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Will “Drill Baby, Drill” Deindustrialise America?

di Richard Baldwin

Introduction.

Everyone’s talking about Trump’s tariffs—but a key underpinning of the administration’s trade policy is a myth. It was foreign villains that killed US manufacturing.

Today’s Factful Friday shows that US manufacturing competitiveness took a major hit after 2011—right when America’s energy boom took off. That’s no coincidence. It’s a textbook case of “Dutch Disease,” the one where rising net exports of energy quietly chokes industrial strength. It happened to the Dutch, the Brits back in the day. It happened in America in the 2010.

Ironically, this means that Trump’s “drill, baby drill,” policy will make reindustrialization even harder.

Symptoms of the Dutch Disease.

What if I told you that increasing US oil and gas production will whack American manufacturing on the head. Would you believe me?

What if I told you manufacturing got whacked by oil in the US in the 2010s, in Britain in the 1990s, and in the Netherlands in the 1960s? What if I explained the economic logic linking fracking in the 2010s and American de0industrialisation this way?

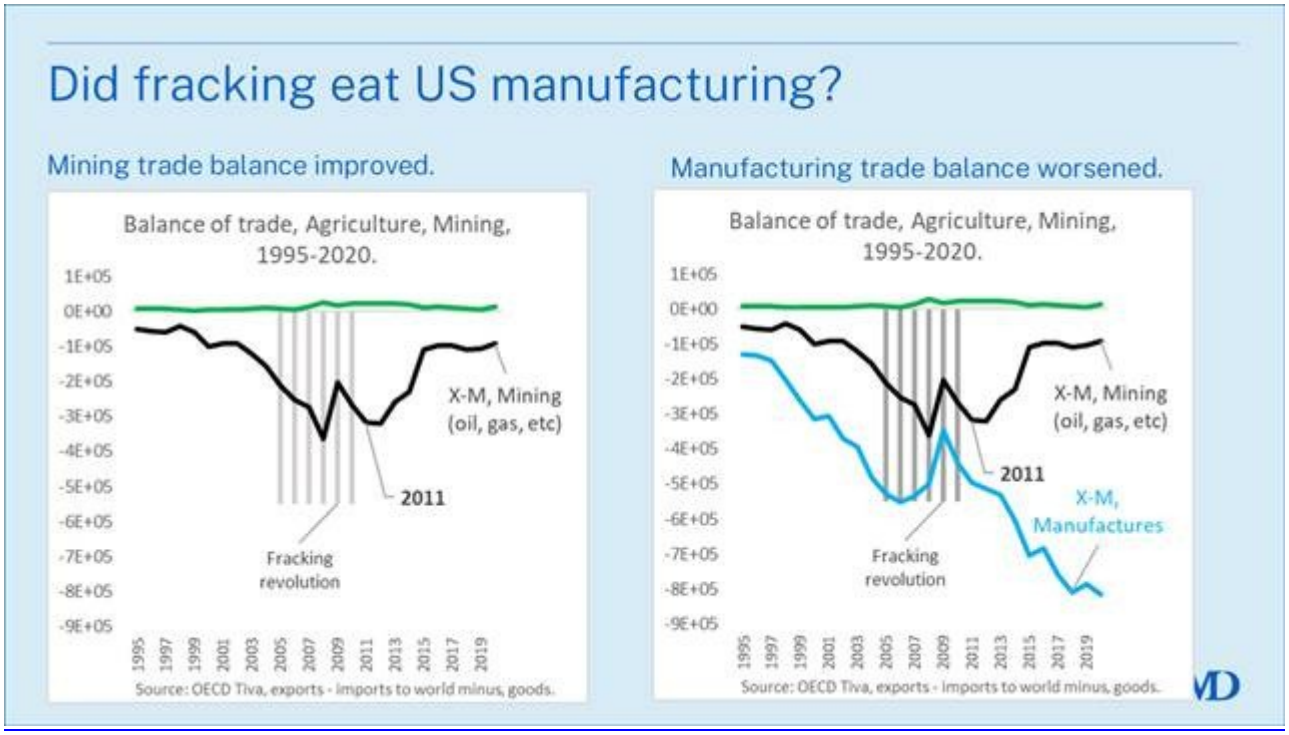
· Higher oil and gas production would have improved the overall US trade balance (by reducing net imports of energy.

· But since the trade balance was in equilibrium to start with, the dollar had to strengthened to restore equilibrium; it did this by reducing exports to match the reduced imports (US trade to GDP ratio fell from 2011).

· The stronger dollar, in its turn, harmed the cost competitiveness of US manufacturing driving a deterioration of the manufacturing trade balance.

In short, mining undermined manufacturing.

Still doubtful? Check out the killer chart below that documents this for the US from 2011.



Sounds crazy, right? Fracking hurt US manufacturing? But it is an old, old story and even has a name: The Dutch Disease.

Today's Factful Friday illustrates how the Dutch Disease hurt US manufacturing competitiveness from the mid-2000s.

The Dutch Disease narrative.

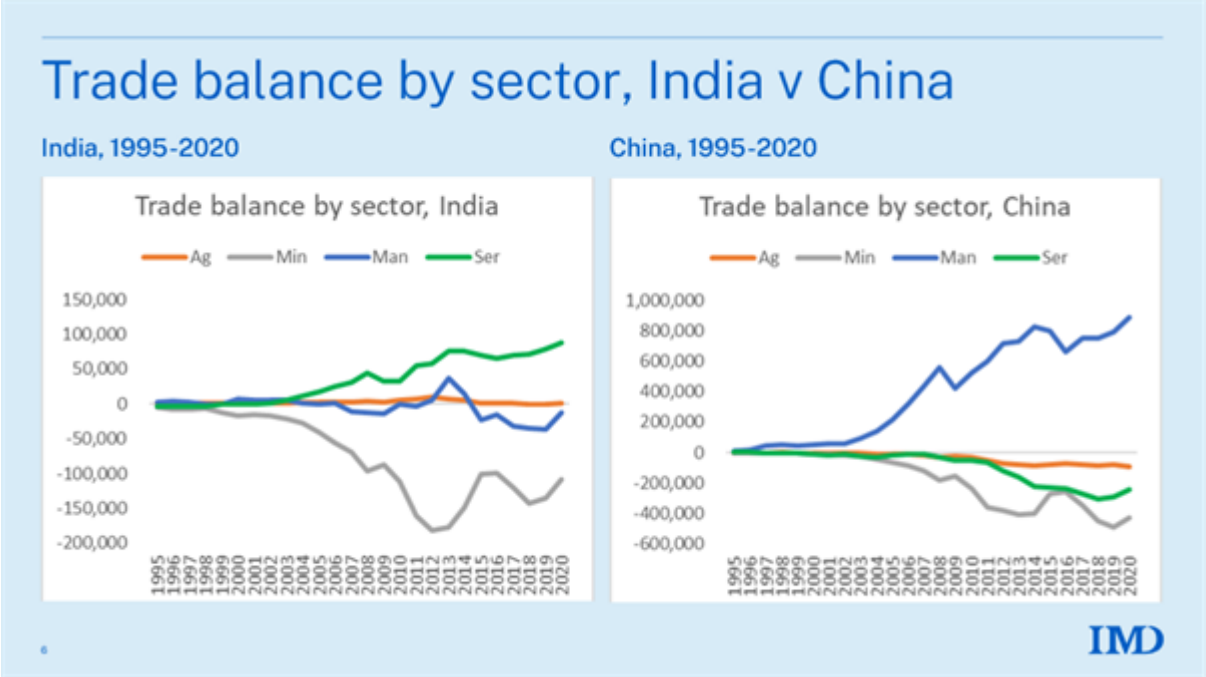
Surely new technology helps, no? Especially when its in a tradable sector, right? Well, yes and no, what is good for some sector is not always good for all sectors.

The fracking revolution was a stunning economic success story. Beginning around 2008, a surge in shale oil and gas production fundamentally reshaped America's energy landscape. Oil and gas imports plunged dramatically, turning what was historically a large trade deficit in energy into a small one.

This beneficial technological shock had unintended consequences. With fewer energy imports, America's balance of payments experienced a long-term positive shock. The response was predictable for any economist familiar with international finance: the real exchange rate of the US dollar appreciated significantly.

A stronger dollar, however, came with consequences. American manufactured goods became pricier on global markets, undermining their competitiveness. The competitive squeeze meant that US factories faced a tougher international environment, contributing to an erosion of manufacturing exports. And the opposite happened on the import side. Foreign manufacturers found it easy to win market share in the US. In other words, as mining (including oil and gas) moved towards a surplus, manufacturing swung in the opposite direction—towards deficit (see chart above).

If you've ever study development economics, you'll be familiar with the Dutch Disease. But it hooks into another stylised fact that you'll surely know. The world's grandest manufacturing exporters—China, Japan, Germany, and Korea—are all resource-poor. They run a surplus in manufacturing to pay for their deficit in oil, gas, and the like. See the facts for India and China below (from my 8 March 2024 Factful Friday). Note that India pays for its raw material imports with a surplus in tradeable services, not manufacturing.



Two telling tales: Netherlands & Britain.

In the 1960s, under the fixed exchange rates of the Bretton Woods system, the Netherlands discovered and extracted offshore natural gas. But this was not good for all sectors. Domestic income and spending rose, yes, and the boom drew investment into the natural gas sector. But the discovery also boosted Dutch wages and prices, which led to a real appreciation of their national currency at the time, the guilder. The strong guilder very directly undermined the cost competitiveness of Dutch industrial products. As 'b' follows 'a', this led to a shrinkage of the Dutch manufacturing sector. Et voila, the origin of the term "Dutch Disease."

· The Dutch gained natural gas but lost manufacturing.

The same thing happened when Britain found oil and gas in the late 1970s and early 1980s. The discovery and exploitation of the North Sea oil fields coincided with rising global oil prices. In anticipation of the export boom and substantial jump in future foreign exchange earnings, the British pound appreciated sharply in both nominal and real terms. As in the case of the Netherlands, and for the same reasons, the strong pound knocked British manufacturing on the head.

· North Sea oil contributed to Britain's de-industrialization.

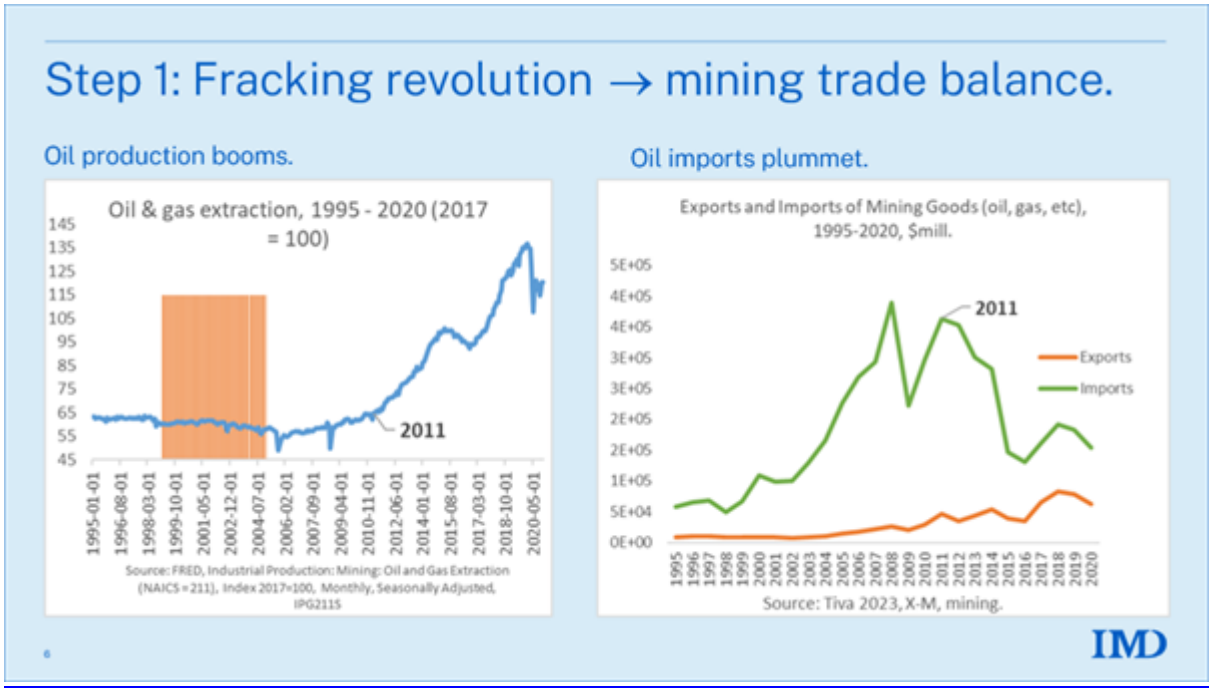
Fracking ate US manufacturing: 3 steps and 6 charts.

Few developments have reshaped the US economy as profoundly as the fracking revolution. It was a true miracle of technology. It dramatically boosted domestic oil and gas production and slashed America's reliance on imported energy. Funny thing about an economy, though, is that you can't expand all sectors when you're already at fully employment. Expand one, and you'll contract another.

Come with me up an elegant stairway of economic logic—one with just three steps.

The first step is straightforward. With the rapid expansion of fracking from around 2008 onward, US oil and gas production soared (left panel below). This domestic energy boom sharply reduced the need for oil imports (right panel below). Exports from too, but the main event was the drop in imports as this stuff is pretty expensive to move over long distances.

Revolutions are rarely sudden, but 2011 seems a good date for when fracking lite the fuse on the Dutch Disease (if you'll excuse the mixed metaphor).



America's trade balance in mining products—dominated by oil and gas—shifted dramatically from persistent deficit toward surplus (left panel below). This sudden turnaround was a big shock to the country's balance of payments. If nothing else had change, there would have been a large and permanent reduction in the outflows of dollars that used to pay for energy imports.

So what's wrong with a big improvement in the US trade balance? Nothing wrong, but it is not sustainable unless fracking had been accompanied by huge macroeconomic shifts inside America.

Due to what I've started calling the "Secret Formula for the Trade Balance," the level of a country's trade balance is slow moving. Indeed, apart from recessions and economic crises, trade balances are economic sloths.

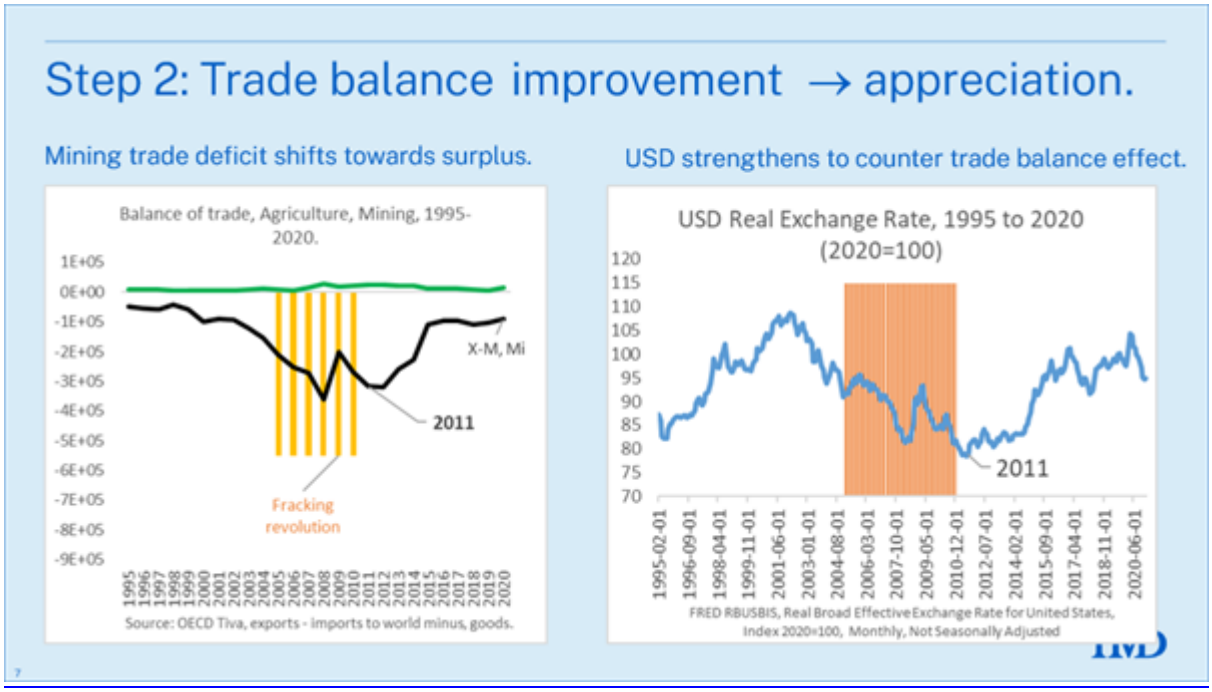
To sustain a long-lasting improvement in the US trade balance, US spending would have to come more into line with US income, but that didn't happen. The imbalance levelled out for a few years—and dramatically improved with the 2007-2009 Great

Recession—but after that, spending and income continued to get further out of kilter for macroeconomic reasons.

If you're that type of reader, there is detailed explanation and illustration of the Secret Formula for the Trade Balance in the annex, but for the moment, take my word (or review the telling examples above). For readers who already know the secret handshake, a short hand for the formula is NX-S-I. Since S and I usually move slowly, so too does NX.

Since the US didn't see the macro adjustment that would have made the net export improvement sustainable, the second step was inevitable: the US dollar appreciated from about 2011 (see right panel of the chart below).

This is expected. This is normal. When a country's trade balance improves substantially—especially due to a surge in commodity exports or a collapse in imports—its currency often strengthens, and that's what happened this time. Mechanically, the substantial decline in imports of oil meant fewer dollars flowed overseas, naturally causing the dollar's value to rise. A stronger dollar is good for some, but US manufacturers were not among the winners.



This brings us to the critical third step in the Dutch Disease where a strong currency undermines manufacturing competitiveness.

As the dollar appreciated, US-made goods became relatively more expensive for foreign buyers, while imports into the US became cheaper for American consumers. The result was as predictable as it was problematic for the manufacturing sector. American manufactured exports stumbled, struggling against cheaper competitors abroad, while imports thrived (left panel of chart below). The manufacturing trade balance began to deteriorate, shifting steadily toward deficit (right panel of chart below).

Et voila, as they say in French, that's how fracking ate manufacturing in the Netherlands in the 1970s, the UK in the 1990s, and the US in the 2010s.

Summary and concluding remarks.

The US fracking boom, which can be dated from, say 2005, transformed the American economy by drastically reducing oil and gas imports and improving the mining trade balance. This beneficial shift triggered an appreciation of the US dollar. There are many ways of thinking about this appreciation but the easiest is to focus on the supply and demand for foreign exchange. A permanent improvement in the overall trade

balance would have reduced the net outflow of dollars, thus reducing the supply of dollars for foreigners. Crimping the supply without crimping the demand raises prices, and here that means the foreign currency price of dollars. And pesto-chango, the USD appreciates to offset the trade balance improvement.

But that's not the end of the story. The stronger dollar made US industrial products relatively more expensive on global markets, damaging exports, and simultaneously made imports cheaper inside the US. Together these effects pushed the trade balance back to its equilibrium level.

This chain of cause-and-effect is known to economists as the Dutch Disease. It explains how good news in natural resource sectors is usually bad news for manufacturers.

The same thing happened in the Netherlands in the 1960s with natural gas discoveries and in Britain with North Sea oil in the 1970s and 1980s. The exact same 3-step dance: oil discovery, currency appreciation, deindustrialisation. Norway is the exception that proves the rule.

The Norwegian experiences shows that fracking didn't have to undermine US manufacturing. Norway discovered North Sea oil around the same time as the UK but largely avoided the deindustrialization trap. Norway's policymakers famously channelled oil revenues into a sovereign wealth fund (instead of flooding the domestic economy with all the new money) and invested all of it abroad and maintained disciplined fiscal and monetary policies.

This contrast between the UK and Norway shows that the Dutch disease is not an inevitable. It can be mitigated by prudent government leaders who resist the temptation to simply bask in the windfall and neglect the rest of the economy.

Of course, tha's the problem in America. Basking is a windfall is the heart and soul of US politics, so the Norway way was never an option.

Closing remarks: Drill Baby, Drill will harm US manufacturing.

The US deindustrialisation is usually blamed on automation or China—usually China. What today's Factful Friday has illustrated—hopefully in a compelling manner—is that fracking combined with inappropriate government policy contributed to the decline of American manufacturing. China certainly matter, but fracking should give more weight in the deindustrialisation equation than it usually is.

Now in the environment of mid-April 2025, everything has to be connected to tariffs, so here's my segue to the tariff discussion. Tariffs cannot help. They won't reduce the reduction in the mining deficit that "drill baby, drill" will bring. Thus, tariffs will not help avoid the dollar appreciation that will, in my view, hit US manufacturers up-side the head.

Indeed, a broad taiff like President Trump's 10% will lead to its own dollar appreciation to keep the trade balance at its equilibirum level (please see the Annex for the Secret Trade Balance Formula that makes me so sure this will happen in the medium term, once the recess or danger of recession passes). To put it directly, the 10% tariffs will reduce both imports and exports of US industrial goods.

That's my story and I'm sticking to it (as long as it doesn't turn out to be completely wrong).

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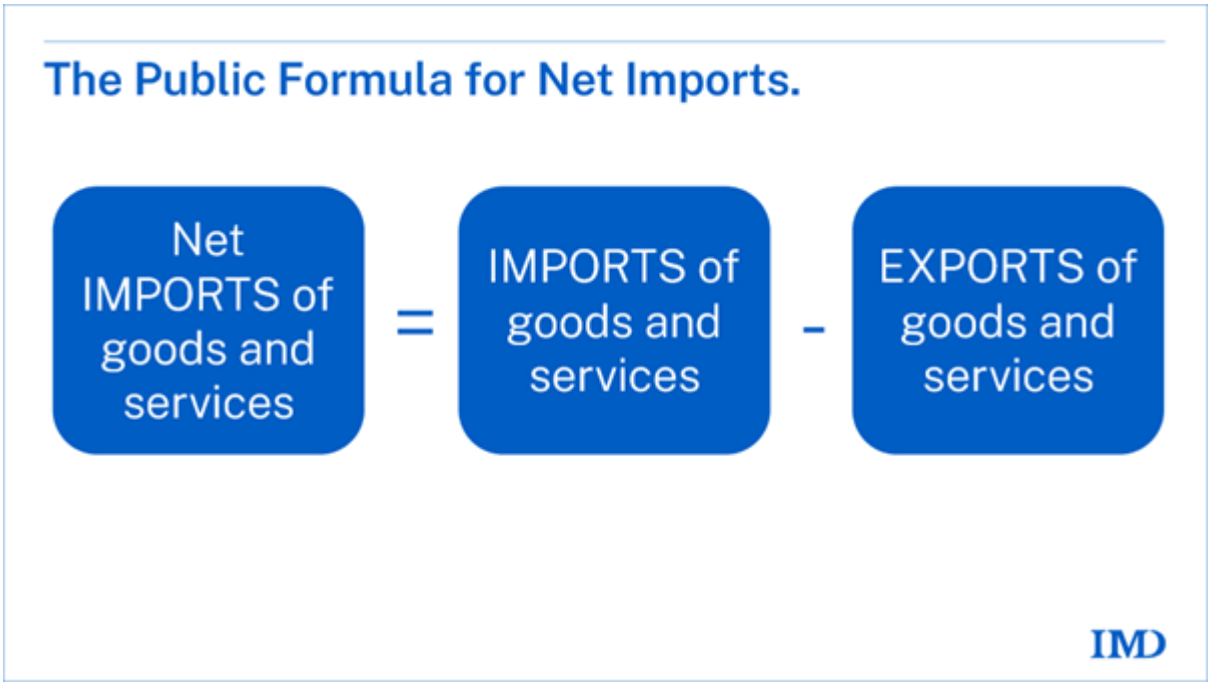
Annex 1: The Secret Formula for the Trade Balance.

I've decided to have some fun with this. If nothing else, as a way to break up the monotony of trying to explain this as I've done a few times in various past Factful Fridays. And here I'm joining a century-long line of economists trying to explain an accounting identity that turns on general equilibrium effects.

The Public Formula.

The chart shows the public formula. The one you don't need to think hard about. Indeed, it pretty much follows from the name net exports, or trade balance.

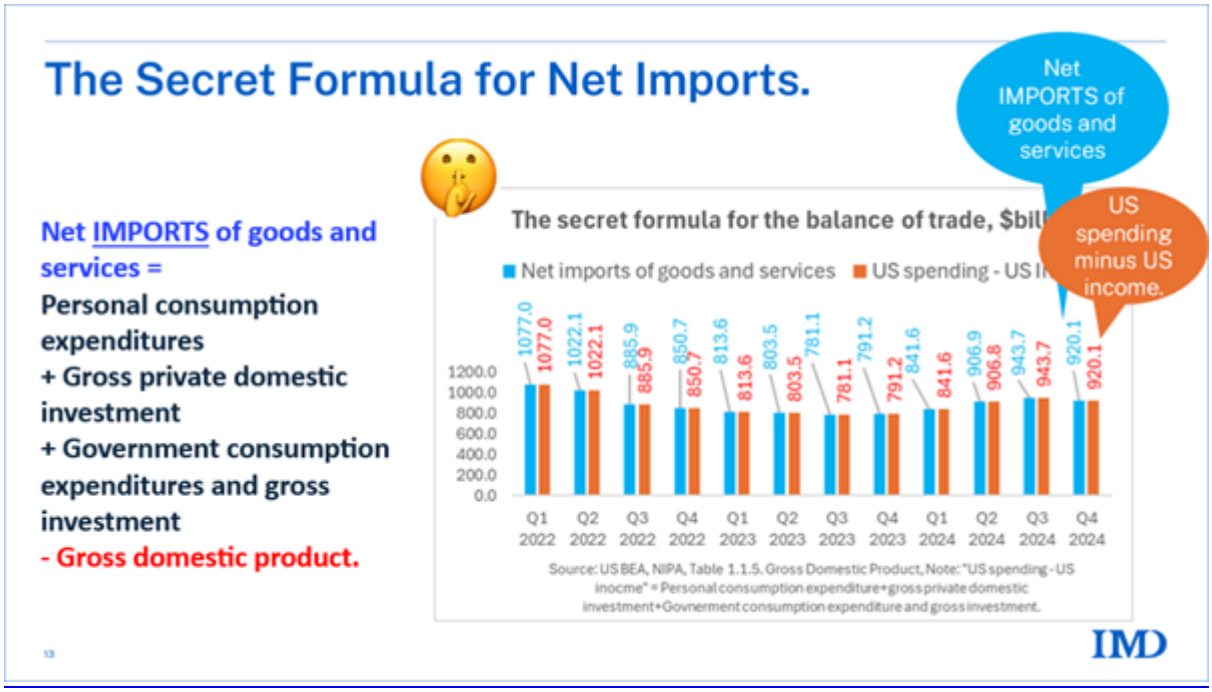


The Secret Formula.

The chart below shows the Secret Formula. It too is obvious if you think about it, and everyone would understand it if it were called "excess spending" rather than "trade balance". To write it out, the net purchases (often called net imports) of goods and services from foreigners equals the gap between US spending and US income. At the economy-wide level (often called the macro or aggregate level), national income accountants breakdown US spending into "personal consumption expenditures," "gross private domestic investment," and "government consumption expenditure and gross investment." You can find the numbers at BEA.gov, https://www.bea.gov/itable/national-gdp-and-personal-income.

Now, you may find it strange that the gap between US import and US exports is EXACTLY the same as the gap between US spending and US income. I worried about your doubts, so I put together the chart below that plots the two gaps side by side for all the quarters of 2022 to 2024.

What you see is that they are identical. Not just correlated. Not just about the same. They are the same number down to the last decimal point.



Isn't that weird? How could that be? Is it a coincidence? Think of this as what happens when you spend more on your credit card this month than you pay off. The spending-payment gap is exactly equal to the rise in the balance on the card. No mystery here. Just reality. And the same goes at the national level. If the US spends more than it earns, the gap has to be made up by net purchases from foreigners. If we called it the "spending gap" there'd be few who wouldn't get it immediately. But since we call it "Net imports," or the balance of payments, the reality clouds over. Clarity disappears.

Now you know the secret formula. But little good it'll do you. It's a secret that keeps itself. Go ahead. Try to explain it to your pub pals, and you'll see why it has remained a secret for so long.

Annex 2: Empirical evidence and logic for the Dutch Disease.

Can a big oil discovery make a country's manufacturing sector shrink? It sounds counter-intuitive, but economists have long observed this phenomenon that might be called the "paradox of plenty." The "Dutch disease," occurs when a natural resource

boom undermines other parts of the economy. One of the early studies of this was Corden and Neary (1982).

At its core, Dutch disease describes how a surge in natural resource revenue can lead to deindustrialization in a country. There are two main mechanisms (Corden and Neary 1982):

- Spending effect: A resource boom increases national income and consumer spending, often driving up the value of the local currency. This makes the country's other exports more expensive on world markets, hurting industries like manufacturing and agriculture. In short, the high exchange rate caused by newfound resource wealth squeezes the competitiveness of other export sectors.
- Resource movement effect: Booming resource industries (oil, gas, minerals) attract labor and capital because they pay well and offer quick returns. Workers and investors shift towards the booming sector (and related services like construction), leaving the manufacturing sector and other tradable industries with labor shortages or higher wages. With talent and investment pulled away, factories find it harder to thrive (Forsyth and Kay 1980).

In combination, these effects can hollow out a country's industrial base even as overall income rises. The irony is that an economic boom in one sector ends up undermining long-term growth by weakening the diverse mix of industries needed for a stable economy.

The UK and North Sea Oil: A Cautionary Tale told by Forsyth and Kay (1980). These authors sent up the warning flare when the oil was found. They predicted that the oil windfall would be accompanied by an appreciation of the pound sterling – sometimes dubbed the "petro-pound." A stronger currency meant British manufactured goods became pricier and less competitive abroad, squeezing export industries. At the same time, investment and skilled workers flowed into the booming oil sector (and its ancillary services) at the expense of other parts of the economy.

The UK's industrial heartland saw factories struggle to attract capital and talent amid the lure of oil money. Indeed, between 1979 and 1986, manufacturing's share of UK GDP fell from over 25% to under 20%, and roughly two million manufacturing jobs were lost during that period. Multiple factors were at play in Britain's industrial decline

– including broader economic policies of the era – but the oil boom clearly exacerbated the pressure on UK industry.

Evidence from Other Episodes.

The Dutch disease is not just a North Sea story; researchers have documented similar patterns in various times and places. Sachs and Warner (2001), for example, showed that resource-rich countries tended to grow more slowly than others in the late 20th century – a counterintuitive trend partly explained by deindustrialization effects. Historical cases abound. Several oil-exporting nations in Latin America and Africa experienced booming oil exports in the 1970s followed by struggles in their manufacturing and agricultural sectors, echoing the Dutch disease mechanism. In Nigeria, for instance, the 1970s oil bonanza led to an overvalued currency and a flood of imports, while local industries withered – a pattern later noted by development economists as a case of Dutch disease in action. Even the original "Dutch" episode – the Netherlands' experience after discovering the Groningen natural gas field – saw manufacturing stagnate in the 1960s and 70s as gas exports surged, which is what gave this phenomenon its name.

Not every resource-rich country has fallen victim to Dutch disease, however. Much depends on policy choices and how the windfall is managed. Norway's experience highlights that sound policy can curb the harmful side-effects of a resource boom (Larsen 2006).

Norway discovered North Sea oil around the same time as the UK but largely avoided the same deindustrialization trap. Norway's policymakers famously channelled oil revenues into a sovereign wealth fund (instead of flooding the domestic economy with all the new money) and maintained disciplined fiscal and monetary policies.

This contrast between the UK and Norway shows that the Dutch disease is not an inevitable fate – it is a risk that can be mitigated with prudent strategy. The lesson is that resource booms need to be managed carefully to avoid the side effects.

Strategic Insights for Policymakers

Dutch disease carries an important lesson for policymakers: diversification and careful macroeconomic management are vital when commodity riches arrive. If a nation

suddenly strikes oil (or any valuable resource), leaders must resist the temptation to simply bask in the windfall and neglect the rest of the economy.

But here is the problem for America. Basking is a windfall is the heart and soul of American politics; no way the Norway way will find its way in America.