Submission by Leigh Harkness regarding the Productivity Commission's paper:
Growth mindset: how to boost Australia's productivity.

Thank you for the opportunity to comment on the Productivity Commission's paper entitled *Growth mindset: how to boost Australia's productivity.*

In this submission, I explain how the productivity "bubble" was caused by monetary events. I then go on to show how the monetary system affects national income, production and productivity and that there are many different types of monetary systems in the world. But there are two basic systems:

- A closed system; and
- An open system.

The closed system uses the exchange rate to prevent international transactions affecting the money supply. That system protects the foreign currency reserves of the banking system. However, it also prevents the growth of exports from stimulating the economy. An open system allows international transactions to affect the money supply. It allows the growth of exports to stimulate the economy, but it also requires that bank lending be regulated. Australia's monetary system is currently closed. While that facilitates bank deregulation, it curtails the growth of production and reduces productivity. I conclude that if Australia is to raise its productivity and income, it must adopt a more open monetary system.

The "Bubble"

The Productivity Commission's *Growth Mindset* paper describes the rise and fall of productivity between 2019 and 2023 as the COVID-19 productivity *bubble* that has *popped*. From the statistics on imports, the COVID-19 restrictions were applied from the second quarter of 2020 to the last quarter of 2021. This is evident in the following chart (Figure 1) showing domestic demand for domestic products as a percentage of Gross Domestic Product (GDP)[1]. Domestic demand for local products rose above 80 percent of GDP in the June quarter of 2020 and fell below 80 percent in the March 2022 quarter, in line with the worst of the COVID restrictions.

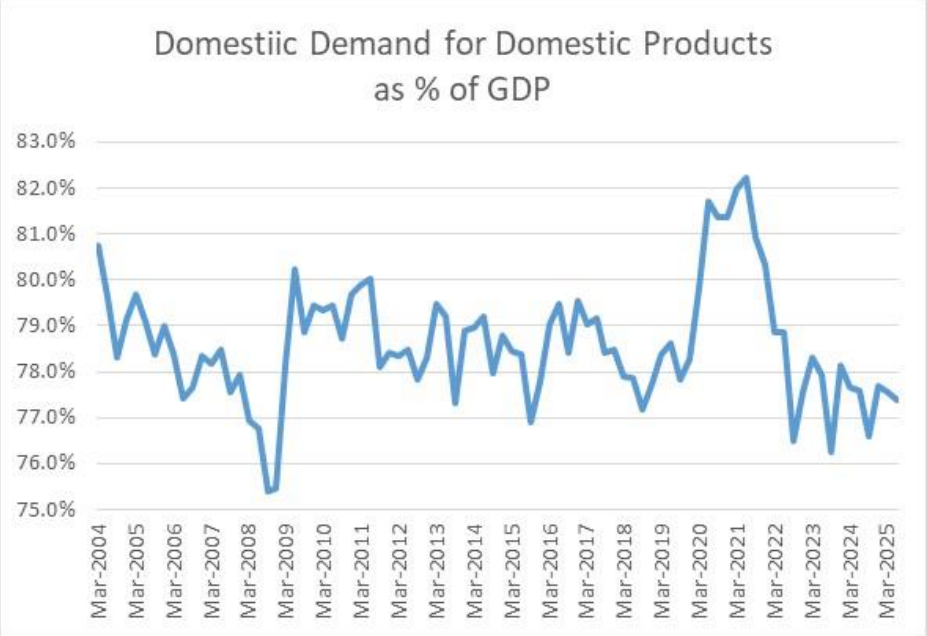

Figure 1

[1] Derived from ABS Data Series 5306, Table 3 by dividing imports by GDP for each quarter and subtracting the result from one [1-(Imports/GDP)].

However, the productivity *bubble* started in 2019, before the COVID-19 restrictions. It continued until 2023, after the COVID-19 restrictions had been removed. Therefore, there is good reason to believe that other factors contributed towards the rise and fall of the *bubble*.

Demand for Australian products comes from two sources: domestic demand and foreign demand. Foreign demand can be quantified simply as the level of exports. The relative size of domestic demand for domestic goods and services as a proportion of GDP was presented in Figure 1. Exports of goods and service as a percentage of gross domestic product[1] is shown in the following chart (Figure 2).

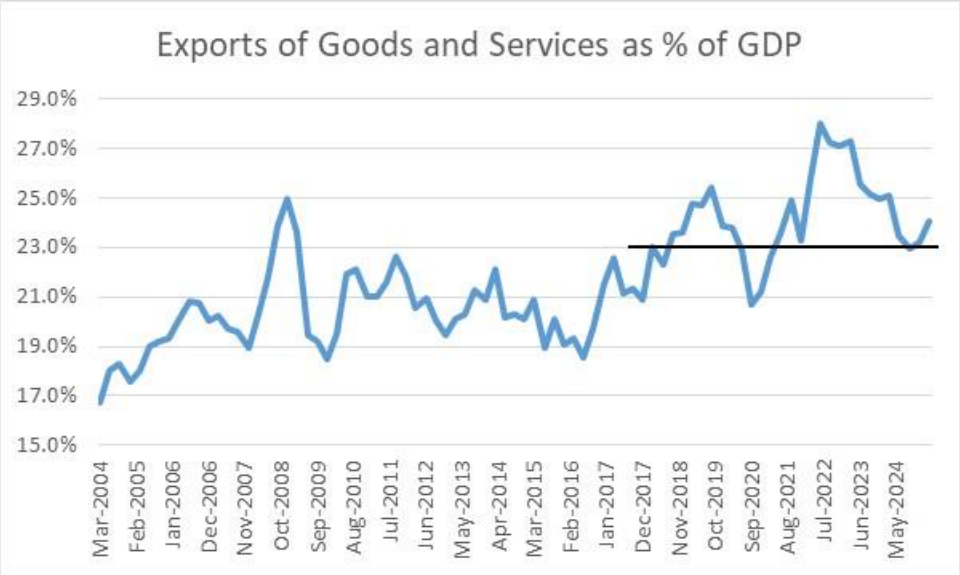

Figure 2

The chart shows an increase in the relative size of exports, exceeding 23 percent of GDP from September 2018 until the start of COVID in March 2020. During the worst of COVID, exports fell to below 23 percent of GDP until June 2021, when they rose again, up to 28 percent of GDP in June 2022. Since then, exports have remained above 23 percent.

The following chart (Figure 3) plots the combined domestic demand (Figure 1) and foreign demand (Figure 2) for domestic products. It clearly shows both the rise and fall in total demand for Australian products between 2019 and 2023. That rise and fall corresponds with the path of what the Commission has identified as the COVID productivity *bubble*.

[1] Derived from ABS Data Series 5306, Table 3.

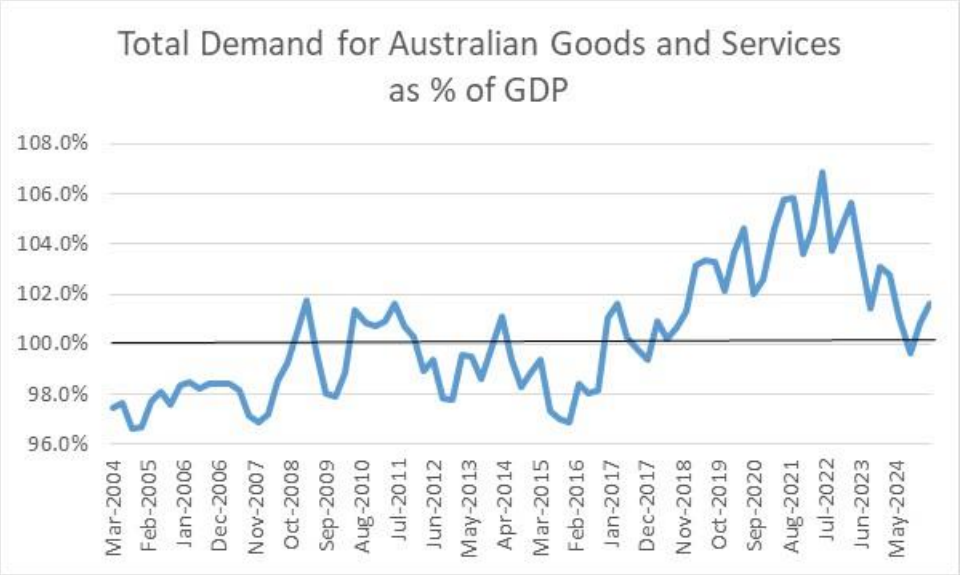

Figure 3

There is good reason for the similarity between the rise in demand for Australian products and the rise in productivity. The rise in demand for Australian products generated a rise in domestic output which resulted in the rise in productivity.

Also, Figure 3 clearly shows that the rise in the demand for Australian goods and services had started before March 2020 when the COVID restrictions came into force. The earlier start reflects the rise in exports that was shown in Figure 2. The COVID restrictions did not contribute to the rise in productivity until after March 2020, as was shown in Figure 1.

To determine what is driving the production *bubble*, it is useful to note that the variation in demand above and below the 100 percent line (Figure 3) can be determined, also, as the difference between exports and imports as a percentage of GDP, as shown in the following chart (Figure 4).

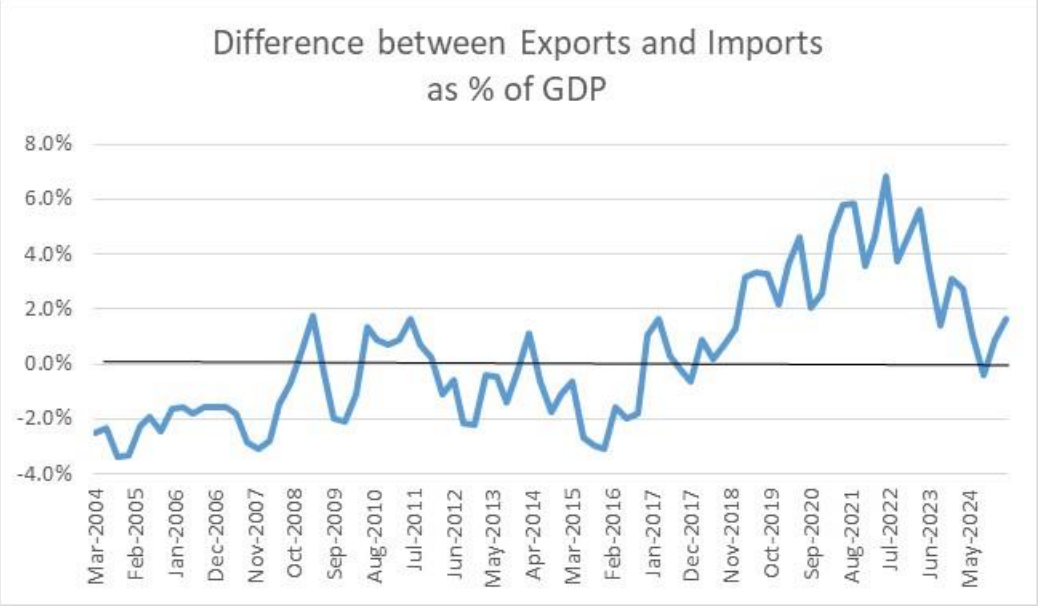

Figure 4

Given that Figures 3 and 4 are identical, other than for the values on their axes, we can study the productivity bubble from the perspective of the foreign exchange market. In that market, international receipts and payments must be equal. Therefore, we need to take into account the effect of that requirement upon the output and productivity of the Australian economy.

In the Australian monetary environment, if receipts from exports exceed payments for imports, then capital outflows must be greater than foreign capital inflows. The Reserve Bank of Australia publishes statistics on international capital flows in its report on net foreign liabilities[1]. The relevant flows are shown in the following chart (Figure 5).

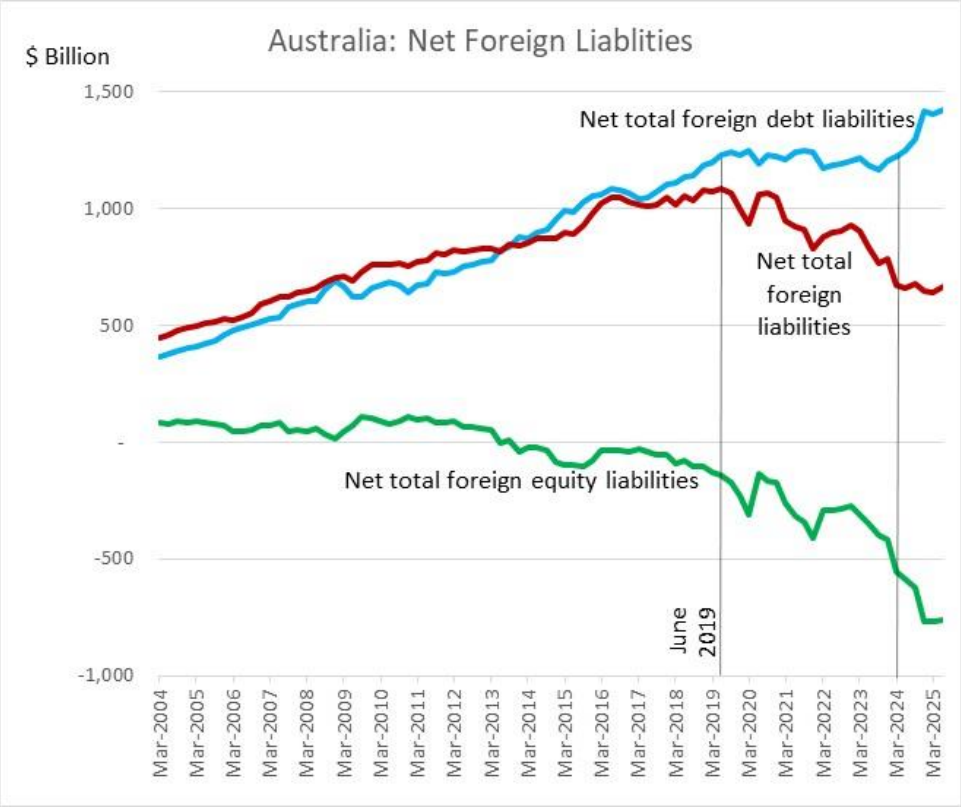

Figure 5

In this chart, *Net total foreign liabilities* (the red line) is equal to *Net total foreign equity liabilities* (the green line) plus *Net total foreign debt liabilities* (the blue line). When these lines are rising, it means that there is a net foreign capital inflow[2]. If a line is falling, it means that there is a net capital outflow[3]. The chart shows that *Net total foreign equity liabilities* (the green line) has been falling noticeably since March 2013 and has been declining at a more rapid rate in recent years. The change in equity flows since March 2013 has filtered through to affect the exchange rate of the Australian dollar, as shown in the following chart (Figure 6). The exchange rate is represented in the chart by the Trade-weighted Index[4].

[1] RBA Data Series i05hist

[2] Net debt is rising or foreign investment in Australia is greater than Australian investment overseas.

[3] Net debt is falling (being repaid or lending overseas is greater than lending to Australia) or Australian investment offshore is greater than foreign investment in Australia.

[4] Source: RBA Statistics - f11hist

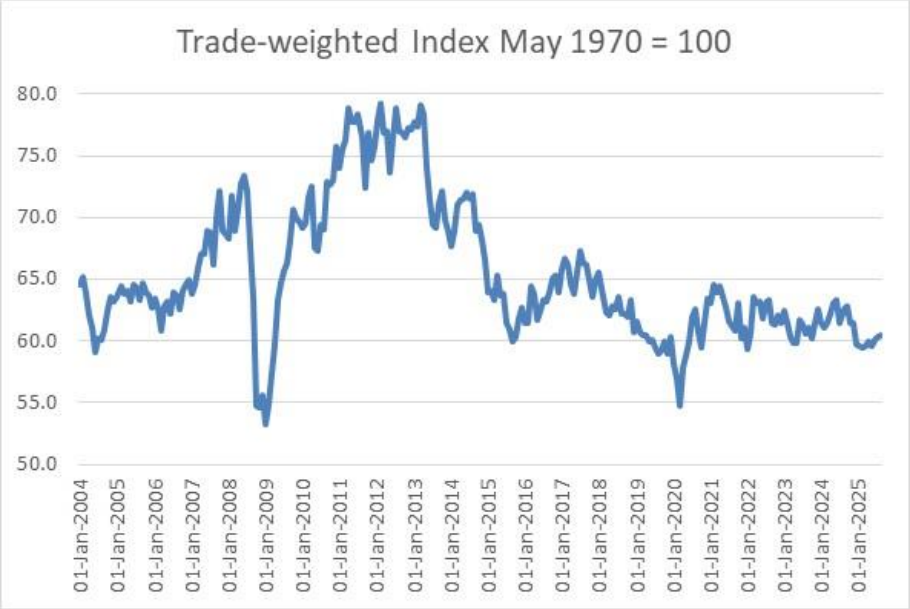

Figure 6

Comparing Figures 5 and 6, there is good reason to believe that the falling *Net total equity liabilities* (the green line, Figure 5) is associated with a fall in the *trade weighted index* (Figure 6) which fell from a high of 79.1 in March 2013 to 60.1 by June 2019, a fall of 24 per cent. Yet that did not significantly alter the demand for Australian products (Figure 3) from the trend over the previous ten years. That is because the rise in *Net total foreign debt liabilities* (the blue line, Figure 5) has been offsetting the fall of equity liabilities causing *Net total foreign liabilities* (the red line, Figure 5) to rise until June 2019.

It was only after June 2019, when the growth of *Net total foreign debt liabilities* (the blue line, Figure 5) stabilised, that *Net total foreign liabilities* (the red line, Figure 5) started to fall, representing a net capital outflow from Australia. The force of that capital on the foreign exchange market raised total demand for Australian products between 2019 and 2023 (shown in Figures 3 and 4). That demand was met with increased output, which is reflected in the timing and shape of the productivity *bubble* shown in *Figure 5* of the Productivity Commission's *Growth Mindset* paper.

When *Net total foreign debt liabilities* (the red line, Figure 5) started rising rapidly again in 2024, it offset the falling *Net total foreign equity liabilities* (the green line, Figure 5) and brought net capital flows back towards a balanced outcome (the red line, Figure 5). This change in capital flows reduced demand for Australian output and *popped* the productivity *bubble.*

Implications

These international capital flows are monetary events that have had a direct effect upon the productivity of the economy. International capital outflows have increased productivity and international capital inflows have reduced productivity. These effects are counter intuitive. One would have expected that a capital outflow would have reduced demand in the economy and that would have flowed through to reduce production. Likewise, one would have expected that a capital inflow would have stimulated demand in the economy and raised productivity.

These unexpected effects occurred because the monetary system does not allow international transactions to affect the domestic money supply. For there to have been a net capital outflow, there must have been a current account inflow: that is, exports must have risen relative to imports. That increase in exports requires domestic production to increase. Therefore, net capital outflows

increase productivity. Likewise, net capital inflows require current account outflows: that is, imports must rise relative to exports. Such a rise in demand for imports requires domestic demand to shift away from domestic products. The reduced demand for domestic products reduces domestic production. These changes are attained usually by inflating the exchange rate. Inflated exchange rates can reduce export incomes and further reduce production within the economy. Therefore, international capital flows affect productivity.

Businesses and workers should not be answerable for changes to productivity brought about by international capital flows. The locomotives that are responsible for propelling productivity need to be identified separately and their role explained and quantified. Otherwise, we would have no way of managing the growth of productivity and may unknowingly discard an effective locomotive. If a policy reform unknowingly replaced a sound locomotive with a flawed one, the subsequent decline in productivity could be blamed upon the victims of the reform rather than the true cause. It would be like engineers removing the engines of an aeroplane to lighten it and then blaming the passengers for being too fat for the plane to fly.

Monetary Systems

If Australia had employed an open monetary system, international capital flows would not have had the same effect on productivity. The net capital outflows would not have required a corresponding net current account inflow, or surplus. Nor would the net capital inflows have required a corresponding current account outflow, or deficit.

China has prospered from an open monetary system because when it increased its exports, more money flowed into the economy to raise incomes. That additional money flows through its economy stimulating the whole economy. Their open monetary system has been the locomotive responsible for propelling the productivity of Chinese workers. The effect of Australia's closed monetary system on productivity is very different. When exports rise in Australia, no additional money enters the economy[1]. Rather, the exchange rate rises to make imports cheaper so that domestic spending shifts from domestic products to the cheaper imports. Therefore, any additional income earned from exports is offset by a reduction in income among domestic import competing industries. This locomotive is a dead weight that hinders the growth of productivity among Australian workers.

Economists around the world recognise there are problem with the floating exchange rate system. Norway has attempted to overcomes one of these problems by establishing a sovereign wealth fund[2] which holds offshore much of its foreign income from oil to prevent them inflating its currency. Europe has established the Euro, a single currency that allows member countries to prosper from trade with each other. Even so, that has not been an effective solution and has had its own problems[3]. Some countries, such as Vietnam, India and the Philippines, have partially opened their monetary system by managing or stabilising their exchange rates. The Philippines is the least open of these three economies because it intervenes in its exchange rate only in the most extreme conditions. These partially open monetary systems have been more successful than fully closed systems because they have enabled internation trade to inject additional income into the economy. This has stimulated additional economic growth, as shown in Figures 7.

[1] See Attachment A: section on *Money from International Trade with a Closed Monetary System.*

[2] The Government Pension Fund Global.

[3] See part 3 of *Saving the Euro*, available at: *https://buoyanteconomies.com/SavingTheEuro.pdf*

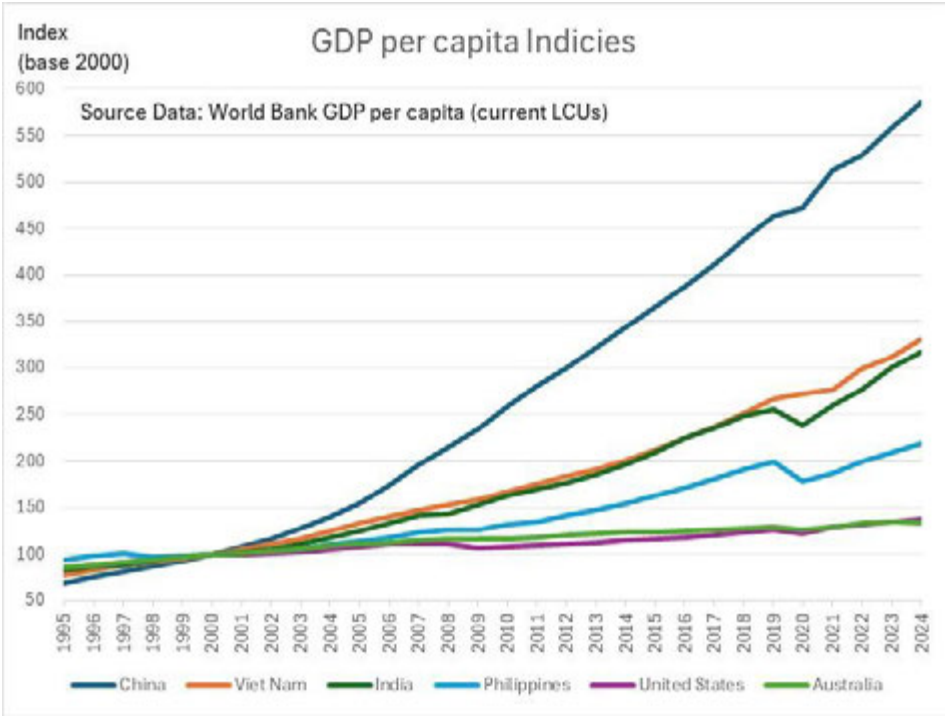

Figure 7

Australia and the United States of America, with their closed monetary systems, have achieved only modest growth outcomes. It has been the economies with more open monetary systems that have been more effective at raising their per capita incomes and improving their productivity.

There is no advantage to be gained by following the example of Norway and the European Union which have used modified forms of the closed monetary systems. The following chart (Figure 8) compares the growth of per capita incomes in five European countries (Germany, Greece, France, Norway and Poland) with Australia.

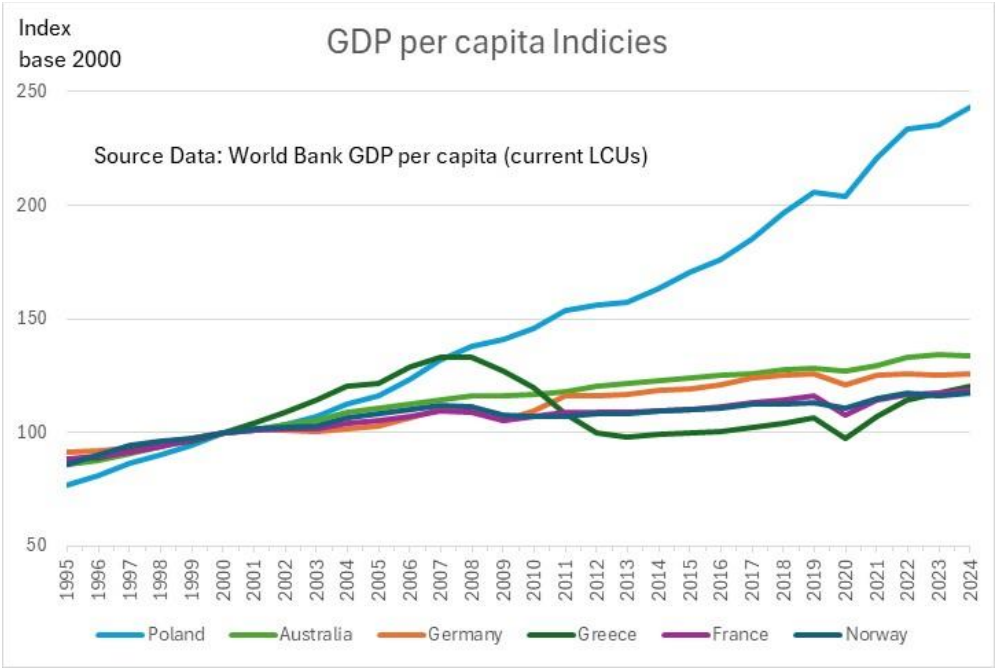

Figure 8

Poland is shown to be the fastest growing economy in this comparison. It continues to use its own currency, the zloty. The value of the zloty is managed using a crawling peg, which means that its monetary system is partially open to international monetary flows and to the benefits of international trade. The growth of Poland's per capital income since 2000 has been higher than the Philippines' but lower than India's. Since the year 2000, the growth of per capita incomes in Germany, Greece, France and Norway has been lower than for Australia.

Although the Euro economies are open to trade between members, their joint monetary system continues to be closed for trade with the rest of the world. Therefore, these economies suffer the same constraints to growth as other economies with closed monetary systems. Even Norway, with its sovereign wealth fund has not been able to avoid the constraints of a closed monetary system. All countries which have adopted the floating exchange rate system and closed their monetary systems have experienced reduced rates of growth in their per capita incomes, and in productivity[1]. The more that economies open their monetary systems to international currency flows, the more they prosper, with higher rates of growth in their per capita incomes, and in productivity.

Banking benefits

Given the obvious benefits of an open monetary system, why would any country adopt a closed monetary system? The answer is that banks prefer a closed monetary system. A closed monetary system is more profitable for the banks than an open system because it does not require bank lending to be regulated to protect foreign currency reserves.

The monetary system is operated by the banking system and that gives banks a high level of control and influence over how the system is managed. The banking system is fiercely protective of its independence and fosters an air of mystery about the management of the monetary system. These institutional factors have given the banking system considerable power over monetary policy. Banks have used their power to promote closed monetary systems. The reasons for the conflict of interest between banks and the productive sectors of the economy, is considered in more detail in Attachment A.

To further explain the consequences of the monetary system for the economy, I have prepared the following series of diagrams. In each diagram, the dark blue sector represents the original level of domestic production supplying the domestic economy. The orange sectors and circles represent production to supply exports. The light blue areas represent the growth of domestic production to supply the domestic economy.

Under a fully open monetary system, if exports rise, the inflow of money increases demand for both domestic products and imports until equilibrium is attained: that is, until international receipts and payments are equal. The increase in demand for domestic products is shown in the following diagram (Figure 9) as the light blue ring. Essentially, under an open monetary system, the increase in exports increases the size of the economic pie. The proportion of the pie spent on imports remains the same. Imports grow only as the economy's expenditure and income grows. The economic pie ceases to grow when the share of the pie spent on imports is equal to the share of the pie earned from exports.

[1] Based upon World Bank statistics on per capita incomes.

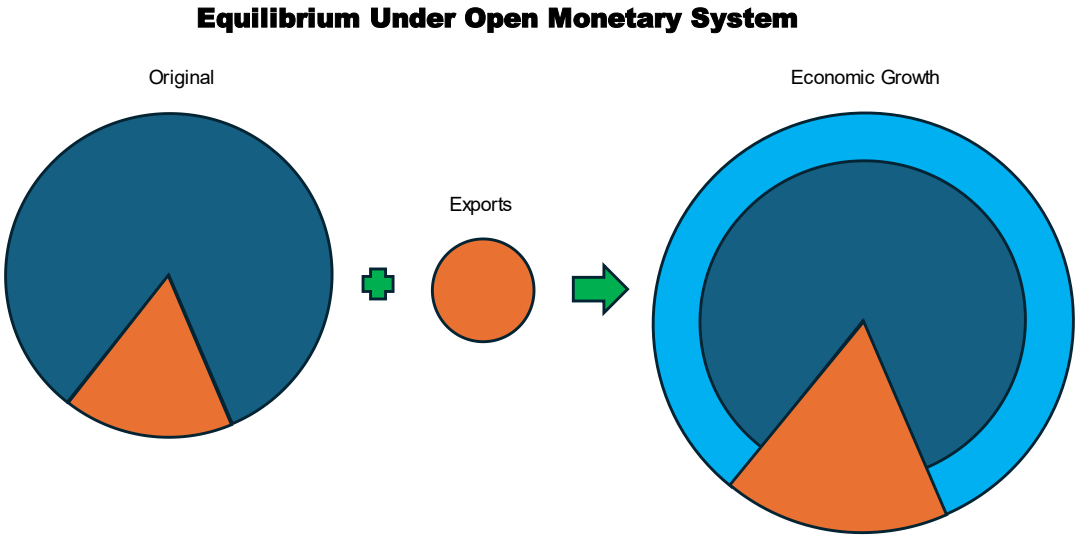

Figure 9

Under a closed monetary system, where international receipts and payments are required to be equal, if exports rise, the exchange rate rises to increase imports to attain equilibrium, immediately. This effect is shown in the following diagram (Figure 10). Essentially, the economy shifts its spending from domestic products to imports, so that the increased imports equal the increased exports. This process does not change the size of the pie. That is, there is no economic growth. This process is often called globalisation because international trade takes a larger share of the economic pie.

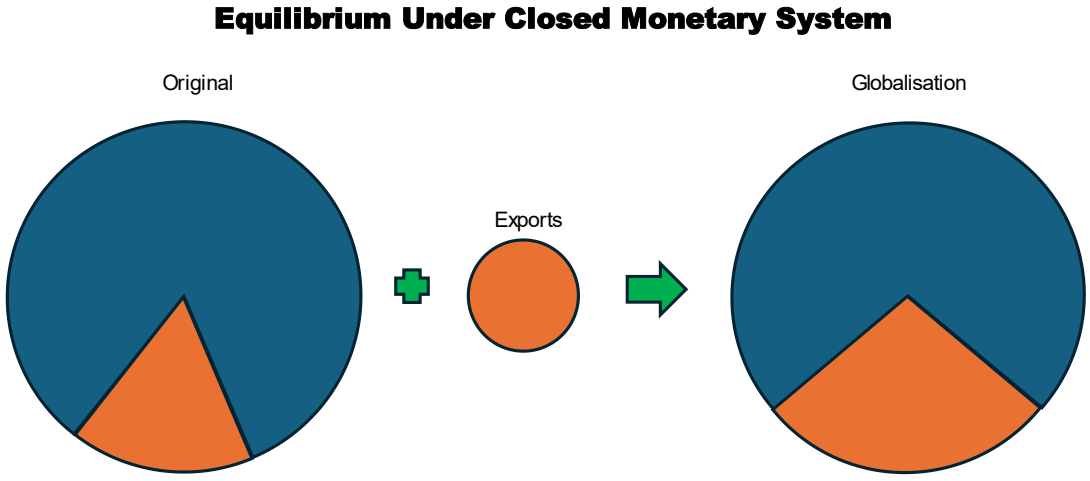

Figure 10

These globalisation effects are evident in Australia as shown in Figure 11 which charts the ratio of exports and imports as a percentage of GDP between 1959 and 2025. Before Australia floated its exchange rate in December 1983, the grow of export incomes stimulated economic growth of a similar magnitude, so that exports remained relatively stable as a proportion of GDP. After the float, the rising income from exports no longer stimulated the whole economy. Therefore, when exports increased, they became a larger proportion of the economy. It was the policy of floating the exchange rate that closed the monetary system and prevented the growth of exports from stimulating the economy. Instead, it raised imports and brought ruin to many import competing industries.

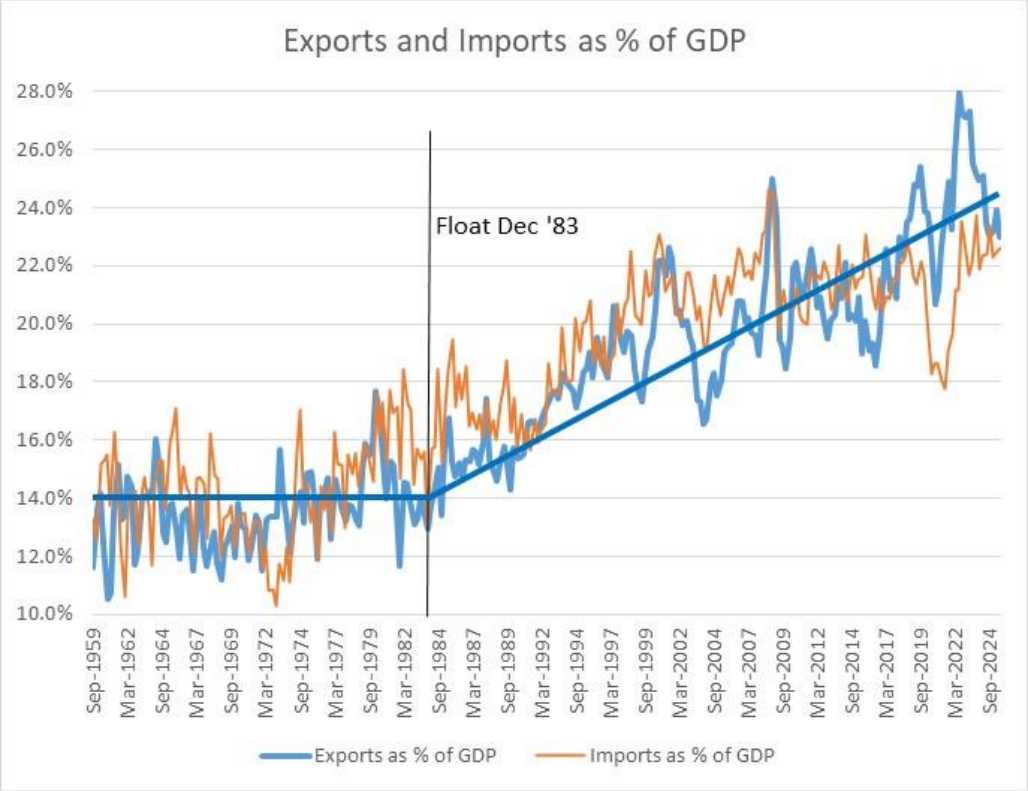

Figure 11

Partially open monetary systems are represented below in Figure 12. They include monetary systems with pegged exchange rates, and exchange rate stability schemes designed to smooth volatility or cap the exchange rate. Under a partially open monetary system, the amount of economic growth delivered depends upon the amount of additional export income that the monetary system allows into the economy. The more money it lets in, the more it raises export incomes, and the more downstream expenditure further raises national income. The less money it lets in, the lower the growth of export incomes and the higher the growth of imports. The lower export income leaves exporters with less money to spend downstream, further slowing the growth of production, and productivity. Figure 12 shows exports generating some economic growth. However, part of the additional export income has been redirected to increased imports and thereby reduce the demand for, and the production of, domestic products.

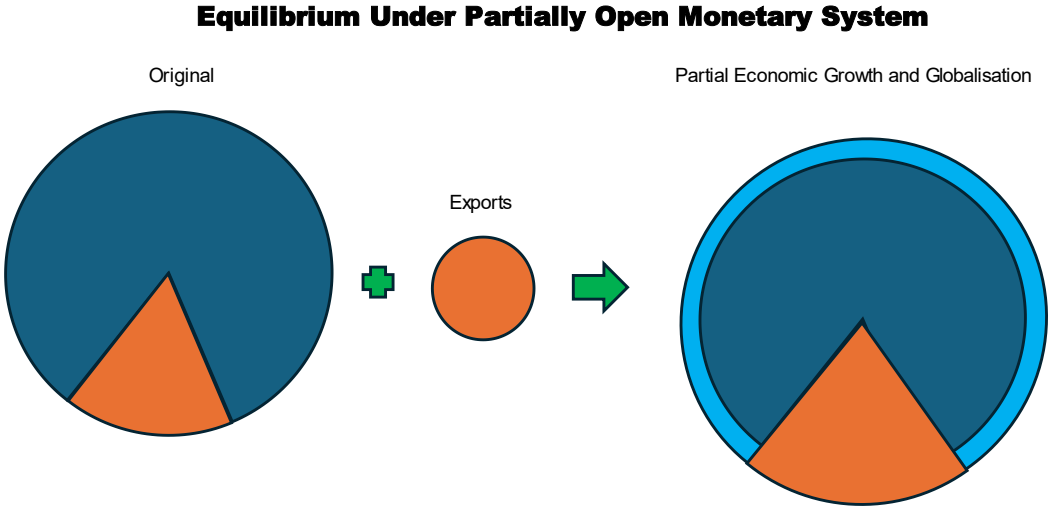

Figure 12

The degree to which a monetary system is open is an indicator of the level of support that the economy provides to its productive sector. At this time, Australia's monetary system is fully closed indicating a very low level of support for the productive sector.

Conclusion

In such an environment, the Productivity Commission's desire to boost Australia's productivity by establishing a *growth mindset* is little more than wishful thinking. The Commission's desire for growth is not a sufficient condition for growth. Monetary policy need to be changed to promote economic growth and boost Australia's productivity. No matter how much the economy's captains order full steam ahead, the ship will not move while its monetary moorings bind it to the dock.

It is not necessary to return to the economic policies that were failing in 1983 to free the economy and allow it to prosper. If the monetary system is to be opened, new mechanisms are required to determine the exchange rate and to manage bank lending. That is beyond the scope of this paper. However, I have written other papers[1] that include proposals on how that may be done. The first step has been to identify the reason for Australia's low productivity. It is only possible to go on and treat that economic problem once the cause has been diagnosed.

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December 2025

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[1] See: *Submission to the Senate Select Committee on the Cost of Living*, available at: https://buoyanteconomies.com/CostOfLivingInquiry.pdf ; also, a proposal for a group of counties to work together for economic growth: *The Articles of the Economic Alliance*, available at: https://buoyanteconomies.com/EconomicAlliance.pdf .

Attachment A

The Conflict of Interest between the Productive Sector and the Banks over the Monetary System

The monetary system is an accounting system that distributes the economy's resources and the output of its productive sector. There are many different monetary systems used in countries around the world. The main difference between these systems is whether, or not, they are open to receive additional money from international trade. Some countries have systems that are fully open to monetary flows in and out of their economies. Some others are only partially open. Others are fully closed. Monetary systems that are closed rely solely upon the banking system to create additional money.

Countries have different reasons for selecting which monetary system to use. China's economic objective has been to attain rapid economic growth and generate employment for its large population. Consequently, it has maintained an open monetary system. Many European countries, after initially closing their monetary systems, abandoned their own currencies and adopt a common currency: the Euro. That system opened their economies to monetary flows to and from other member countries. However, that monetary system remained closed to monetary flows with the rest of the world. India had struggled balancing the pressure from the International Monetary Fund with its desire for economic growth. It had adopted a closed monetary system until 2000, when it fixed the exchange rate of the Rupi to move back to an open system. In 2004, India closed it when it floated its currency again. Then, in around 2009, it started managing its exchange rate to partially open its monetary system and generate some additional economic growth. The Australian government closed Australia's monetary system in December 1983 to protect dwindling foreign currency reserves.

The institutions that provide the monetary services to the economy are, mostly, private banks. Bank directors have a duty to operate their banks in the interest of their shareholders. It may be illegal for directors to operate their banks for the benefit anyone other than their shareholders. That means that, while banks may provide a service to the public, they are not managed to maximise that benefit. Rather, their objective is to maximise profits, and that usually means that they seek to maximise their lending.

Money created by bank lending has a different effect upon the economy than money created from international trade. The money generated from international trade is money earned by the productive sector. When the productive sector increases exports, it earns additional money for the whole economy. The additional money created from foreign currency earnings, not only contributes to the income of the productive sector, it adds to the national money supply. In the same way that money earned by producers from domestic sales entitles them to buy products equivalent in value to what they have produced, the additional money earned from exports entitles exporters to buy products equivalent in value to those they produced.

When banks increase their lending, they entitle the borrowers to buy more products. However, no additional products were produced to meet that demand. The economy cannot freely muster additional products to supply the banks' fabricated demand. Therefore, the additional money lent by banks enables the economy to buy more than it has produced. That contrived demand can be satisfied only by raising imports. The additional imports can cause imbalances in international

trade[1], and the additional money can cause inflation[2]. Therefore, increasing bank lending can conflict with national economic objectives. Also, it can conflict with the interests of businesses in the productive sector of the economy.

Money from Foreign Trade with an Open Monetary System

An open monetary system facilitates the growth of the productive sector because it allows it to earn additional income from exports, and generate additional income through the trade multiplier. When the banking system receives the additional proceeds of exports, it adds the foreign currency earned to its assets and provides the exporters with additional domestic currency or deposits.

I will explain this double entry process and its effect upon the economy, using the following balance sheet examples. Figure A1 shows a simplified consolidated balance sheet for the banking system with assets comprising foreign currency and loans outstanding, and liabilities comprising deposits.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$50	Deposits	$100
Loans Outstanding	$50		
Total Assets	$100	Total Liabilities	$100

Figure A1

We will assume that exports rise by the equivalent of B$10. When it does, the exporters exchange the foreign funds earned for an additional B$10 in deposits as shown in Figure A2. Note that these transactions increase both Foreign Currency assets and Deposit liabilities by B$10.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$60	Deposits	$110
Loans Outstanding	$50		
Total Assets	$110	Total Liabilities	$110

Figure A2

Now let us assume that the economy to which Figures A1 and A2 relates initially generated national income of B$100 per annum, of which B$20 was from exports. Also, let us assume that it spends 20 percent of its income (initially B$20) on imports. Furthermore, let us assume that the B$10 increase in exports is permanent. The B$10 of additional export income means that total exports have increased 50% from B$20 to B$30 per annum.

In the second year, the additional export income of B$10 earned in the first year would enable the economy to spend an additional B$10. Of that, B$8 would be spent on domestic products and B$2 on imports. Those additional imports reduce foreign currency reserves by B$2. Its additional export revenue raises foreign currency reserves by an additional B$10. Therefore, in the second year, national income would have increased to B$118[3] and the Consolidated Balance Sheet of the Banks would be as shown in Figure A3, with both Foreign Currency assets and Deposit liabilities increasing by an additional B$8.

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[1] See: *Australia: Current Account Deficit, Bank Credit and Currency at:* *https://buoyanteconomies.com/AustCADMoney.htm*

[2] See: *Australia: Money and Inflation* at: https://buoyanteconomies.com/AustInflation.htm

[3] Comprising B$100 that was originally earned from domestic sales ($B80) and exports (B$20), plus the B$8 earned by domestic producers from the expenditure of the additional B$10 earned the previous year's exports and B$10 from the additional exports of the second year.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$68	Deposits	$118
Loans Outstanding	$50		
Total Assets	$118	Total Liabilities	$118

Figure A3

The permanent increase in exports would continue to raise the national income and expenditure until they both reached B$150[1]. At that point, the annual expenditure on imports would have risen to B$30: equal to the total income earned from exports, so that there would be no further stimulus and the economy would cease to grow. The Consolidated Balance Sheet of the Banks will be as shown in Figure A4.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$100	Deposits	$150
Loans Outstanding	$50		
Total Assets	$150	Total Liabilities	$150

Figure A4

This is the trade multiplier process where a 50 percent increase in exports causes a 50 percent increase in national income. It is a process that brings about rapid economic growth. Most wealthy countries in the world have prospered from this process during the time when their monetary systems were open[2].

An open monetary system is beneficial for exporters and for the growth of the whole economy. Yet, for an open system to function effectively and bring prosperity, the lending of the banking sector must be regulated. If not, bank lending can deplete foreign currency reserves and that can generate policy reactions that hinder economic growth.

Money from Bank Lending with an Open Monetary System

The effect of bank lending on the foreign currency balances of the banks within an open monetary system is explained in the following example. It assumes the same initial position used in the first example and shown in Figure A1, which is now presented below as Figure A5.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$50	Deposits	$100
Loans Outstanding	$50		
Total Assets	$100	Total Liabilities	$100

Figure A5

In this example, instead of exports rising, we will assume that bank lending rises by B$10 and initially remains at that level. In the first year, when the B$10 is spent, B$2 (20%) is spent on additional imports taking total imports to B$22 while exports remain at B$20. Consequently, B$2 is lost to both deposits and foreign currency reserves. The remaining B$8 is spent on domestic products and raises national income to B$108. The outcome for the consolidated balance sheet is shown in Figure A6.

[1] Comprising B$120 (80%) spent on and earned from domestic products and B$30 (20%) earned from exports and spent on imports.

[2] As did Australia until December 1983.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$48	Deposits	$108
Loans Outstanding	$60		
Total Assets	$108	Total Liabilities	$108

Figure A6

In the second year, there is an additional B$10 of lending. Spending on imports rises to B$23.6[1]. Spending on domestic products takes national income to B$114.4[2]. At the end of the second year, the consolidated balance sheet would be as shown below in Figure A7.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$44	Deposits	$114
Loans Outstanding	$70		
Total Assets	$114	Total Liabilities	$114

Figure A7

It is clear from this example, that as total bank lending continues to rise, imports increase, requiring foreign currency reserves to decline to pay for those imports. The additional spending on imports also reduces bank deposits. If bank lending were limited to an increase of just B$50, and that additional money was allowed to circulate and raise imports, the equilibrium position for the economy would be one where the foreign currency reserves were fully depleted and bank deposits would have returned to B$100, as shown in Figure A8.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$0	Deposits	$100
Loans Outstanding	$100		
Total Assets	$100	Total Liabilities	$100

Figure A8

If bank lending were to continue and exceed B$100, the banks would be required to take on foreign debt. For example, let us assume that bank lending rises an additional B$10 to B$110. That B$10 of additional spending would generate additional imports of B$2, requiring the banks to borrow B$2 to pay for those imports, as shown in Figure A9.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$0	Deposits	$108
Loans Outstanding	$110	Foreign Debt	$2
Total Assets	$110	Total Liabilities	$110

Figure A9

[1] Comprising the original level of imports of B$20, B$2 purchased using funds from the additional bank lending and B$1.6 funded from spending the B$8 earned in the domestic economy from the increased lending the previous year.

[2] Comprising B$20 from exports, B$80 being the original income from domestic production, B$8 from the expenditure of the B$10 loan and B$6.4 earned from the expenditure of the additional B$8 earned by domestic producers in the previous year, on domestic products.

As that additional money flows through the economy towards equilibrium, imports would continue to rise and raise foreign debt until equilibrium was reached. At equilibrium, the additional money lent would have been lost to imports and foreign debt would have grown to B$10 on the banks' consolidated balance sheet, as shown in Figure A10.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$0	Deposits	$100
Loans Outstanding	$110	Foreign Debt	$10
Total Assets	$110	Total Liabilities	$110

Figure A10

If bank lending were to rise to B$200 and that flowed through the economy until equilibrium was attained, the banks' consolidated balance sheet would be as shown in Figure A11, with bank deposits remaining at B$100 and foreign debt rising to B$100.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$0	Deposits	$100
Loans Outstanding	$200	Foreign Debt	$100
Total Assets	$200	Total Liabilities	$200

Figure A11

Hence, while bank lending may have temporarily generated some additional income, the additional money created would have raised imports which would have increased foreign debt. Therefore, to prevent an economy with an open monetary system accumulating large foreign debts, it is necessary for bank lending to be regulated.

Money from Bank Lending with a Closed Monetary System

Banks would prefer that their lending was unregulated. A closed monetary system suits them because it shifts the responsibility for funding the additional imports from the banks to the wider economy. Essentially, it conceals the effects of their lending, so that their lending does not attract the attention that it would otherwise receive. Also, a closed monetary system relies upon bank lending to create the additional money necessary for the economy to grow. Therefore, bank lending can be perceived as a blessing, not a curse.

To show the effect of bank lending on a closed monetary system, we will use the same scenario used above for bank lending, this time applying it to an economy with a closed monetary system. This economy uses the floating exchange rate system to balance international receipts and payments. We will start again with the same consolidated balance sheet shown in Figure A5, this time shown as Figure A12.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$50	Deposits	$100
Loans Outstanding	$50		
Total Assets	$100	Total Liabilities	$100

Figure A12

As above, we will assume again that bank lending increases by B$10. This drives an increase in imports. However, the banks do not need to fund those imports. Instead, the exchange rate is

allowed to vary to attract private foreign capital into the economy and fund the additional imports. These international transactions do not affect the banks' consolidated balance sheet which would be as shown in Figure A13.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$50	Deposits	$110
Loans Outstanding	$60		
Total Assets	$110	Total Liabilities	$110

Figure A13

If bank lending were to continue to rise and reach B$200, the banks would continue to retain their foreign currency reserves, and they would not be required to fund the additional imports that their lending generates. The outcome for the banks' consolidated balance sheet of that scenario is shown below in Figure A14.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$50	Deposits	$250
Loans Outstanding	$200		
Total Assets	$250	Total Liabilities	$250

Figure A14

This balance sheet differs markedly with the outcome shown in Figure A11 using an open monetary system. While total bank lending is the same at B$200 in both cases, bank deposits have increased to B$250 under the closed system, whereas they were only B$100 under the open system. Also, the banks continue to hold their foreign currency reserves of B$50 under the closed system. Under the open monetary system, they lost those reserves, and instead, were left holding B$100 of foreign debt. Hence the closed monetary system is extremely beneficial for the banks.

The financial market considers the closed monetary system so beneficial for its business that when Australia floated its currency, Euromoney Magazine declared the Australian Treasurer to be the world's greatest treasurer.

Money from International Trade with a Closed Monetary System

While a closed monetary system is beneficial for banks, it is of little benefit for the productive sector of the economy. The main reasons are that:

- it eliminates the trade multiplier; and
- undermines import competing industries and existing exporters.

To explain why this is so, let us consider the same economy studied in the first example, this time with a closed monetary system. Again, the economy has national income of B$100, made up of income from domestic sources of B$80 and income from exports of B$20. Spending on imports is B$20 per annum. The consolidated balance sheet of the banking system is the same as in Figure A1 of the first example, this time shown as Figure A15.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$50	Deposits	$100
Loans Outstanding	$50		
Total Assets	$100	Total Liabilities	$100

Figure A15

We will assume, again, a permanent increase in exports of B$10 per annum. The increased exports now raise the demand for domestic currency on the foreign exchange market. The increased demand for the domestic currency causes the exchange rate to appreciate. That makes imports cheaper so that domestic demand shifts away from domestic products. The foreign exchange market clears when the demand for imports[1] expands to equal the B$30 earned from exports. Despite the rise in exports and imports, the Consolidated Balance Sheet of the Banks remains unchanged, as shown in Figure A16.

Consolidated Balance Sheet of Banks

Assets	$B	*Liabilities*	$B
Foreign Currency	$50	Deposits	$100
Loans Outstanding	$50		
Total Assets	$100	Total Liabilities	$100

Figure A16

While the Consolidated Balance Sheet of the Banks has remained the same, the economy has changed dramatically. Exports and imports have increased from B$20 to B$30 while the income from domestic sources has fallen from B$80 to B$70. The total national income has remained the same.

Comparing this outcome to the first example, we can see that, in response to a growth in exports, closing the monetary system eliminates not only the growth of the money supply but economic growth. That is, the principal source of economic growth for the productive sector of the economy has been eliminated. What is more, the closed system has closed down parts of the productive sector. The shift in demand from domestic products to imports has undermined import competing industries in the productive sector. Therefore, closing the monetary system slows economic growth.

This outcome was not unfamiliar to economists before the Unites States of America (USA) adopted the system in March 1973. On the day after the float, the New York Times commented that:

> *It has long been an article of faith among central, and some private commercial, bankers that floating foreign-exchange rates can be a source of international economic instability—that monetary speculation could push currency values away from the levels required for optimal trade growth. Chaotic foreign - exchange markets during the Great Depression were generally considered to have contributed to the prolonged collapse of world trade then. It was for this reason, among others, that a system of relatively fixed, international foreign-exchange rates was agreed to at Bretton Woods, N. H., in the summer of 1944.*

Economic growth in the USA declined rapidly after it floated its currency and its economy was in recession within a few months of its float: specifically, by the July to September quarter of that year. The release of the statistics about that recession coincided with the OPEC summit in October 1973 that raised oil prices by 70 percent and placed an embargo on oil exports to the USA. Therefore, the recession of the third quarter became coupled to the "oil crisis" of the fourth quarter and its true cause was buried in the history of those turbulent times. World trade was so badly affected by that recession that many shipbuilders around the world collapsed due to the fall in demand for new ships.

The Emperors New Clothes

While the main proponents of the closed monetary system had known about these detrimental effects, they were so focussed on supporting the banks' interests that they were prepared to mislead

[1] The supply of additional domestic currency to the foreign exchange market could include an outflow of investment funds as well as imports. However, in this example, where we are explaining the basic principles, to keep it simple, we are assuming that the outflow of funds is for imports, only.

decision makers, and the wider economic community, about the system's suitability. For example, although we know him to be a monetary economist, Milton Friedman[1] avoided drawing attention to the effect of his proposed flexible exchange rate system on the monetary system. Rather, he directed his readers attention to concentrate only on the exchange rate: the instrument of change. He appeals to the political aspirations for liberty, freedom and rearmament, rather than to sound economic arguments. Also, to undermine the then recently established Bretton Woods monetary system, he uses negative emotive terms to describes it, such as "rigid", "ill suited", "create serious and unnecessary difficulties", "administrative freezing", etc. To support his proposed system, he uses much more positive terms such as "absolutely essential", "freely determined", "stable", "unrestricted", "free and prosperous", "harmonization" etc. Also, rather than dealing with the real macro-economic issues, he sets up "straw man" arguments. For example, with respect to maintaining the balance of payments, he avoids the option of regulating bank lending and considers only options and factors that he can exploit to support his cause, such as comparing flexible to less flexible exchange rates, the use of prices and incomes, the application of direct controls, and the implications for monetary reserves. If Milton Friedman really believed in the superiority of a closed monetary system, one must ask why he chose to avoid the real issues and employ the tactics of a salesman, spruiking the features of the latest automobile.

Conclusion

In this world, economies that use open monetary systems have prospered and continue to prosper. Economies that have closed their monetary systems have not prospered, and with good reason. Their systems prevent the proceeds earned from the growth of exports from flowing into their economies to stimulate growth. Also, the floating exchange rate system that they have applied to close their economies inflates the prices of the economy's products relative to those of the rest of the world, making them less competitive on both domestic and international markets.

While their banks have prospered under a closed monetary system, there have been a series of serious financial crises that have caused many to fail. In response, regulators have raised the banks' capital requirements. Even so, those increases have not prevented subsequent crises and failures. The problem is that, in a closed monetary system, unregulated bank lending raises the burden of bank debt faster than it raises economic growth: that is, debt grows faster than the capacity of the economy to repay that debt. Increased capital requirements may slow the process. However, eventually, the growth of debt will exceed the capacity of the economy to repay, causing the financial system to collapse, and enter another crisis. Hence, a closed monetary system may be profitable for banks in the short and medium term, but in the long term, it must cause their failure.

Governments have shown themselves willing to prop up the banks during financial crises. However, the longer they keep the economy closed, the greater will be the amount of private and public debt and the lower will be the capacity of governments to rescue the banks.

Therefore, from the perspective of the whole economy, including: the productive sector; the government; and the banks; there is no conflict of interest. In the long term it is best for all parties to open the monetary system.

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[1] Friedman, M. 1953, *The Case for Flexible Exchange Rates.* Published in *Essays in Positive Economics.* Friedman, M. The University of Chicago Press.