The UK as an open economy: an introduction

Lecture Notes

Managing the UK economy: Fiscal and monetary policy since 1945

(7SSPN231)

Daniele Girardi*

King's College London

1 Introduction

The United Kingdom is an *open* economy, characterized by extensive integration in global markets, in ways that have deeply influenced and constrained British macroeconomic policy in the post World War II period. These lecture notes introduce the key concepts to understand the UK's integration in the global economy, and the main features of the UK as an open economy.

2 Dimensions of Economic Openness

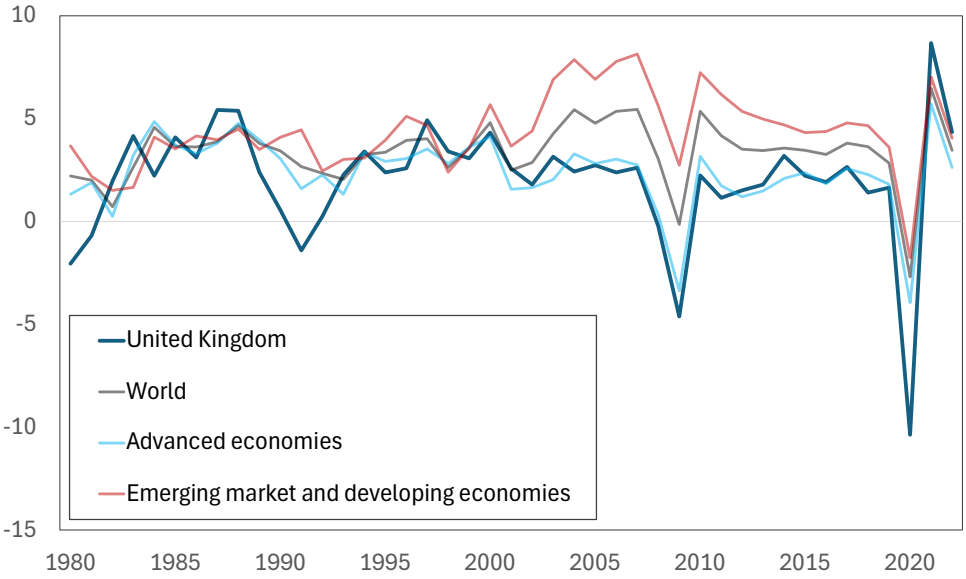
The UK is an open economy in three main ways. First, the UK is *open to trade*: the country maintains extensive trade relationships through imports and exports. UK buyers can freely choose between domestic and foreign goods. UK firms have access to both domestic customers and international markets for their products. Second, the UK is *open to financial flows*: UK investors can choose between domestic and foreign financial assets; foreign investors can buy and sell British financial assets. Third, the UK is (to a significant extent) *open to labor and fixed capital movements*: UK firms can relocate their production abroad; foreign firms can establish (or close) production facilities within the UK; domestic and foreign workers can (and do) move in and out of the country.

These international links are very important for the UK economy and for macroeconomic policy. To find evidence for this, it is sufficient to look at economic growth patterns over time,

*Lecturer, Department of Political Economy, King's College London.

as in Figure 1, which shows yearly real GDP growth from 1980 to 2022. The UK's economic performance closely mirrors global trends, particularly those of advanced economies. For example, the 2007-2008 global financial crisis, which originated in the United States' housing market, caused a deep contraction in economic activity in the UK, illustrating the country's vulnerability to external shocks.

Figure 1: Real GDP growth rates for the UK, world, advanced economies, and emerging market and developing economies (1980-2022)



Source: IMF World Economic Outlook Database, April 2024,
https://www.imf.org/en/Publications/WEO/weo-database/2024/April)

3 UK international trade over time

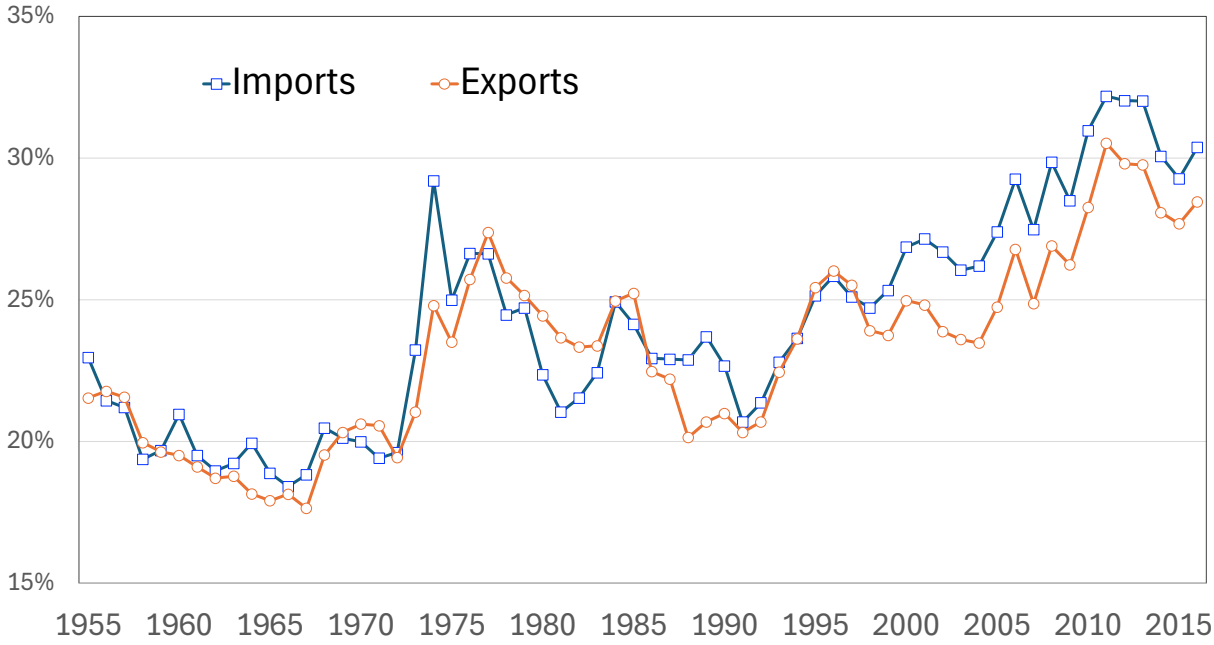
UK trade patterns have evolved significantly over the post World War II period. Figure 2 shows UK exports and imports, measured as a percentage of UK GDP, displaying two main trends. First, the UK economy has progressively opened up over time. Both import and export levels have increased since the 1950s, although with notable short-run fluctuations. Second, we observe the emergence of a persistent trade deficit since the late 1990s. This means that the UK consistently imports more goods and services than it exports.

This raises a fundamental question: how is this trade deficit financed? How can the UK, as a system, obtain enough foreign currency to pay for its imports, when its exports are significantly and systematically lower in value? Imagine for simplicity that all UK imports and exports were paid for in US dollars. The trade deficit means that, year after year, the UK spends for imports more US dollars than it earns through its exports. How does the UK

obtain the additional US dollars to pay for this excess of imports over exports?

The answer lies in the country's openness to financial flows. Simply put, the UK obtains the foreign currency to pay for its trade deficit by selling UK financial assets (stocks and bonds) to foreigners. As we will see in a couple of pages, a more technical way to say this is that the trade deficit (or *current account* deficit) is financed by a corresponding *financial account* surplus.

Figure 2: UK exports and imports as a percentage of GDP (1955-2015)



4 International Financial Flows

The UK's integration into global financial markets represents a crucial aspect of its economic openness. UK investors can (and do) buy and sell foreign financial assets; foreigners can (and do) buy and sell British stocks and bonds.

The *foreign exchange market*, where currencies are bought and sold, sometimes called FOREX, is a special international financial market, that plays a central role in facilitating international financial flows. Foreign exchange markets do not only allow people and entities to speculate on (or insure against) exchange rate movements. They also (and most importantly) allow all other international transactions to happen. After all, to buy a foreign physical good or financial asset, you first need to acquire foreign currency. For example, if a US investor wants to buy a UK government bond, they first need to exchange their US dollars for UK

pounds, which can then be used to purchase the bond. Similarly, if you want to buy Apple stocks (or the stocks of another US company), you first need to acquire US dollars in foreign exchange markets.

As we will see during this module, the foreign exchange market has been crucial in influencing and constraining UK economic policy making in the post World War II period. International financial flows have been essential for maintaining stability, but also created vulnerability to external pressure and external shocks. In fact, UK economic history since 1945 has been punctuated with several foreign exchange crises that have significantly influenced economic policy decisions.

In the UK as in other industrialized economies, financial openness increased very significantly during the 1980s through 2000s period, which witnessed extensive liberalization of international capital markets. In fact, between the 1940s and the 1970s, there were substantial obstacles to international financial flows: tight regulations limited the ability of investors to buy and sell foreign financial assets in all industrialized economies. During that period, for example, the ability of British residents to buy and sell foreign financial assets or to exchange British pounds for foreign currencies was very limited. With financial liberalization, legal restrictions on international financial flows have been systematically dismantled since the 1980s, to the point that today financial flows are virtually free to cross borders. Today people in most countries are free to buy and sell foreign currency and foreign assets.

Besides allowing investors to operate internationally and diversify their portfolios on a larger scale, *international financial flows serve a critical function by allowing countries to finance trade deficits or surpluses.* For example, as already mentioned, the trade deficits that the UK has been running since the 1990s have been financed by net inflows of foreign financial investment in UK assets. To see precisely how this works, we need to understand the balance of payments framework.

5 The Balance of Payments

The Balance of Payments (BoP) is a comprehensive set of accounts that summarize a country's transactions with the rest of the world. This framework consists of two main components that must balance each other: the *current account* and the *financial (or capital) account.*

The current account registers payments to and from the rest of the world. It encompasses (a) the trade balance and (b) the income balance. The trade balance includes payments for international trade. It is equal to exports minus imports. The income balance includes various income payments between the UK and other countries, for example salary payments received by UK residents who do some work for foreign entities, or rents earned by UK

residents on real estate properties they hold abroad, or dividends received by UK residents on foreign stocks that they own (or vice versa). The income balance equals the incomes received from abroad by UK economic agents, minus the incomes paid to foreigners by UK economic agents.

The financial (or capital) account includes two components: (a) net transfers such as foreign aid and (b) financial asset purchases to and from the rest of the world. Net transfers are typically relatively small, so it is financial flows – asset purchases across borders – that determine the financial account balance. The financial account equals net transfers, plus foreign purchases of UK financial assets (ie, financial inflows), minus UK purchases of foreign financial assets (ie, financial outflows).

The current account and financial account must always sum up to zero. A current account deficit must be matched by a financial account surplus of the same amount – and vice versa. This is a fundamental accounting identity – something that is always and necessarily true by definition. In practice, international payments are imperfectly recorded in national and international statistics: many payments are missed or over/under-reported. As a result, in practice current account and financial account do not perfectly balance each other in the official statistics – this is called a *statistical discrepancy* because it is the result of imperfect statistical measurement rather than a real discrepancy.

But the best way to understand the Balance of Payments is to look at an actual Balance of Payments. Figure 1 uses the United States in 2018 as an example. In 2018, the US ran a current account deficit amounting to 489 billion US Dollars. This was due to a large trade deficit equal to 622 billion USD, only partly offset by a positive net income of 133 billion. The current account deficit was offset by a financial account surplus: inflows of financial investment in excess of outflows. While in reality the current account and financial account must sum up to zero, imperfect statistical measurement meant that there was a 30 billion (statistical) discrepancy between the two.

Table 1: US balance of payments in 2018 (billions of USD)

Current Account		
Exports	2,500	
Imports	3,122	
Trade balance (deficit = minus sign) (1)		−622
Income received	1,200	
Income paid	1,067	
Net income (2)		133
Current account balance (1) + (2) (deficit = minus sign)		−489
Financial Account		
Net capital transfers (3)	9	
Increase in foreign holdings of US assets (4)	811	
Increase in US holdings of foreign assets (5)	301	
Financial account balance (7) = (3) + (4) − (5)		519
Statistical discrepancy: financial account − current account balance		30

Source: Blanchard (2017), with data from US Bureau of Economic Analysis, US International Transactions, Table 17.1.

Let us now turn to the UK. Table 2 displays the UK Balance of Payments in 2022. That year, the UK ran a current account deficit of £78.3 billion, consisting of a trade deficit of £68.0 billion and a net income deficit of £10.3 billion. This current account deficit was financed through the financial account, which showed a surplus of £61.3 billion, with the remainder accounted for by statistical discrepancy. Like in the US case, foreign investment in UK financial assets (foreigners bringing their money in the UK to purchase British bonds and stocks) exceeds the amounts invested abroad by UK residents, and this financial account surplus finances the UK current account deficit.

Note that when foreigners buy UK stocks and bonds, they are essentially lending money to UK economic actors. This means that, in essence, the UK finances its trade deficit by borrowing from abroad.

Changes in UK holdings of foreign assets include changes in the Bank of England's foreign exchange reserves. As mentioned last week, Central Banks hold foreign currency in the form of short-term safe foreign bonds (usually government bonds). When the Bank of England sells some of these foreign bonds, this represents a *reduction* in UK holdings of foreign assets, thus contributing *positively* to the financial account.

This means that *the Central Bank can finance a current account deficit by selling some of*

its foreign exchange reserves, if need be. Essentially, the Central Bank can release some of its foreign currency to fill a gap in private currency flows. This is indeed the main reason why Central Banks hold significant foreign exchange reserves in the first place.

Therefore, in periods in which private financial flows do not offset the current account deficit (or surplus), the Central Bank runs down (or increases) its foreign exchange reserves. This was especially true and relevant in the UK in the 1945-1980 period. As financial liberalization had not occurred yet, private financial flows were not large enough to compensate a possible sizable current account deficit. At the same time, the government was trying to maintain a fixed exchange rate (or in any case avoid depreciation of the currency), so that a trade deficit could not be reduced by depreciating the currency either. Therefore, the emergence of any sizable and persistent trade deficit would force the Bank of England to draw down its foreign exchange reserves. This often produced *foreign exchange crises*, in which foreign currency reserves were being depleted fast and the country needed to borrow foreign currency from abroad in order to be able to meet its external obligations.

When the Central Bank has to draw down its reserves to finance current account deficits and/or deficits in private financial flows, people often talk of a 'balance of payments deficit' (including in some of the readings I will give you). This is common although it is a bit of a misnomer because, strictly speaking, the balance of payments always and necessarily sums up to zero.

Table 2: UK balance of payments in 2022 (£ billions)

Current Account		
Exports	833.8	
Imports	901.8	
Trade balance		-68.0
Income received	314.4	
Income paid	324.7	
Net income		-10.3
Current account balance		-78.3
Financial (or capital) account		
Net capital transfers	3.1	
Increase in foreign holdings of UK assets	237.0	
Increase in UK holdings of foreign assets	172.6	
Financial account balance		+61.3
Statistical discrepancy		17.0

6 The nominal exchange rate

The nominal exchange rate, defined as the price of the domestic currency in terms of foreign currency, represents a crucial variable in an open economy. The nominal exchange rate tells you how much foreign currency you can obtain in exchange for 1 pound – for example, the number of US dollars that can be obtained for one UK pound. If the British pound's nominal exchange rate with the US dollar is 1.31, it means that 1 pound is worth 1.31 US dollars. A currency *appreciation* represents an increase in the value of the domestic currency. A *depreciation* indicates a decrease in value.

Figure 3 shows the evolution over time of the GBP/USD nominal exchange rate, from 1900 to 2016. The pound has experienced substantial long-term depreciation against the dollar, falling from 4.87 dollars per pound in 1900 to 1.35 in 2016. The large decrease in the value of the pound has mostly occurred between the late 1930s and the early 1980s.

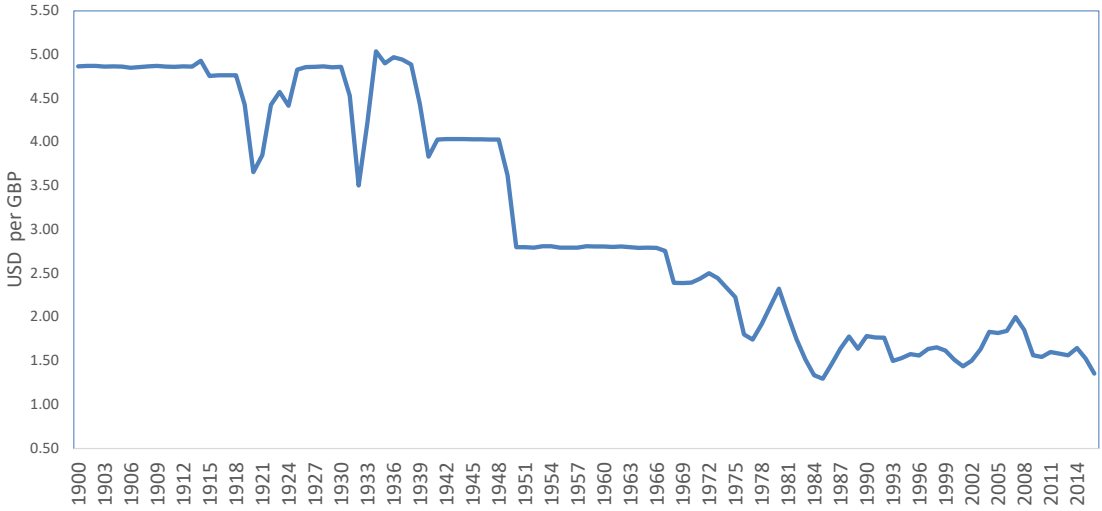


Figure 3: GBP/USD exchange rate (1900-2016)

Source: Bank of England, A millennium of macroeconomic data, available at https://www.bankofengland.co.uk/statistics/research-datasets

7 The Real Exchange Rate

While nominal exchange rates tell us about the relative market price of currencies, they provide only part of the information needed to understand a country's competitiveness in international markets. When UK consumers, firms, or government agencies consider purchasing foreign goods, or when foreign buyers consider purchasing UK goods, the crucial question is not simply how many dollars can be obtained for a pound, but rather how much goods cost in one country relative to the other.

This leads us to the concept of the *real exchange rate* (RER), which measures the price of domestic goods relative to foreign goods.

To understand the real exchange rate, consider a simplified example.[1] Suppose the UK produced only Jaguar luxury sedans, while the US produced only Cadillac luxury sedans. If we wanted to know the price of British goods in terms of American goods, we would need to express both goods in the same currency and then compute their relative price.

Taking the UK perspective, we would proceed as follows. First, we would convert the price of a British Jaguar from pounds to dollars using the nominal exchange rate. If a Jaguar costs £30,000 and the exchange rate is 1.31 dollars per pound, then the Jaguar costs $39,300 in dollar terms. Second, we would compare this to the price of a US Cadillac in dollars. If a Cadillac costs $40,000 in the United States, then the relative price would be $39,300/$40,000, or approximately 0.98. This would indicate that British goods are about 2% cheaper than American goods.

In reality, countries produce many different goods and services, not just luxury cars. To construct a meaningful real exchange rate for the entire economy, we must use price indexes that capture the average price level across all goods and services produced. The *GDP deflator* serves precisely this purpose, as it represents a comprehensive price index for all final goods and services produced in an economy. As an index number, the GDP deflator is normalized to equal 100 in some (arbitrarily chosen) year. It then captures changes in the average prices of goods and services produced in the economy: if the deflator equals 110, this means that the average price level is 10% higher than in the base year; if it equals 95, prices are 5% lower than in the base year.

Let P^* denote the GDP deflator for the United States (using an asterisk to indicate foreign variables), P denote the GDP deflator for the United Kingdom, and E represent the nominal exchange rate (dollars per pound). The real exchange rate, which we denote by ε (the Greek letter epsilon), is constructed through the following steps. First, we convert the UK price level into dollars by multiplying P by E, giving us EP. This represents the price of UK goods expressed in dollars. Second, we divide this by the US price level P^* to obtain the relative price:

$$\varepsilon = \frac{EP}{P^*} \tag{1}$$

This formula extends our simple Jaguar-Cadillac example to encompass all goods and services in both economies.

If you don't fully understand the formula or the details of the real exchange rate definition

[1] This example is taken from the Blanchard (2016) textbook.

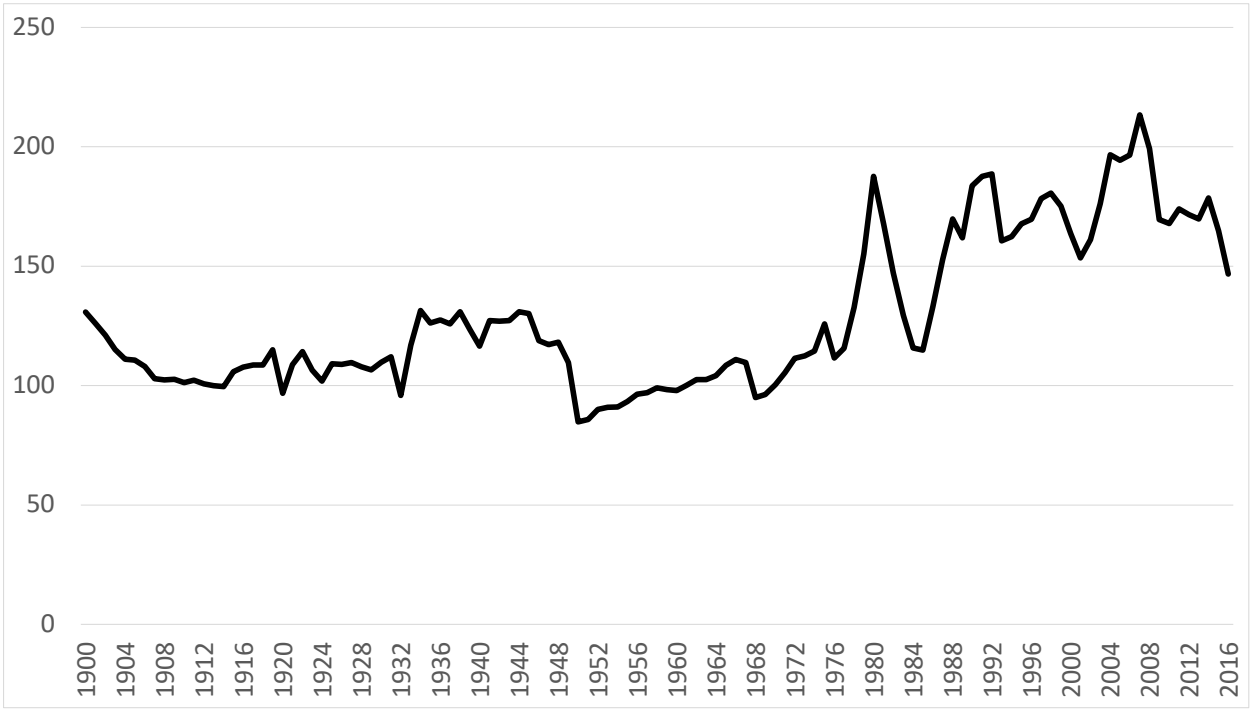
and computation, that is completely fine, especially if you don't have a background in economics or quantitative methods. The main idea to understand is simply that *the real exchange rate tells us how expensive UK goods are relative to (for example) US goods, accounting for both the nominal exchange rate and the relative price levels in the two countries.*

An important caveat must be noted regarding the interpretation of the real exchange rate. Because it is constructed using GDP deflators, which are themselves index numbers normalized to equal 100 (or sometimes to equal 1) in a chosen base year, the *level* of the real exchange rate is arbitrary and uninformative. However, *changes* in the real exchange rate carry meaningful information. If the real exchange rate increases by 10%, this tells us that UK goods have become 10% more expensive relative to US goods compared to the previous period, taking into account both changes in prices in the two countries, and changes in the nominal exchange rate between the two currencies. In general, an increase in the UK real exchange rate implies a decrease in the competitiveness of UK producers in international markets.

Changes in the real exchange rate are described using terms parallel to those used for nominal exchange rates. A real appreciation refers to an increase in the real exchange rate, meaning that domestic goods become more expensive relative to foreign goods. Conversely, a real depreciation refers to a decrease in the real exchange rate, indicating that domestic goods become less expensive relative to foreign goods. These movements have direct implications for trade competitiveness; a real depreciation tends to stimulate exports (and at the same time reduce imports) by making domestic goods relatively cheaper relative to foreign goods, while a real appreciation tends to reduce exports (and increase imports) by making domestic goods relatively more expensive.

Figure 4 displays the real exchange rate (RER) between the UK and the US from 1900 to 2016, expressed in terms of (real) US dollars per British pound, and normalised to 100 in 1913. We can see that the UK-US RER has been relatively stable between 1900 and 1930 (although with significant short-run fluctuations), but increased steeply in the first half of the 1930s and remained at this higher level until around 1945. A sharp downward adjustment between 1948 and 1950 was followed by a new increasing trend between 1950 and 1978, meaning that British producers were gradually losing competitiveness relative to US ones over 1950-1978. After 1978, the underlying increasing trend became steeper (although with very large short-run fluctuations), which implies a faster loss of competitiveness of British producers relative to US producers since the 1980s.

Figure 4: UK/US real exchange rate, 1900-2016, dollars per pound (1913=100)



Source: Bank of England, A millennium of macroeconomic data, available at
https://www.bankofengland.co.uk/statistics/research-datasets

The bilateral real exchange rate between two countries, while informative, tells only part of the story for a country that trades with many partners. For the UK, for example, the real exchange rate with the US is important, but it leaves out, for example, competitiveness relative to other European countries, which is arguably even more relevant for the British economy. A more comprehensive measure accounts for trade relationships with all countries simultaneously.

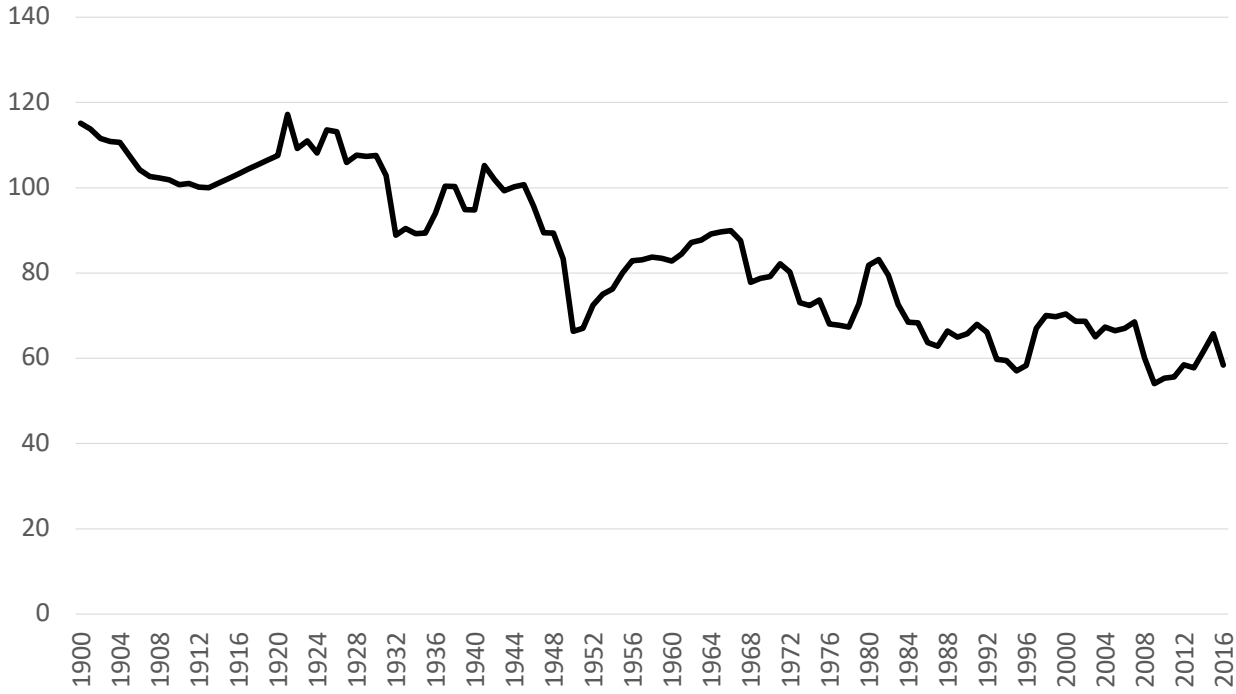
The *multilateral (or effective) real exchange rate* (REER) addresses this need by constructing a weighted average of bilateral real exchange rates, where the weights reflect the importance of each trading partner. For example, if the UK trades with Germany more than with the US, the RER vis a vis Germany will receive a higher weight than the one vis a vis the US in computing the REER. This provides a more comprehensive measure of a country's overall competitiveness than any single bilateral rate could offer.

But we don't need to get into the details of how the multilateral (or effective) real exchange rate is computed: what matters for us is that it measures changes in the country's average competitiveness in international markets, considering all of the country's trade partners and taking into account both changes in goods prices and changes in nominal exchange rates.

Figure 5 illustrates the evolution of the UK effective real exchange rate. This shows a

general downward trend between 1900 and 1950 (although with a temporary increase in the 1930s), and then an increasing trend in the 1950-1967 period. In the 1970s and 1980s the UK economy seems to regain competitiveness (apart from a steep REER increase between 1978 and 1981), and the REER has been broadly stable since the mid 1990s. Again, it should be kept in mind that these trends were accompanied by a steep long-term trend of depreciation/devaluation of the British pound, especially between the late 1930s and the early 1980s. In the absence of this long-term depreciation of the nominal exchange rate, the UK economy would have lost competitiveness throughout the period.

Figure 5: UK effective (or multilateral) real exchange rate, 1900-2016 (1913=100)



Source: Bank of England, A millennium of macroeconomic data, available at https://www.bankofengland.co.uk/statistics/research-datasets

Indeed, these data suggest that the British economy would have lost *substantial* competitiveness in absence of the long-term depreciation of the British pound. Why is that? The main structural reason is that, at the very start of the 20th Century, the British economy was the most advanced in the world (although the US was already close behind), having gained a head-start by being the first country to experience the Industrial Revolution. In the course of the 20th Century, other Western economies caught up to (or in some cases modestly surpassed) the UK productivity level. This catching up process necessarily implied faster productivity growth in other Western economies than in the UK, and therefore would have caused a continuous loss of relative competitiveness for UK producers in absence of

coutervailing nominal exchange rate movements. This *had* to be offset by a long-term trend of depreciation of the pound, otherwise it would have caused unsustainably large trade deficits throughout the period.

8 Exchange Rate Regimes

Countries can adopt different approaches to managing their nominal exchange rates, ranging from complete market determination to various forms of government intervention. A *flexible (or free-floating) exchange rate regime* lets market forces determine the currency's value, mostly without direct government intervention. In a free-floating exchange rate regime, demand and supply in the international foreign exchange market determine nominal exchange rates at each moment in time, similar to what happens in other liberalized financial markets.

Alternatively, countries can maintain *managed* exchange rate systems. The two most important types, at least from the point of view of UK recent history, are (a) fixed exchange rates and (b) bands that allow fluctuation within specified limits.

In a *fixed exchange rate regime*, the government commits to maintain a given fixed exchange rate with some foreign currency (typically the US dollar, or the Euro).

In 'bands' systems, governments establish a central parity and a (more or less narrow) range around it. Then they let the exchange rate fluctuate, but only within that range. Central Banks pledge to intervene to make sure that the exchange rate never falls outside of the range. For example, a country can say that their target exchange rate against the US dollar is 1 to 1, but they are going to let it fluctuate as long as it does not go more then 5% above or below that target value. An example of a 'bands' system was the European Exchange Rate Mechanism (ERM), in which the UK participated from 1990 to 1992. In the ERM, a set of bilateral exchange rate parities were computed between all participating European currencies, and currency fluctuations had to be contained within a margin of 2.25% on either side of the bilateral rates (with the exception of the Italian lira, the Spanish peseta, the Portuguese escudo and Pound sterling, which were allowed to fluctuate by $\pm 6\%$).

When governments change the target value of a managed exchange rate, these adjustments are called *devaluations* (when the currency is made less valuable) or *revaluations* (when it is made more valuable), distinguishing them from market-driven depreciations and appreciations.

9 Global Exchange Rate Regimes

From 1870 until World War I, the world operated under the *Gold Standard*, where currencies were tied to gold values. In the Gold Standard, all national currencies were convertible to

gold at a fixed ratio. In other words, the price of each currency was fixed and expressed in terms of gold. This implied that all currencies had fixed exchange rates among themselves, with no possibilities of adjustment. For example, in the UK, one ounce of gold was worth £4.25. In the US it was worth $20.67. This implied a fixed exchange rate between British pound sterling and US dollar of $4.87 per £1.

The period between the two world wars was one of instability and adjustments, with countries going in and out of the Gold Standard, especially during the Great Depression.

A new international exchange rate regime - called the *Bretton Woods system* – was put in place after the Second World War. The Bretton Woods system, established in 1944 and lasting until 1973, was a system of fixed but adjustable exchange rates centered on the US dollar. Under the Bretton Woods system, only the US dollar was convertible in gold, and all other currencies had a fixed exchange rate with the US dollar. But adjustments were possible and quite frequent: for example, the British pound was devalued multiple times relative to the US Dollar during this period.

Between 1971 and 1973, the Nixon administration ended the convertibility of the US dollar with gold, thus ending the Bretton Woods system. Since 1973, different countries have adopted various exchange rate regimes according to their specific economic circumstances and policy preferences. Several countries went for flexible exchange rates, but others pegged their currency to the dollar or created hybrid systems involving bands or other managed arrangements.

10 Exchange Rate Regimes in the UK

Within this global framework, the United Kingdom's exchange rate regime has undergone several shifts in the last 100 years. The UK was the central country in the pre-WWI Gold Standard regime, but dropped out of it (by suspending the convertibility of sterling with gold at the fixed rate) in 1917.

From 1925 to 1931, the UK rejoined the Gold Standard at the prewar parity of £4.25 per gold ounce. Re-entering the Gold Standard at the pre-war fixed parity was a decision taken by then Chancellor Winston Churchill and emphatically criticized by John Maynard Keynes, who thought that this would depress the UK economy. (It is now widely acknowledged that Keynes was right and Churchill made a disastrous policy mistake.)

The UK abandoned the Gold Standard for good in 1931, in the midst of the Great Depression. The period from 1931 to 1940 thus saw the adoption of a floating exchange rate system, where the value of the pound in terms of other currencies was free to fluctuate based on market forces.

In 1940, amid World War II, the UK returned to a fixed exchange rate system, in a context where market-based currency exchanges had effectively been shut down by governments due to the war. The post-war Bretton Woods agreement meant that the UK remained in a fixed exchange rate regime until the 1971/73 breakdown of Bretton Woods. As already mentioned, however, during this period structural economic conditions put a constant downward pressure on the value of the pound, forcing a number of devaluations. As a result of these periodic devaluations, during this period the value of one pound fell from \$4.03 in January 1941 to \$2.41 in January 1971.

After the end of the Bretton Woods system, the UK adopted a floating exchange rate from 1972 to 1990. A brief experiment with managed exchange rates occurred from 1990 to 1992, when the UK participated in the European Exchange Rate Mechanism (ERM), maintaining the pound within specified bands relative to other European currencies.

Since 1992, following the UK's dramatic exit from the ERM, the country has maintained a floating (flexible) exchange rate regime.

If you go back to Figure 3, you can now understand why the decrease in the value of the pound between 1945 and 1971 happened through a small number of one-off jumps, while after 1971 the exchange rate fluctuates continuously. Between 1945 and 1971 the Bretton Woods system of fixed exchange rates meant that the pound could only change its value through sporadic episodes of devaluation, while after 1971 the pound-dollar exchange rate would fluctuate every day – in fact, every second – based on market conditions (although Figure 3 only shows yearly averages).