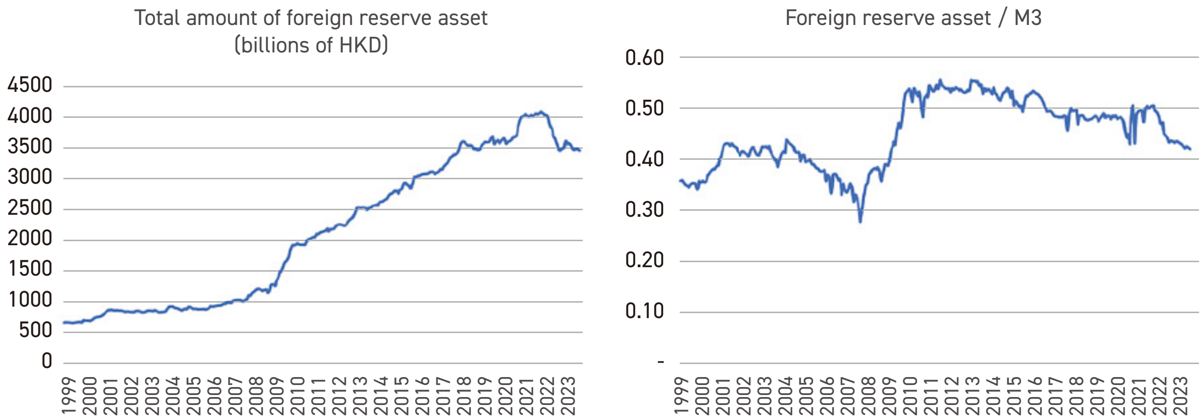
Reserves must be ample

Under the existing linked exchange rate system, the monetary base in Hong Kong is fully backed by the US dollar assets of the Exchange Fund of the Hong Kong Monetary Authority. This US dollar asset backing is crucial for maintaining investors' confidence in the linked exchange rate system. The Hong Kong Monetary Authority must hold sufficient reserves to prevent possible massive capital outflows and establish investor confidence in maintaining the Hong Kong dollar linked exchange rate system.

Currently, the Hong Kong Monetary Authority's reserve assets amount to HKD 3.5 trillion, which is six times the money in circulation, twice the monetary base, and 40% of broad money (M3). This level of reserve assets appears sufficient to handle day-to-day capital flows. Worryingly, since peaking in 2021, reserve assets have declined by 15%. Figure 5 shows the recent changes in Hong Kong's reserve assets, indicating a significant decline. Continued capital outflows could jeopardize investor confidence in the Hong Kong dollar linked exchange rate and lead to further capital outflows. In such a situation, higher levels of reserve assets can help alleviate investor concerns.

However, if we examine another indicator, the ratio of reserve assets to broad money (M3), the current situation is not unprecedented. This ratio has decreased from 0.50 in 2021 to the current 0.4, but in the past, Hong Kong has experienced two instances where this ratio dropped to even lower levels, once during the SARS period in 2003 and once during the 2007-08 global financial crisis. While the significant decrease in foreign exchange reserve assets does serve as a warning to monetary authorities and requires attention to capital outflow pressures, we still have confidence in Hong Kong's ability to overcome the current situation.

Figure 5. Foreign Reserve



Source: HKMA

Confidence

Confidence, as emphasized earlier, is a key factor in maintaining the smooth operation of a linked exchange rate system. If investors do not believe in the sustainability of the linked exchange rate system, it can quickly collapse. Building investor confidence takes time and effort, but breaking investor confidence only takes one deviation from commitments. The Hong Kong and central governments' steadfast commitment to maintaining the linked exchange rate system during past crises has been an important assurance for investors' confidence in this system.

There have been discussions suggesting that the linked exchange rate system may not be sustainable or should be adjusted or even replaced, especially in the current context of frequent economic and political tensions between China and the United States. Indeed, the economic and trade frictions have diminished the benefits of the linked exchange rate system for Hong Kong. However, we believe that these frictions are temporary compared to long-term development, and the perseverance in maintaining the linked exchange rate system in this challenging environment will instill greater confidence in the stability of the Hong Kong dollar among investors in the future.

5. The Possibility of Linking to the Chinese Renminbi

Hong Kong's exchange rate system, in addition to the existing linked exchange rate system and floating exchange rate, can also adopt other forms of fixed exchange rate. Some viewpoints support Hong Kong's pegging to the renminbi, mainly based on several reasons such as trade and the internationalization of the renminbi.

First, pegging with the renminbi can promote trade between the Mainland and Hong Kong. Hong Kong's exports to the Mainland account for half of its total external trade. However, due to the dominant position of the US dollar in international trade, the volume of trade denominated in US dollars still far exceeds that in renminbi. Additionally, due to the nature of re-export trade, Mainland trading firms still need to consider US dollar settlements when pricing and invoicing for the next stage. Since goods prices are relatively stable with respect to the US dollar, the exchange rate risk faced by Mainland enterprises and Hong Kong trading companies is similar to that under the current linked exchange rate system. Therefore, pegging with the renminbi may have limited impact on the overall trade volume, even if trade with the Mainland increases. The analysis above is based on the current situation of currency settlement and pricing in trade. As the renminbi continues to increase its presence in trade settlement, if it were to dominate both ends of re-export trade in the future and goods prices remain stable with respect to the renminbi, the trade advantages of pegging with the renminbi could gradually emerge.

On the other hand, it remains uncertain whether pegging the Hong Kong dollar to the renminbi would significantly contribute to the internationalization of the renminbi. Hong Kong serves as a hub for offshore renminbi, and most measures to promote the internationalization of the renminbi can already be targeted towards offshore renminbi under the current system. These measures include expanding the use of renminbi in international trade, investment, and international reserves, as well as cross-border payment and clearing. Pegging the Hong Kong dollar to the renminbi would essentially align it with offshore renminbi. However, many financial assets currently denominated in Hong Kong dollars will be priced in US dollars rather than renminbi. This limits the impact on enhancing the role of the renminbi in the international financial system.

Pegging the Hong Kong dollar to the renminbi could also present operational challenges and mishandling could lead to systemic financial risks. International capital would be hindered by capital controls, making it difficult to engage in currency speculation targeting onshore renminbi. The Hong Kong dollar, pegged to the renminbi, has greater market depth, better liquidity, and a more comprehensive development of financial derivatives, making it a more direct target for speculation. In such a scenario, the government would need to use more foreign exchange reserves to maintain the value of the Hong Kong dollar, potentially creating hidden risks within the financial system.

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