

How "Imbalanced Domestic Trade" Disrupts a Closed Economy

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This essay defines "balanced domestic trade" for a closed economy and explains why it matters especially for modern, highly productive economies. The argument borrows logic that has long been well understood in the study of international trade.

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Section 0 — For Keynesian macroeconomists: a preview

The one assumption that differs from Keynes' analysis.

Paul Samuelson's *Economics*, the famous textbook first published in 1948, laid out J. M. Keynes' account of what causes recessions and depressions. The essay here rests on economic assumptions almost identical to the Keynes'-Samuelson description, but it adds one further assumption: it allows agents to be more diverse. That single change makes the model more predictive of modern economies than the Keynes'-Samuelson framework allows.

Trade balance has been well understood among trading nations for more than two hundred years. Trade is balanced when, for each country, the value of exports equals the value of imports. But serious imbalances between countries were common, especially in the seventeenth and eighteenth centuries. The central problem was that high-export countries accumulated money and gold extracted from low-export countries. This was later resolved, in part, by understanding the role of the "capital account" among trading countries (a point that seems lost on Trump). Section 5 of this essay explains why something like a capital account must be accounted for even in a single country with no external trade at all.

What has gone largely unrecognized is that trade imbalance can arise — and cause trouble — even in a closed economy that trades with no other country. The cause is essentially identical to the same that

operates between two countries. Here, think of "internal importers" as agents who, over time, purchase more value than they produce, and "internal exporters" as agents in the same country who produce more value than they purchase. The key insight is the same as for imbalanced international trade: money flows from importers to exporters, with zero net money gain for the economy as a whole.

Keynes-Samuelson assumed homogeneous agents, each of whom spends exactly what they earn. That assumption guarantees there can be no troublesome trade imbalance, and it is implied by the so-called "Keynesian cross." Some serious economists have taken this to mean that debt is not a problem because, in Keynes' terms, "we owe it to ourselves." Not really. More realistically, some poorer agents owe money to other, richer agents in the same economy. This essay explains several important consequences that Keynes did not easily predict — one being how readily income inequality can develop. The account here also drops Keynes' consumption function, $C = C_0 + C_1 \cdot Y$. Consumption in this essay is simply the total consumption of all agents combined.

Historically, imbalances of this kind have been reduced by economic institutions and customs that developed over time. Many of these are cataloged in Section 5. For anyone who already understands the capital account in international trade, these institutions play a similar role: they help rebalance trade within a domestic economy. They show how extra money acquired by "internal exporters" must be recycled back to "internal importers" to keep the economy chugging along.

Section 1 — "Trade imbalance" in a closed economy

Sections 1 through 4 assume that goods and services in an economy are exchanged only for money — a "pure capitalist economy." It will soon become clear why this would be an impossible restriction for any highly efficient modern economy. Section 5 drops the assumption, adds the missing institutions, and shows why they are necessary.

Here is a short economic story to illustrate the problem of a badly imbalanced economy. Imagine a future economy with a single giant supplier: the Mighty Amazoom Corporation, with vast manufacturing and service operations throughout the country. Amazoom is so large that it can supply almost every product and service anyone in the economy could want. It commands enormous capital and ultra-modern production robots that run twenty-four hours a day. To produce everything the economy needs, it requires only 20% of the population. Another 5% of citizens produce a small amount of additional services. No one else is needed to produce what everyone requires.

That sounds wonderful. Economists should be delighted by such efficiency: only 25% of the population needs to work. So what is the problem? A very serious problem is that the other 75% have no job and no income. The British call such people "redundant." How, then, can all those goods and services be purchased? Only a quarter of the population has any income. How could Mighty Amazoom possibly sell more than a quarter of its potential output when so many people are without work? Such an economy would have chronically underperforming GDP, with large numbers of citizens unable to find jobs that would let them pay for what they need. It is hard to see how the economy could function at all. As Section 5 shows, other helpful institutions have arisen spontaneously to compensate, at least partly, for exactly

this kind of problem. One purpose of this essay is to explain why those institutions had to come into existence in order to make an economy work well.

An equivalent way to describe the same problem is to notice that jobs are needed in an economy for two separate reasons:

1. Jobs are needed to **produce** the products and services that everyone needs.
2. Jobs are needed to give people the **income** to buy the products and services they need.

The difficulty that makes distribution hard is this: nothing guarantees that reason 1 requires the same number of jobs as reason 2.

This is no fantasy for contemporary economies. We already have creeping examples. Amazon and Walmart have driven many small businesses under — though, under capitalism, they are only doing what they are supposed to do. Automobile and electronics production now employ far fewer workers to produce far more value than they did fifty years ago. In the United States, some manufacturing has moved to China and Mexico. As the number of domestic workers has shrunk, competition for fewer jobs drove wages down — a trend especially obvious since the 1980s. Lower wages, in turn, reduce aggregate demand still further, because customers have less money to spend. The latest scare that's been recently been in the news that could likely kill jobs is the rise of AI (Artificial Intelligence.)

The big purpose of this essay is to show how to optimize our economy as creative people invent new ways to produce products and services more efficiently with fewer people. There are better solutions than just firing all the people we no longer need, or finding them low paying make-work jobs. Section 5 of this essay lists methods that have already spontaneously developed, somewhat under the macroeconomic radar to help better distribute economic output. We need to better recognize and employ these methods.

This was not a problem in the United States in 1790, when 90% of the population worked in agriculture. There was an enormous amount of work to do. Today only about 1% live on farms, yet 100% of people still need to eat — one reason the problem is far more visible now.

Some economists define their subject as the study of how people make choices under scarcity. Perhaps that was true in 1790. But today, one visit to a Walmart or Costco — with goods stacked floor to ceiling — makes the scarcity story hard to believe. For at least half the population, the real problem is having enough money, credit, or well-paying work to buy what is already sitting on the shelves. This essay focuses on that contemporary reality: for many people, the scarcity that matters is a scarcity of money.

That scarcity produces large differences in income and in the ability to save. It explains at least one reason why the bottom 50% of the U.S. population owns a tiny 2% of total wealth, while a tiny 2% of the population owns fully half of it. Section 5 of this essay catalogues institutions that have evolved to help repair the economy by finding ways to better distribute our modern economic wealth.

One reason I am critical of contemporary macroeconomics is that productivity has advanced to the point where goods and services can be produced far more cheaply and with far less labor. In advanced economies, macroeconomics now needs to focus more on the distribution of goods and income and less

on simply maximizing GDP. Nothing close to full wealth equality is required for major improvement. If income shifted just enough to move the bottom 50%'s share of wealth from 2% to 4%, that would **double** the wealth of the bottom half of the population — while trimming the top 2%'s share only slightly, from 50% to 48%.

I will analyze a closed economy the same way international trade has been analyzed for centuries. The comparison turns out to be surprisingly close. From international-trade economics I borrow three useful measures: trade balance, current account, and capital account.

Section 2 — International trade analysis

Trade imbalance has long been known to affect international trade negatively. Section 3 shows how a closed economy can be affected in the same way.

Mercantilism. From the sixteenth to the eighteenth centuries, some countries deliberately exported more than they imported, aiming to build up reserves of money drawn from importing countries — reserves that would then make it easier to buy goods abroad. This policy, called mercantilism, was regarded by many seventeenth-century economists as the best way to build a nation's wealth. It was usually hardest on the importing country, but the exporting country could suffer too: weak demand for its exports could eventually drag down its own GDP. In other words, both sides lose when the imbalance persists. As this became better understood, mercantilism fell out of fashion and came to be seen as unworkable trade policy — it tended to discourage trade for exporter and importer alike, and in some cases fueled conflict between nations.

Three economic terms are central to international trade: trade balance, current account, and capital account. The **current account** quantifies a country's trade balance: it is the total value of goods and services a country exports minus the total value it imports over some period. For a net-exporting country the current account is positive; for a net-importing country it is negative. Mercantilists favored positive current-account balances in order to accumulate money — which, with only two countries trading, gradually transferred money from net importers to net exporters. Each country also has a matching **capital account**, which measures the money flowing the other way, from net importers to net exporters, to pay for those goods and services. As mercantilism faded, more attention went to the capital account, to track what a country was losing in capital — especially when it imported more than it exported.

One remedy for an international trade imbalance is to let the exchange rate between the two currencies adjust. Holders of the net importer's currency can, in effect, lower its value when they exchange it for the net exporter's currency, which tends to equalize the value of trade between the two. It is worth noting that this remedy was eliminated when the euro became the common currency of many European nations. Many economists regard the euro as a weakness — even a mistake — precisely because it puts different countries into a single monetary straitjacket that prevents them from adjusting exchange rates to balance trade among themselves.

And of course exchange-rate adjustment could never be used among citizens *within* a single economy, since everyone there uses the same money.

Section 3 — How "trade imbalance" can happen within a closed economy

"Exporters" get richer, "importers" get poorer, and the economy bifurcates.

It may seem strange that trade imbalance could arise within a single closed economy that has no foreign trade at all. I will show how it can. As before, I begin by assuming all goods and services are exchanged for money — a "pure capitalism." It will become clear why no modern economy could actually function under this restriction.

Countries engaged in imbalanced international trade cause money to flow from net-importing to net-exporting countries. The same logic holds within a closed economy when trade among its agents is imbalanced. In a single economy, every agent can be classed as a net exporter, a net importer, or one of the few in the middle who import the same as they export.

I define a **domestic exporter** in a closed economy as an agent who, over some period (say a month), produces goods and services to sell — that is, earns income — whose value exceeds the value of what that same agent consumes. Like an exporting country, such an agent produces more than they consume and therefore gains net money equal to the value of the surplus. The **domestic importers** are the agents who must consume that surplus, and who therefore lose net money equal to what the exporters gained.

Just as the current account describes a country's total net exports over an interval, I define an agent's **internal current account** as the total value they produced (income) minus the total value they consumed (expenses) over a period. It is positive for exporter agents and negative for importer agents.

I define the **total internal current account** of a closed economy, over a period, as the sum of the internal current accounts of all exporter agents in that period. This is the value of surplus goods and services that exporters produced but did not consume — surplus that the importers must therefore have purchased and consumed. The exporters gain money equal to the total internal current account; the importers reduce their savings by the same amount. Whenever the total internal current account is non-zero, the economy is imbalanced. Over time, importers can become exporters and vice versa. But importers tend to stay importers, and exporters tend to stay exporters. If that is so, then whenever an economy is imbalanced, wealth inequality grows at least a little more pronounced, because savings flow from importers to exporters. How much money actually flows depends on the size of the internal current account — possibly reduced somewhat by the additional factors to be listed in Section 5.

The situation is economically and mathematically identical to the case in which all the importers lived in one country and all the exporters in another, trading internationally. It is not merely an analogy. The exporters get richer and the importers get poorer — except that here all of them live in the same economy. The few whose export value equals their import value neither save nor dissave.

When an economy has a high internal current account, that is what I mean by a high **trade imbalance**. It means the surplus of goods and services that exporters produce, and importers must consume, is large — and that money had to flow from importers to exporters to pay for it, making importers poorer and exporters richer.

Agents may switch sides from one period to the next. But in modern economies, especially where productivity is very high, incomes are highly unequal, and many agents stay stuck as low-wealth importers. Exporters, meanwhile, gain money they can invest in labor saving capital, which tends to make them still more productive — making wealth ever more unequal. I hypothesize that this is exactly what has happened in the U.S. economy especially since 1980. In short, a trade imbalance makes exporters richer and importers poorer.

International-trade economics has long recognized this problem and the corresponding need for a capital account to offset the harmful effects of a high current account. The capital account measures money flowing back from exporters to importers during the same period. In practice, one important channel has been investment by exporting countries into importing ones. Surprisingly, macroeconomics has recognized nothing like a capital account as necessary to rebalance an unbalanced *single* economy.

The analysis above shows why economies *had* to develop customs and mechanisms to recycle money back to importers so that goods and services could be distributed. Otherwise some importers would run out of money, reducing aggregate demand and lowering GDP. Banks developed ways for exporters to lend to importers and keep trade flowing. Another example: government borrows money usually from exporters by selling them Treasury bonds and uses the proceeds to supply both importers (and exporters) with public goods and services without importers having to pay for them. These are just two methods of moving money from exporters to importers that can put the economy into *better trade balance*.

Section 5 lists further examples that serve, in a closed economy, the role the capital account serves in international trade. The quantity that offsets the total domestic current account could be called the **total cash-recirculation account**. To offset an imbalance completely, and maximize goods/services distribution an economy with a domestic current account of \$C would need a total cash-recirculation account of -\$C — just as, in international accounting, the current account is expected to be balanced by the capital account. Among the institutions identified in Section 5 that can help rebalance an unbalanced economy are:

- taxes taken from exporters to fund government services for citizens, some of whom are importers;
- Social Security, which transfers money from exporters to importers;
- credit cards, which lend money from exporters to importers;
- legislated minimum wages for importers;
- government deficit spending financed by Treasury bonds sold to exporters;
- the Earned Income Tax Credit;
- unemployment benefits.

To me it is remarkable that this requirement has been well understood in international trade for more than a hundred years yet is still not clearly recognized as necessary within a single economy. People who believe they favor pure capitalism often disparage the Section 5 items — the total cash-recirculation account — without seeing that capitalism *requires* them in order to distribute goods and services and maximize GDP by pushing the economy toward better trade balance. There has also been heavy political

pressure from the very wealthy to weaken these mechanisms, which makes the rich richer and inequality worse — even though it likely degrades the distribution of goods and services, and GDP along with it.

Unfortunately, so far as I know, neither the domestic current account nor the domestic capital account is measured by U.S. statisticians, so the data and math needed to balance them through policy simply does not exist. I hypothesize that the Section 5 factors are often too weak to completely offset the domestic current account, making them an important cause of income inequality that reduces GDP, and also results in poorer distribution of economic goods and services. But actual data on internal trade imbalance is needed to confirm — or disprove — that correlation.

The surprising result of this analysis is that if all goods and services are exchanged only for money — a 100% capitalist economy — then saving is merely a transfer of money from importers to exporters. It is a zero-sum game, exactly as with imbalanced international trade between two countries. One macroeconomic fact that should therefore *not* surprise us is the high wealth inequality we observe in modern economies: where some agents earn far more than they spend, domestic trade imbalance is likely to be high.

The institutions and customs described in Section 5 allow total savings in an economy to be non-zero *and* push trade toward balance. People often assume that some of these institutions are needed only to correct for unfortunate deficiencies in the work or saving habits of certain agents. In fact they are required by a fundamental monetary constraint — the constraint that binds every agent in an economy where goods and services can be exchanged only for money.

How to confirm or disconfirm the hypothesis in Section 3. Economist David Card has, I hope, helped persuade the profession that empirical data — not prior mathematical theory — is the right way to judge whether a hypothesis is correct, uncertain, or wrong. To apply that standard here, statisticians must first measure the domestic current account and the domestic capital account defined above, the closed-economy equivalents of the figures already tracked for foreign trade. The right way to judge this essay is to ask whether the data predicted below are in fact borne out by those numbers.

Section 4 — Consequences this analysis explains that present-day macroeconomics does not

How internal trade imbalance can drive rising income and wealth inequality

Section 3 explained how an economy with significant domestic trade imbalance gradually separates into two distinguishable groups: domestic importers and domestic exporters. Exporters grow richer as importers grow poorer, because saved money flows from the latter to the former. This is likely an important cause of wealth inequality even within a closed economy — and the longer the condition persists, the worse the inequality becomes. We already see such disparity in the U.S. between those in the top 10% compared to the bottom 60% income cohorts.

How trade imbalance can cause stagflation

Why do economists find stagflation so puzzling? Because two things happen at once that supposedly should not. Prices are rising, which suggests too much money chasing goods and services — so the Fed should tighten by raising interest rates to cool demand and bring prices down. But total output is *also* falling, pushing unemployment up — which suggests the Fed should instead loosen, putting more money in people's hands to raise demand and encourage supply. Raise rates or lower them? The two signals point in opposite directions.

A simple explanation for the puzzle is that the economy has become badly imbalanced. Over time, an imbalanced economy divides into two classes — domestic importers and domestic exporters — as explained in Section 3, and the richer exporters come to dominate. Exporters, by definition, earn more than they spend, so they buy what they need and are not much constrained by rising prices; the result is inflation. Importers, by definition, earn less than they need to spend, so they cannot save and must forgo things they would like to buy; the result is constricted demand. Sellers therefore aim their prices at the exporters, who have the money. They would sell more if a large group of importers had more to spend, but importers are not buying much — so sellers make up the difference by raising prices, which the richer exporters can absorb. Already mentioned was the top 10% who are doing well even amid inflation, while the bottom 60% — a much larger group whose pinched spending drags down GDP and raises unemployment — are squeezed by higher prices and less money.

Again, we need data, which, so far as I know, we do not collect. If the explanation is correct, one policy response worth considering would be to reduce domestic trade imbalance directly: raise taxes on exporters (who tend to have higher incomes) and cut them on importers. Note that this does not mean that all incomes need to be equal—just that what each spends may need be closer to what each earns, and other methods of balance are employed that are cited in Section 5.

"Lazy bums"?

When an economy does not adequately compensate for a trade imbalance, some agents are forced to dissave. Exporters who are able to save may conclude that those who cannot must simply be lazy. Maybe some are. But where compensation for a high \$C imbalance is insufficient, it is mathematically *impossible* for everyone to save. One might just as well blame the savers for saving too much. A more useful target for criticism, though, would be the bad macroeconomic policy that fails to deploy the Section 5 mechanisms effectively.

Why it is helpful that the U.S. government almost always does deficit spending

The federal government has run a deficit almost every year (aside from a tiny surplus around 2001), steadily increasing public debt — and this is, in fact, one of the mechanisms that makes private saving possible. Public deficit spending is not merely the vice many take it to be. When the government sells Treasury bonds to domestic exporters who want to save, government becomes a net domestic *importer*, and that is one of the ways private exporters are able to save at all. Non-financial businesses can also act as net importers in the same way, selling corporate bonds to internal exporters to fund investment or even operating expenses. As Section 5 explains (methods 5 and 6), selling both public and private bonds

to exporters is beneficial precisely because it helps balance trade by increasing domestic demand from government and corporate business.

A problem for our economy: robots

When robots and other equipment replace workers in production, trade imbalance rises: fewer people are needed to run the machines, so employment falls. Some people believe the fix is simply more college education, so that a similar number of workers can operate the robots and keep their incomes. But the whole point of the robots is to produce the same output with fewer people — which raises profit per worker and therefore tends to raise trade imbalance, paying less to workers and more to their bosses. Macroeconomists frequently celebrate higher productivity without grasping its potential harm to income distribution. Walmart and Amazon are recent real-life examples of firms that have put smaller competitors out of business. There is much recent concern that AI (artificial intelligence) will displace workers. Greater awareness of rebalancing options in Section 5 could help.

A problem for our economy: shifting production to cheaper labor abroad

Much labor-intensive production has been moved out of the United States to China to cut labor costs, further reducing the number of domestic workers with well-paid jobs. As labor costs fall, pay for management rises — while redundant and unemployed workers grow more numerous, deepening the imbalance within the U.S. economy. Ironically, China wanted to provide labor, and export manufactured goods to the USA and Europe, to provide better paying jobs for their people.

Why economic growth is treated as always necessary

Zero growth is usually read as a sign of a faltering economy. Why? Not because we need more stuff. As productivity rises, by definition fewer worker-hours are needed to produce the same GDP, so some workers become redundant — which increases trade imbalance. To maintain demand, those redundant workers must find new jobs that give them the income to keep consuming what they consumed before, *plus* the additional output they now produce in their new jobs. So when productivity rises, GDP must grow — not because still more goods and services are needed, but to keep income flowing to redundant workers so that everything produced can be distributed and consumed.

Does mercantilism exist within a closed economy?

Mercantilism has been understood as bad international policy for two centuries. Yet the corresponding attitude toward a closed domestic economy is usually the exact opposite: economists and moralists alike praise saving — producing more than one consumes — as unambiguously virtuous, without grasping the harm that imbalanced domestic trade (as I have defined it) can do. For some readers, the sheer conviction that saving is virtuous because it fuels investment will be reason enough to reject this essay outright. Consider the British economist John Hobson, who early in the twentieth century argued something similar to what I argue here. His thesis — that excessive saving could reduce economic performance — met fierce resistance. Near the end of his life, in 1938, he titled his final book, wryly, *Confessions of an Economic Heretic*. My own confession: knowing his fate, I have avoided flatly claiming that there can be "too much

saving" — but it is worth noting that another name for those who consume much less than they produce is, simply, savers.

Improving Keynes' theory of recessions and depressions

Before the 1930s, economists were often baffled by slowdowns in GDP, accompanied by rising unemployment, that seemed to arise for no obvious reason. What puzzled them most was that these downturns came not with shortages of goods but with "general gluts" — wide surpluses of unsold goods of every kind. To supply-siders such as Jean-Baptiste Say, this was mysterious, because it was generally believed an economy could fail only from *insufficient* production, never from excess. Such episodes were often described as an unexpected shortfall of aggregate demand, which sometimes was even blamed on "overproduction." I'm hypothesizing that there was plenty of *desire* for the goods on offer—but importers lacked the money to buy them.

In 1948 Paul Samuelson's *Economics* described how Keynes proposed to fix such downturns. Keynes saw that recessions and depressions appeared to be caused by reduced aggregate demand, since they could occur even amid plenty. He attributed this to a loss of consumer confidence — an explanation that predicts the general gluts observed in sluggish economies quite well. But he did not try to explain what caused confidence to collapse in the first place. This essay suggests a better explanation: an economy that has become trade-imbalanced, shifting wealth from net importers to net exporters. That would explain that low confidence appears mainly among the importers (the dissavers) — some of whom may already have been unemployed for a while because of the imbalance.

The best way to test this would be real-time data on trade imbalance within a country. So far as I know, the Fed collects no data on domestic trade imbalance that would let us see whether changes in it track economic downturns. There is a suggestive clue, though: according to Investopedia, consumer confidence tends to be a *lagging* indicator of unemployment — which implies it is caused by some earlier event, possibly a rise in domestic trade imbalance.

Why did Keynes not arrive at this explanation himself? Possibly because he pictured all agents as equal, never imagining an economy that splits into domestic importers and exporters. Samuelson's classic text assumed a single-agent model, which guarantees a perfectly balanced economy — an assumption baked into the 45-degree line of the Keynesian cross, which implies that the money earned from producing goods and services closely equals the money spent buying them. There is a hint, though, that Keynes glimpsed the imbalance view: he described the possibility of a "liquidity trap," in which some wealthy agents in the 1930s held excess cash rather than spending it. My hypothesis is that "loss of confidence" was caused by trade imbalance that drove importers' savings down, reducing demand, but only from the importers. The way Samuelson formulated the consumption function kept this possibility out of view.

Despite the recurrence of these episodes, some economists insisted a shortfall of demand simply could not happen, because it did not fit their theory of how a capitalist economy was supposed to work. Supply-siders wrongly insisted that the cure was more supply — or even tax cuts for the rich.

Section 5 — Nine institutions that help economies compensate for imbalanced trade, even in a closed economy

In this section I relax the assumption that money changes hands between agents only in exchange for goods and services. Each example below is a way of transferring goods and services *without* an equal transfer of money. I know — some of these may sound suspiciously like (eeeeeeek!) socialism. But they are necessary for successfully moving goods and services when some agents produce far more than they consume. Ideally, all these methods together would offset the full imbalance of $+\$C$. In international trade, they are the counterpart of how the capital account balances the current account. If the total offset falls short of $\$C$, aggregate demand may be weak; if it overshoots — pushing $\$C$ negative — demand could outstrip supply and risk inflation.

Method 1 — Government taxes and spending on public services. One important purpose of taxes is to fund public services that a single payer can provide more efficiently than private individuals could on their own. For *that* purpose alone, it does not matter whether the taxes come from exporters or importers, or where they are spent; at best, decisions about whom to tax reflect some sense of fairness, and at worst, they reflect who has contributed most to political campaigns. But for the *rebalancing* purpose this essay emphasizes, taxes can also help. To serve that end, the taxes must be drawn from exporters (savers) and then spent on public goods and services in a way that offsets accumulated internal imbalance and lets goods and services flow to importers. The catch is that fully offsetting an imbalance of $\$C$ by taxation alone would require collecting $\$C$ from exporters — the entire sum they have saved — leaving them nothing to keep. Fortunately, other methods exist (described below, using the loanable-funds market) that let exporters keep adding to interest-earning savings. Taxing *importers* does supply money for public goods, but it works against trade balance, since it reduces importers' ability to buy what they need. One of the worst possible policies for trade balance is to cut taxes on the wealthy, which tends to increase the savings of exporters who — even before taxes — do not buy enough to absorb the surplus they produce. Unfortunately the very rich have effectively lobbied to reduce the taxes that the rich are required to pay.

Method 2 — Raising the pay of importers. Laws that set higher minimum wages, for example, almost always benefit non-savers. The additional pay flowing to importers reduces $\$C$ by that amount — assuming it comes out of the pockets of highly paid exporters who were earning more than they consumed.

Method 3 — Government transfer payments. Transferring tax money directly to citizens is another effective way to rebalance. In the U.S., the three big examples are Social Security, Medicare, and Medicaid. The U.S. payroll tax is, unfortunately, a regressive flat tax — a steep 15.3% levied on incomes from as little as \$400 a year up to a cap (in 2026 about \$184,500) — so much of it comes from importers rather than exporters. That revenue goes to one of two places. (1) Most funds Social Security and Medicare benefits, which recipients tend to spend rather than save — a positive balancing effect. (2) Any remainder buys Treasury bonds (via the Social Security Trust Fund) that immediately fund government spending. So this method does a half way job that draws money from many importers and some exporters and immediately spends it on government operations, offsetting *some* imbalance. The amount it can offset equals what is collected from exporters minus what is collected from importers. As noted, any tax on importers reduces

their ability to absorb even their own output, so it counts *against* balance. Extending the 15% rate to all income above the cap — including investment income — would help far more, since it would fall mainly on high-income exporters, to the benefit of the whole economy.

Method 4 — The Earned Income Tax Credit. The EITC shifts U.S. income taxes away from some 31 million low-income filers — importers and dissavers, very likely to spend everything they earn — and toward exporters and savers. The credit was worth about \$64 billion in 2022. Its corrective value that year toward \$C was therefore roughly that \$64 billion, minus whatever marginal share of it had to be collected from importers. Many see the EITC as a burden imposed by under-producing workers. This essay shows instead why it *raises* GDP: most of that money is spent by importers rather than saved.

Method 5 — Government deficit spending that is financed by selling Treasury bonds to exporters. Many people believe that government deficit spending is always a terrible government practice. But that's how government can help balance an economy by consuming extra goods/services that are produced by exporters in the economy. This also works well for exporters because it provides Treasury bonds for them seeking a place to park their savings. Unlike the taxes in Method 1, this lets exporters feel they still *own* their wealth — now held as an interest-earning Treasury bond rather than idle cash.

But doesn't this backfire later? One might worry that when the bonds mature and are repaid, the benefit reverses — which, if it happened, would be a serious flaw. In practice that has been avoided by letting the *nominal* Treasury debt keep rising, so the total never really falls: there are always new savers seeking a home for their money, more than enough to roll over maturing debt. Inflation helps, too — it erodes the real value of existing debt and raises the nominal size of new debt, making rollover easier. U.S. nominal debt has not fallen since at least 1955 (aside from a tiny dip around 2000), so this beneficial "Ponzi scheme" permanently converts exporters' cash savings back into spendable public money. With total Public debt now above 100% of GDP, it realistically can never be repaid — which is what makes the comparison to a Ponzi scheme apt. Old debt held as Treasury bonds is steadily eroded in real value by inflation, often faster than it grows nominally. Yet the whole process runs for public benefit, and no one is ever likely to complain about not getting their money back, because the Fed can always print redemption dollars — though there is no guarantee those dollars will be worth what they once were. Inflation is usually thought of as unequivocally bad; here is one public benefit it can provide to taxpayers.

What about interest on the debt? Interest paid does tend to flow back to savers, which makes Method 5 somewhat less effective. But inflation also erodes the real interest paid, so the government in effect borrows at roughly a zero real rate. Some call this "financial repression."

Is financial repression a good thing? "Financial repression" is a disparaging label for policies that hold real interest rates on government bonds low. As Investopedia describes it, the term was coined in 1973 by the Stanford economists Edward S. Shaw and Ronald I. McKinnon to criticize policies that they argued suppressed growth in emerging markets — the idea being that a government quietly erodes its own debts through low rates and inflation. But the analysis here shows how such "repression" can *benefit* an economy by lowering the interest cost of government debt. It takes little analysis to see that low rates reduce the flow of money from less-wealthy taxpayers (who pay the interest) to wealthier individuals (who can afford to hold the bonds). Contrary to the claim that it "steals growth," if the interest savings

are used to cut taxes mainly for importers, they raise importers' after-tax income without cutting government spending — and thereby raise GDP. A graph of U.S. nominal public Treasury debt since 1965 shows that this method has absorbed more than \$25 trillion of past cash savings, converted by savers into non-transactional Treasury debt that will likely never be repaid — thanks in part to beneficial inflation. (Method 6 describes the identical process for private debt.)

<https://fred.stlouisfed.org/series/GFDEBTN>

Why perpetual bonds are useful. A historical British example that sidestepped the repayment problem entirely was the perpetual bond, or "consol," which never had to be repaid — and whose interest, in some cases, was reduced after issue.

Method 6 – Private financial markets that let exporters lend to importers. This is similar to Method 5, but extended to private markets as well as public debt. Markets such as the loanable-funds market let domestic exporters lend to domestic importers through credit, moving the economy toward balance. Exporters tend to have surplus savings; importers lack money. So it is no surprise that a credit market naturally forms out of a domestic trade imbalance, with exporters lending, at interest, to importers. This overlaps and closely parallels Method 5, in which government becomes indebted to “exporters” by selling Treasuries to get money which is spent to purchase government products and services that are supplied to citizens that increases aggregate economic demand. Likewise, private financial instruments — bank accounts, corporate bonds, credit cards, student loans, home mortgages — let exporters save cash while it is lent to importers, becoming an asset to the exporter. The logic is the same as for Treasury bonds, except the money funds private rather than public spending.

But here is a possible problem: while total debt increases, money is being transferred advantageously from exporter lenders to importer borrowers, which provides favorable economic balance towards importers and thus to the economy. However, “economic experts” may sometimes take the view favorable to lenders, deciding that debt is getting risky and dangerous, mandating an austerity policy to pay back outstanding debt. When such austerity is declared and acted upon it cancels out the previous benefit provided by increased debt. The economist Richard Koo has explained that such austerity policy can throw the economy into what he calls a “balance-sheet recession” — an economic downturn with the opposite effect that slows the economy. This is especially problematic; it not only pays back the total loan balance, but also additional interest, amplifying the economic downturn.

This problem in practice has usually been avoided by not allowing the total loan amount to decrease, as is demonstrated by some very nice historical data from the Fed.

The following Fed data shows the immense amount of total non financial US debt level that has almost always risen since 1952. Total U.S. non financial debt expanded from \$400 billion in 1952 to \$81 trillion now. That’s a 202 fold increase in numerical dollar terms in 72 years! Total loan amounts have almost always travelled on an upward path, keeping cash flowing towards importers:

https://www.federalreserve.gov/releases/z1/dataviz/z1/nonfinancial_debt/chart/

You can view data all the way back to 1950 by sliding the grey ribbon under the graph to the left with your mouse.

It is also interesting to look at it from another contrasting perspective: as total debt as a *percentage* of U.S. GDP, tracking while GDP has almost always risen with time. Debt percentage compared with GDP has been much more steady, swinging between 100% of GDP to up to 250% GDP now. Here is Fed data showing total debt as a percentage of GDP:

https://www.federalreserve.gov/releases/z1/dataviz/z1/nonfinancial_debt/chart/#series:nonfinancial-debt;units:percent-of-gdp

Inflation in this case has been the favorable factor to make total debt track closer to GDP. Although the nominal value of debt has steadily risen, because of inflation the real value of past debt is suppressed, inflation causes debt to decay like garden compost as time passes. This helps total future debt to steadily go up in nominal terms—but causes past debt to go down; this keeps the money flow going year by year from exporters to importers to improve economic trade balance—but while driving the total nominal debt to the sky.

This final graph shows the percentage amount that the debt goes up or down for every separate quarter since 1950.

https://www.federalreserve.gov/releases/z1/dataviz/z1/nonfinancial_debt/chart/#series:;units:growth

As you can observe, debt growth is usually positive—but occasionally goes down. I've calculated that the “average” rate of debt going up has been very roughly 10% per year since 1950. That approximately represents some kind of measure of positive benefit of trade balancing that this method has provided over the years.

The following seems to me to be reasonable logic, but it does give me some unsettling pause! It seems to me that another way to understand the total \$81 trillion debt shown by the Fed is that it is a record of the total money loaned by exporters to importers since 1950, for which exporters still haven't yet been repaid. This money loaned to importers was likely borrowed so they could to purchase and consume \$81 trillion of goods and services of GDP since 1950. The Fed data shows that there must be creditors who are still owed \$81 trillion for which their expenditure must have given great boost to the past years of the economy. But they still haven't been paid. At least not yet! They will not be actually paid for until all the \$81 trillion is paid off to the creditors. Because the number is so vast it seems to me that will never likely happen. But it has likely been a vehicle that has provided a very important boost to the economy since 1950.

I don't see how \$81 trillion of GDP could ever possibly get paid back in any reasonable time without causing a horrendous depression .

Method 7: Some importers who get loans to buy goods/services eventually default on their payment.

Loans that are most commonly defaulted: Student loans, Auto loans, Residential mortgages, Credit card debt, representing about \$500 billion dollars defaulted in 2025. If the loaned money is never paid back, that represents a transfer of wealth money from likely exporters to importers. That can usually increase trade balance in the economy by effectively transferring money to importers, who are the most likely borrowers, to the exporters who are most likely the loan sources, that are now stuck having to unexpectedly pay.

Method 8 — Grow GDP by producing new goods and services aimed at exporters. Create new jobs producing new goods and services to sell to exporters, sustaining GDP by moving money from exporters to importers. This is *why* an economy must grow — not because it needs more stuff, but because

producing more stuff provides jobs, and thus spending money, for redundant workers, so they can keep buying what they bought before *plus* the new output their new jobs create.

Method 9 — Gifts of goods and services. Agents can simply give goods and services to others. For example, several people can pool into a single household that acts as one agent: one member earning enough can support the rest. Of course this requires incomes large enough to support more than one person. Likewise, charities funded by those who earn enough can supply necessities to those who cannot pay.

Section 6 — Some policy implications

1. **The most important policy implication is that statisticians at the Fed should test the hypothesis of this essay by measuring values of internal trade balance to see whether they correlates with economic performance.**
2. **High domestic trade imbalance** — defined here — worsens the distribution of income and lowers GDP. In highly productive economies, the primary objective should no longer be simply to raise GDP, but to distribute goods and services well, which can raise GDP for a broader and more diverse group of income recipients.
3. This essay does **not** claim that incomes should be more equal. It claims that the *gap between what agents earn and what they spend* should be reduced.
4. Taxes should fall most heavily on the agents classed as **exporters**, to improve domestic trade balance.
5. **Minimum wages** should be set to reduce income imbalance, improving trade balance and the distribution of everything produced.
6. Incomes very high relative to the median tend to worsen trade imbalance and should be discouraged through **steeply progressive income taxes**. U.S. economic history in the 1950s strongly suggests this need not weaken an economy.
7. A **wealth tax** is said to be hard to enforce. A harder-to-evade alternative is to build deliberate inflation into the economy, while cushioning those of low wealth and income with a fixed, guaranteed annual income for everyone — funded by a progressive tax on the wealthy "exporters."

Before the 1930s, savings from exporters were assumed to go almost entirely to investment — spending that raises productive capacity. But a recent line of work by Atif Mian, Ludwig Straub, and Amir Sufi shows that much recent lending has instead gone to households to buy consumption goods, a phenomenon they call "indebted demand." (See their working paper *The Saving Glut of the Rich* and "Indebted Demand," *Quarterly Journal of Economics*, November 2021.) Such loans give a short-term boost to demand but eventually depress demand and GDP as debt burdens climb and heavily indebted borrowers can no longer

borrow more. The authors also argue that interest rates have fallen as the rich accumulate an ever-larger supply of loanable funds, even as the interest burden on borrowers rises and dampens loan demand.