

# How the “Fundamental Monetary Constraint” disrupts a closed economy.

Ralph Hiesey, October 3, 2024

**An important cause of periodic recessions/depressions that also can drive a closed economy to income and wealth inequality, using logic already well understood for international trade.**

**Section 0: For Keynesian macroeconomists: Description of the one assumption different from Keynes’ analysis.**

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**Section 0: For Keynesian macroeconomists: Description of the one assumption different from Keynes’ analysis.**

Paul Samuelson’s “Economics” was the famous textbook published in 1948 which described economist J.M. Keynes’ macroeconomic analysis that explained what caused economic recessions/depressions. This new essay has economic assumptions almost identical as used by Keynes, but adds one additional assumption that predicts additional important economic consequences. **The purpose of my 14 page critical essay** is to explain the additional economic assumption and to follow its important economic consequences: two of which are likely poor distribution of goods/services, and a related second prediction of gradually increasing wealth inequality.

Keynes (almost tacitly) assumed that each of the “agents” in his economy were pretty much identical. In the math it was implicit that during each time period each agent produced (as income) about the same \$value amount of goods/services that same agent purchased (implied by the “Keynesian Cross.”) Different agents could have different incomes and value of expenditures, but for each individual agent the value of his income and his value purchased was implicitly close to the same. Keynes in the math represented all agents into one big “single

agent.” The new analysis here differs because what each agent’s income by selling goods/services does over some period does not have to closely equal what that agent spends. This new analysis takes that into account which implies significantly different economic outcomes. This assumption is more realistic for any economy, but especially for recent more highly productive economies with some producers that earn much more than they consume.

Of course it must be true in any closed economy that the total value produced and sold by everyone together in an economy must be equal to the amount purchased in the same economy. That must always be true in a closed economy, and obviously was true for Keynes’ assumption—and for my assumption too.

## **Section 1: Defines “Trade imbalance” in a closed economy.**

This essay shows that if there are many in an economy that earn more than they spend, (during one period) that requires others that spend more than they earn. If these differences are large they can cause serious problems for an economy. This will be described in this essay as an economy in “economic trade imbalance”—meaning some have less than they need to spend, others have more than they need—which leaves some goods/services unsold. Keynes’ assumption guaranteed that his economy would always be closely “balanced.” This essay defines, and studies consequences of the undesirable effect of “trade imbalance,” and how imbalance is possible even in a “closed” economy with no international trade.

**Difficulty in “imbalanced trade” has long been understood for international trade.** What became obvious over time was that when countries traded with each other, “net exporting” countries would gradually accumulate more cash, gold or reserves which exact amount was transferred from the “net importing” countries. This practice was often even thought to be a good thing by “mercantilists,” who encouraged countries to export more goods than they imported to make their country richer—but which unfortunately made the importing countries poorer, and eventually even the exporting countries lost customers that imported their goods.

What is generally unrealized even now is that essentially the identical process, with similar bad result is even occurring now within **single countries having no trade with other countries.** You might ask how can trade imbalance possibly happen in a country that does not trade with another country? That’s what will be explained here.

**Here’s an economic story to illustrate the problem:** Imagine an economy with one giant mega supplier: the Mighty Amazoom Corporation with massive manufacturing and service locations throughout the country. They are so big that they can supply almost every possible product and service for everyone in the entire economy. They have incredible capital with super modern production robots that run 24 hours per day. They only require 20% of the population to produce all needed goods/services. Another 5% of citizens make a small amount of other services. No one else is needed to produce what is needed by everyone.

**That sounds great.** Economists should be delighted by such great economic efficiency. Only 25% of the population needs to work. So what’s the big problem? The problem is that seventy five percent of the population has no job and no income! The British call these people redundant.

But how can those plentiful goods/services get purchased? Only 25% of people have jobs and income. How could Mighty Amazoom possibly sell more than 25% of its potential output when the Monetary Constraint is such an important reality? Such an economy would have under performing GDP, with many citizens unsuccessfully seeking jobs to pay for stuff. It is even difficult to see how such an economy could possibly function. **Section 5** of this essay will show that other helpful economic institutions have spontaneously developed to partially compensate for this kind of problem. One purpose of this essay is to explain why these institutions needed to be produced to make an economy work better.

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

1. Jobs are needed to produce products and services that everyone needs.
2. Jobs are needed for people to get income to buy products and services that they need.

**The economic problem that makes distribution difficult: There is nothing that guarantees that #1 is equal to #2.**

This is no fantasy for contemporary economies. We already have some creeping contemporary examples such as Amazon and Walmart who have driven many out of small businesses, although they are doing just what under capitalism they are supposed to do. Automobile and electronic production employ many fewer workers to produce much more goods/services than 50 years ago. In the US some manufacturing has been moved to China and Mexico. As the number of needed workers becomes smaller, wage competition for fewer jobs drives wages lower, which has been even more obvious since the 1980's. Low wages then reduce aggregate demand even more for an economy as customers have less money.

This wasn't a problem in the US in 1790 when 90% of the population of the US was employed busy producing only agriculture. There was a heck of a lot of work to do! Now only 1% live on farms, but 100% of people need to eat, which is one reason why this problem is much more evident now.

Some economists claim that economics is about how people make choices under conditions of scarcity. Perhaps that was true in 1790, but today, a visit to any US shopping center, if you peek inside a Walmart or Costco with goods packed from floor to ceiling it is hard to believe the scarcity story. Now, for at least 50% of the population, the real problem for them is to have enough money to buy it, or jobs that pay enough to pay for it. This essay is more focused on that contemporary reality. For many the problem now is scarcity of money.

This creates great differences in income, and ability to save money. It gives some hint for why today 50% of the US population owns a tiny 2% of the total wealth. And how a tiny 2% of the population owns 50% of the wealth. (graph figure 1).

**One reason I am critical of contemporary macroeconomics is that productivity has moved to a point where much cheaper production of goods/services and less production labor is possible. Macroeconomics in advanced economies now needs to focus more on goods and**

**income distribution rather than maximizing GDP.** Nothing even close to real actual wealth “equality” is necessary for significant economic improvement. If income could shift just enough to move these percentages so the bottom 50% wealth cohort possessed 4% instead of 2% of total wealth, that would mean a doubling of wealth for the bottom half the population, with perhaps very little decrease from 50% to 48% for the top 2%.

**I will analyze a closed economy by showing how international trade has for hundreds of years been analyzed. There is a surprisingly close comparison to a closed economy. I have taken from International Trade economics three economic measures that are quite useful: “trade balance” “current account” and “capital account”.**

**Section 2: International Trade Analysis:** How **trade imbalance** has long been known to negatively affect international trade. Later **Section 3** will show how a closed economy can similarly be affected.

**Mercantilism:** In the sixteenth to eighteenth centuries some countries had a policy of deliberately exporting more products/services than they imported, with the purpose of building up higher reserves or “money” from the importing countries, which would make it easier to enable them to import goods. This was called mercantilism, which especially in the seventeenth century was considered by many economists to be the best way to build wealth for a country. That is usually hardest on the importing country, but the exporting country also could experience a lack of demand for their exports which could also reduce their GDP. So both countries lose when this continues. As this problem was better understood, mercantilism became out of fashion, and considered unworkable international trading policy because it eventually began to discourage international trade for both exporting and importing countries, and in some cases increased conflict among nations.

With international trading countries there are three important commonly used economic terms: **“trade balance” “current account,” “capital account.”** “Current account” quantifies the amount of “trade balance” of a country: It is the total value of goods/services a country exports minus the value of total imports of goods/services within some period of time. So for a net exporting country trade balance is positive, and for net importing country it is negative. Mercantilists advocated positive current account balances in order to accumulate money—which with just two countries trading gradually transferred money from net “importers” to net “exporters.” Each country has a matching “capital account” which measures the cash reserves that flowed the other way, from net importers to net exporters to pay for those goods/services. As mercantilism faded, more attention was given to “capital account,” to see what a country was losing in capital—especially when it imported more than it exported.

**One remedy to shift better trade balance with international trade is possible if the currency exchange value between two types of money is allowed to adjust between the two countries.** Users of money of the net importing country can reduce the value of their money when they exchange it with money of the net exporting country, which will tend to equalize the value of trade between them. It is well worth noting that this advantage was eliminated when the Euro was adopted as the common currency for European nations. This has been regarded by many economists as being a weakness, or “mistake” that has caused difficulties making the Euro

work as common currency to balance trade among many European countries. This puts different countries into one monetary straitjacket that disallows them from adjusting currency exchange rate to balance trade among countries.

And of course this is not a method that could ever be used among citizens within one economy to resolve imbalances within that country, since everyone uses the same money.

### **Section 3: Explains how “trade imbalance” can happen in a closed economy.**

**This essay claims that like a country with unbalanced international trade, a closed economy can have a completely similar kind of trade imbalance. This can increase wealth for some and reduce wealth for other agents in the same economy, thus reducing GDP by starving cash away from agents what I will define as “importers” to “exporters”.**

**To me, it is remarkable that for over 100 years this problem has been so well recognized with respect to international trade, but still not recognized within just one (possibly closed) economy.**

**A light mathematical discussion will show in detail how a trade imbalance moves cash to net exporters (producers) and away from net importers (consumers) in a closed economy that can eventually reduce GDP for everyone when importers run out of savings:** At first I will assume that all exchanges of goods/services are negotiated ONLY by exchange of money, which some might describe as 100% capitalism, although it will become apparent that no modern useful economy that is “trade imbalanced” could work if that strict condition were imposed.

When money is the only means of trading goods/services, every person in a closed economy must fall into one of two distinct groups: (1) those who are "net exporters" who produce more value of goods/services than they spend and consume, and (2) the remaining who are “net importers” who produce less value than they spend and consume. If we take the value that one agent produces in goods/services/wages during one year, and subtract the value that same person spends in that year, we can define a net quantity for that person which describes how much more value they produced than they spent for one year. “**Individual excess domestic product**” will be positive for net exporters/savers in an economy and negative for net importers/dissavers in the same economy. This can often begin to split an economy into “importers” and “exporters.” It measures for each person what is equivalent to what is called "**current account**" in international trade of a country. This may be especially significant after 1980 in the US economy.

**Another important number \$C in a closed economy can be defined by adding up all net exporters’ accounts together during one period, (= \$C).** I define this important number as the “**domestic current account**” which is the **total internal trade imbalance** positive number for all the “exporters” lumped together in the closed economy. If all agents use only money for exchange in a closed economy, the net importers, or dissavers also have an **equal total opposite internal trade imbalance = minus (\$C)**. Importers lose (= \$C) in savings that exporters gained during the same period. This works exactly as **current account** for international trade. The

equivalent statement in international trade is that the amount by which any net exporting country increases their reserves/money is **exactly equal** to the amount that all the other countries that are their trading partners together lose from them in reserves/money. We could also evaluate the severity of the imbalance by dividing  $\$C$  by the GDP:  $\$C/GDP$

If  $\$C$  is zero during the period, that would be the simplest to visualize—that would mean that every single person would have purchased in value exactly what he/she earned, with no one having either saved or dissaved. I call this trade that is “equally balanced.” Of course this doesn't mean everyone's income was the same. But if ( $\$C$ ) is positive during some period, then all the exporters (savers) would have produced a total of ( $\$C$ ) more in value of goods/services than they consumed. Where did those extra ( $\$C$ ) goods/services go? They went to the importers (dissavers) who would have spent a value exactly ( $\$C$ ) more, which must have come from money the dissavers had saved previous to that period. This would be no problem for the net positive exporters (savers), but there is the possibility that some of the importers (dissavers) could run out of savings--and therefore would not be able to purchase some of the excess product/services that the exporters had to sell. If that happened it could be bad not only for the importers, but also for some of the net producers who would have been left with extra inventory they didn't sell which would mean reduced GDP in the economy—and the greater the trade imbalance the more that GDP could be reduced. This is exactly the same bad consequence of “trade imbalance” as in the international trade case.

**“Capital account” in a closed economy?** Under international trade it was explained that the **capital account** measures the money or gold or capital that importers paid for traded products they received from exporters. A similar mechanism needs to somehow happen in a closed economy—to explain how people that “save” would recycle their money back to “importers” from which they received it, otherwise an economy could eventually grind to a halt. Economist Keynes identified a “liquidity trap” that could be described this way. I now realize there are many examples of economic institutions that evolved that moved money similarly as “capital account” required, or transferred goods/services without money transfer, which will be listed in **Section 5** of this essay. Government taxation to purchase public goods for citizens is just one common example. Another are banks that borrow money from “exporters” and loan to “importers” so they can continue to consume, but unfortunately that gradually transfers some interest back to exporters.

The surprising result of the above analysis is that if goods/services are all exchanged by money—in a “100% capitalism” economy, saving is just a transfer of money from “importers” to “exporters” which means it is a zero sum game! --exactly as is true with imbalanced international trade between two countries. One macroeconomic fact this explains is the high wealth inequality we observe today.

How do we resolve that logical conclusion with FRED data that shows that total saving is **not** always zero? (graph figure 2) <https://fred.stlouisfed.org/series/PSAVERT>

**That is resolved in Section 5—where “Capital account” compensation comes in to play. One example: Federal Government that virtually always goes into further public debt—** which is one important method that allows non zero private “saving” to be possible. Public debt

is not just a terrible vice for which many believe governments are guilty—public debt is one way that **makes it possible for private citizens to save**. Secondly, non financial business also goes into debt by selling corporate bonds which also allows households to save. Thirdly, “exporters” have extra cash saving that they can loan to “importers,” although that puts “dissavers” in even greater debt with interest they need to pay. All these and others will be described in more detail in **section 5 and 6**—which shows how equal debt is created when savings of money are made.

## **Section 4: Some economic consequences explained by this analysis that present macroeconomics does not easily explain.**

**SUMMARY of the main claim of this essay: For hundreds of years it has been known that when countries have an imbalance of international trade in goods/services (without compensating investment exchange in a capital account) they will develop an imbalance of money. The net exporting country will gain money wealth exactly equal to what the net importer loses. The greater the imbalance, the more rapidly will that money be transferred from net importer to net exporter. What surprisingly seems not to have been noticed today, is that exactly the same thing happens among single agents in a closed economy where all goods/services are exchanged only using money: An imbalance of trade causes money wealth to shift from dissavers (net importers) to savers (net exporters) with zero sum gain. Simultaneously goods/services are transferred from savers to dissavers. This is a likely cause for having more than half (60%) of those at the bottom income level living paycheck to paycheck-which shows evidence that goods/services in the US economy are not moving well from “savers” (exporters) to “dissavers” (importers.)**

**The following section will explore some economic consequences caused by “domestic trade imbalance”**

### **1. Improving Keynes’ macroeconomic theory that explains and corrects**

**recessions/depressions:** Before the 1930’s economists were frequently particularly puzzled by economic events marked by slowdowns in GDP, and accompanied by increase of unemployment that would happen seemingly for no obvious reason. What was particularly puzzling was that they occurred not with *shortages* of goods for sale because they were often accompanied by what were called “general gluts” of a wide variety of goods. These were mysterious events for economists because it was generally believed that economies could fail only if there were insufficient *production* of goods/services, not an excess. Often these events were described as an economy that would unexpectedly develop a lack of aggregate demand. Or such events were sometimes even described as caused by “overproduction.” During such “recessions” there was *desire* for such goods from part of the population—particularly those with high unemployment who had insufficient money to purchase goods/services.

Despite the obvious recurrence of such actual economic events some economists said such events couldn’t possibly happen; because they didn’t fit their theory about how a capitalistic economy was supposed to work. Also, sometimes people called "supply siders" would mistakenly insist that what is needed is more supply, or even tax cuts for the rich.

**In 1948 economist Paul Samuelson published the first edition of his famous textbook “Economics” that described what was called Keynesian macroeconomics.** He presented Keynes’ important insight about why recessions happen and how to fix them. He observed that such recessions/depressions appeared to be caused by “reduced aggregate demand” in an economy--an explanation perfectly good for predicting the existence of “general gluts” often observed in sluggish economies. However he didn’t attempt to explain what caused this reduced demand except to suppose that for some reason it was caused by a reduction in "consumer confidence." Even now that same description is often still used. He therefore recommended that government deficit spending should be implemented to increase aggregate demand.

This essay suggests that Keynes’ unexplained failure of "consumer confidence" could actually be more clearly explained by an economy that got out of “domestic trade balance,” shifting wealth from “net importers” to “net exporters.” That would explain "low confidence" not happening for all consumers, but mainly with the subset who were the “importers (dissavers)” in the economy --some of whom may have been unemployed for a while because of the imbalance of trade.

**The best way to prove or disprove this hypothesis** would be if we had real time information about trade imbalance (\$C) within a country. So far as I know the Fed does not collect any such data on “domestic trade imbalance” that would be able to test to see if that imbalance is associated with such economic downturns. Another reason that might be evidence for this view is that “consumer confidence,” according to the [Investopedia](#) website, has been more commonly observed as a lagging indicator of unemployment, suggesting that it is likely to have been caused by some earlier event-- which could be an ongoing increase of trade imbalance.

Why did Keynes did not come up with this explanation? Possibly because he visualized the set of agents as being all equal—not imagining an economy in which the group of agents could divide between “importers” and “exporters.” Samuelson’s classic text assumed a “single agent” model that is only capable of describing a perfectly balanced economy. This assumption was also implicit by the 45 degree angle “Keynesian cross” that implies that the money obtained by producing goods/services would be closely equal to what it cost to purchase them. But there is a hint that Keynes might have considered the “imbalance” view because he also considered the possibility of a “liquidity trap”—meaning some fraction of wealthy agents in the 1930’s were not spending, but holding excess cash liquidity as wealth. My hypothesis assumes that “imbalance of trade” could have caused savings by “exporters” to increase over time, which would imply that they trapped more “liquidity”—though the way Samuelson formulated the “consumption function” in the model he described in his textbook didn’t allow this possibility to be visible.

**2. Why economic "growth" is often considered to be so important. Zero percent growth is usually considered a sign of a faltering economy. Why? Economic expansion is NOT needed because we need more stuff!** Higher productivity can have an economic negative. As productivity increases within an economy, by definition fewer hours per worker are required for the same GDP output. Therefore some workers become, as the British say, redundant. To maintain aggregate demand the economy must find new jobs to provide income that will enable laid off workers to consume what they formerly did, plus value of the new goods/services provided from the new jobs that needed to be created. When productivity becomes more



efficient, “growth” in GDP must occur **not because more goods/services are needed**, but rather to **maintain the income for redundant workers that allows all goods/services to be distributed and consumed**. I would suggest that this would be an excellent topic for economists to analyze and try to find solutions to allow greater productivity without needing to produce more stuff. Some institutions that have already evolved historically are listed in Section 5.

3. **Does mercantilism exist within a closed economy?** Although mercantilism has been for two centuries understood as bad policy for international trade, the corresponding attitude in a closed domestic economy is usually exactly the opposite: the belief is expressed by economists and moralists that saving, by producing more than consuming, is highly praised, which leads only to virtuous outcomes, without understanding the negative consequence of the Fundamental Monetary Constraint that has been well recognized as a problem caused by imbalanced international trade. More saving could lead to more imbalanced trade. For some, belief in the undeniable virtue of saving as a spur to investment will likely be enough reason to completely reject the logic being expressed in this essay. An example: British economist John Hobson, who expressed in the early twentieth century a view similar to what is expressed in this essay, found strong opposition from economists to his thesis that excessive saving could result in reduced economic performance. Near the end of his life in 1938 he wrote his final book with the wry title "Confessions of an Economic Heretic." My personal confession is that knowing his fate I have avoided saying there is a problem with "too much saving"--but it is true that another way to describe those who consume much less than they produce is to use the "s" word: savers.
4. **“Lazy bums?”** The methods to be listed below in section 5 will be some that have been used to compensate for internal trade imbalance. If the economy does not provide sufficient compensation for an imbalance of \$C, that *requires* some in the economy to dissave. Some in the economy who have wealth may think that those who don't save must be “lazy bums.” Maybe that's also true, but if there is insufficient compensation for a high \$C imbalance, it will be impossible for everyone to save. Perhaps blame the savers for saving too much. However bad macroeconomic policy, by not using more effectively some of the methods to compensate described in Section 5 below, would likely be a more useful target for their criticism.
5. **Problem for our economy: Robots:** Production equipment such as robots have taken the place of workers for much production work. Fewer people run the robots, reducing worker employment. Some people mistakenly believe that more college education is needed for redundant workers so a similar number of workers will be able to run the robots and will thus increase their income. But the whole point of using the robots is to produce the same output with fewer people, tending to increase profit per worker, **which tends to increase the value of imbalance +\$C**. Production engineers help to produce goods more efficiently, often meaning using fewer people to produce the same output, increasing internal economic trade imbalance. Macroeconomists frequently tout “higher productivity” without understanding its possible negative effect on income distribution. Walmart and Amazon are recent real life contemporary examples.
6. **Problem for our economy: Shifting to cheaper production labor in China and Mexico.** Another possible recent cause is that much high labor intensive production has been

moved out of the US to reduce labor cost, which further decreases the number of domestic workers having well paid jobs. So with lower labor cost, pay for management increases—while redundant and unemployed workers become in higher supply **increasing the economic imbalance +\$C within the US economy.**

**Section 5: Nine Additional Economic institutions** which have historically evolved to help economies compensate for “imbalanced trade” even in a closed economy.

**In this section 5 we relax the condition that all money exchanges between agents happen only by exchanging goods/services.** Each example here shows a method of transferring goods/services without requiring an equal transfer of money value between agents. I know!! some of these may sound suspiciously like (eeeeeeek!) **socialism!!** But they are necessary for successful transfer of goods/services when some agents produce much more than they consume. Ideally to effectively transfer and consume goods/services, all methods in total would compensate the value +\$C of imbalance. If the compensating amount is less than that amount, aggregate demand could be weak. If there were overcompensation, possibly pushing \$C to a negative number, that would increase aggregate demand beyond supply and risk over demand with possible inflation.

**Method 1: Government taxes and spending for public services:** An important purpose of taxes is to pay for needed public services that are more efficiently provided by a government single payer than would be practical to be provided by individual private funds. For accomplishing only this purpose it does not matter from which group: exporters or importers that such taxes are collected—or to whom they are distributed; at best, political decisions about who to tax are made with some consideration of “fairness.” Or at worst, by considerations based on how much particular citizens promise to contribute to political campaigns.

However, for balancing trade emphasized in this essay, government taxes can usefully also provide rebalance of trade in an economy to maximize distribution of goods/services. To serve this purpose taxes must come from “exporters” or savers that when spent on public products/services will be able to rebalance an accumulated **total internal trade imbalance** that will allow flow of goods/services to importers. A problem for using only this method to *completely* rebalance an imbalance of \$C, is that taxes must be collected from “exporters” in the same total amount \$C. To accomplish this task using no other method would be extremely unlikely because that would require a tax *equal* to the total of “savings” accumulated by all exporters which would then leave no money left for the “exporters” to keep as “savings.” Fortunately other methods exist that will be described, using the loanable funds market that enables “exporters” to add to their savings that earn interest. Taxing “importers” will usefully supply money to purchase public goods, but be of negative benefit to achieving trade balance since such tax will decrease importers’ ability to purchase goods needed to help achieve the objective of balancing trade. **One of the very worst tax policies possible** worsening trade balance is to reduce taxes on the wealthy, which would likely increase savings made by the “exporters” who even before they are taxed do not even purchase enough goods to make up for the excess they produce.

**Method 2: Increase pay of “importers”** An example could be laws that establish higher minimum rates of pay, which would benefit almost always non savers. The total amount of additional pay in the economy gained by importers would reduce **SC** by that amount of additional pay, assuming the money was subtracted from highly paid “exporters” that were paid more than they consumed..

**Method 3: Government transfer payments:** Transfer payments that takes tax money and transfers it directly to citizens is another effective means to accomplish rebalance. Three important methods in the US are Social Security, Medicare and Medicaid. The US payroll tax is unfortunately a regressive flat tax that is quite high at 15.3% on income that is taken from people with incomes from as low as \$400/year to those with income less than \$140,000/year, therefore a lot comes from importers, not exporters. That tax is immediately distributed to one of two places. (1)Most of the tax goes to Social Security and Medicare recipients—which likely gets transferred to recipients who spend it rather than save it, which would have a positive balancing effect. (2)The rest of the tax (if any is left) goes to purchase Treasury Bonds (via the S.S. Trust fund) that always immediately pay for government expenses. Therefore this sources money from many “importers” and some “exporters” and then is spent for government expenses which compensate for some trade imbalance. The amount that this method can compensate for **SC** of imbalance is the total amount that is collected from exporters minus importers. As said before, any tax collected from “importers” reduces their ability to even compensate for what the importers have produced, so will negatively count as compensating for the trade imbalance. If the 15% tax were to be extended to all income above \$140,000, including investment income, that would surely be more beneficial for reducing the **SC** number by placing this high (15%) tax on mostly “exporters” with high incomes, which could benefit the entire economy—both exporters and importers.

**Method 4: Earned Income Tax Credit:** The **earned income tax credit** shifts US income taxes in the US from 31 million "importer/dissavers" to many other "exporter/savers" by reducing taxes on those with low income who are very likely to spend all of their income. The total value of such credit for 2022 was \$64B. So that the corrective value **SC** resulting from that is likely \$65B minus the marginal part of that additional tax that had to be collected from "importers. Many may view this as a burden produced by those who are under producing workers. However this essay show why it increases GDP since likely most of the \$65B of money credit will be spent by "importers" rather than saved.

**Method 5: Government spending by increasing public debt. Fiscal policy:** Government can obtain revenue by selling Treasury bonds mostly to "exporters" in the economy. The money is spent on government operations which creates economic demand nearly dollar for dollar that will compensate for **total internal trade imbalance**. This is a beneficial method because the revenue comes mostly from “exporters” looking to save their cash money as Treasury bonds. Unlike the “government tax” described in Method 1 above, this is a way of obtaining funds from “exporters” that allows them to feel like they are simultaneously keeping possession of their wealth as their ”savings” but saving in form of a Treasury Bond earning interest instead of holding cash.

**But doesn't this backfire later?** It might seem that such bonds, when “paid back” at the end of the term would reverse the benefit just cited—which if that ever happened would be a serious defect with this method. That seeming drawback has been mostly successfully avoided by making (nominal) Treasury debt always increase—so in effect the debt amount never goes down, because there are always new purchasers of such debt seeking for a place for their “savings” that is more than sufficient to “roll over” Treasury debt which reaches the end of its term. This is aided if inflation happens—which reduces the real value of already borrowed debt, and also increases the nominal value of new debt—making it easier to “roll over” previous debt. The nominal total value of US debt has **never** gone down since at least 1955, except for an extremely small amount in year 2000 so that using this beneficial Ponzi scheme in practice permanently transforms cash "savings" from exporters back as spendable public cash money. But the present total of debt being over 100% of today's GDP means it cannot ever realistically be paid back which makes it close to a Ponzi scheme. Past debt stored as treasury bonds gradually gets its real value crushed down by inflation, often more rapidly than it increases in nominal terms, although as said it virtually always goes up in nominal terms. However in this Ponzi procedure it is completely for public benefit, and where no one is ever likely to complain about not getting their money back--because the Fed can print redemption money--although there is no guarantee that those dollars will be worth as much as they were originally. Inflation is usually thought as a unequivocally “bad” economic event, but this shows one positive public benefit that it can provide to taxpayers

**But what about interest on public debt?** It is true that interest paid tends to go back to the “savers”, which would make this "Method 5" less effective. But even the interest paid has historically been attenuated by managing enough inflation in the economy to approximately match the interest, so it is borrowed at virtually zero real interest rate. This has been described by some as "financial repression."

**Is financial repression a good thing?** "Financial repression" has been the denigrating label that has been used to describe government policy to keep government bond real interest rates low. According to the website "Investopedia":

"The [financial repression] concept was first introduced in 1973 by Stanford economists Edward S. Shaw and Ronald I. McKinnon to disparage government policies that suppressed economic growth in emerging markets.....A government steals growth from the economy with subtle tools like zero interest rates and inflationary policies to knock down its own debts."

However the analysis in this essay shows how this so called “repression” benefits an economy by reducing interest rates on government debt. It takes no difficult economic analysis to see that such policy reduces the flow of money from Treasury bond interest paid by less wealthy taxpayers to the more wealthy individuals who can afford to buy Treasury bonds. Contrary to claims that it “steals growth,” if such interest savings are used to reduce taxes mainly to “importers” it allows them to increase their after tax income, without reducing government expenditures, resulting in increased GDP. Here is a graph showing nominal public debt in the US since 1965. It shows that this method has soaked up over \$25T of past cash savings since 1965 that has been converted by savers to non transactional Treasury debt, never to be paid back partly by help of beneficial inflation. Method 6 is an identical process for which private debt has

the same ability to reduce internal imbalance (graph figure 3)  
<https://fred.stlouisfed.org/series/GFDEBTN>

**Why perpetual bonds are useful:** An historical example from the UK that avoided the “backfire” of having to pay debt back were perpetual bonds, called “Consols” that never needed to be paid back. In some instances, after issue the interest was reduced.

**Method 6: Private Financial markets historically developed that allowed “exporters” to lend money to “importers” through credit, such as “loanable funds market.” This would move economy to better trade balance.** Exporters likely have extra saved money. Importers lack it. So it is useful, and not surprising to see how a market for credit naturally gets created caused by a domestic trade imbalance—with exporters having money they want to loan to importers for interest. This is very similar to Method 5 that described how public debt is a means of converting “cash” to a form of credit, called a Treasury bond. Similarly, financial markets, such as banks and bonds is a private debt version that developed so that exporters can save their cash money with a bank savings account, or purchasing a corporate bond which will then be loaned to others becoming a saved asset to the exporter. The logic is the same as for public Treasury bonds, except the money is used for private instead of the public spending

The general term “loanable funds” is a way to save money in a bank or bond by loaning it. One way to describe this is to describe it as increasing the velocity of money—since the same money can be lent repeatedly almost simultaneously going round and round to purchase different goods/services. As “money” is successively used, instead of using up cash, debt is piled higher and higher—in 2024 having reached an amazing \$100 trillion dollars since 1955. If such public or private lending were not possible, and all saved cash were literally “saved” in a lock box, exporters would eventually rather quickly scoop all cash into boxes, thus shutting down an economy with little cash left for spending.

This makes it possible to make far more spendable money available, and also to simultaneously save far more massive amounts of money than would be possible if holding cash money were the only method of saving.

Traditionally, before the 1930’s, saved money from “exporters” was assumed to be all, or almost all used only for investment purchase—meaning for something that would enhance productivity of goods/services. However a recent article by **Amir Sufi, Atif Mian and Ludwig Straub** has shown that very much of recent such loans have been to households to purchase needed consumption goods. They have called that spending “Indebted demand.” **The Saving Glut of the Rich** (working paper) and **"Indebted demand"** in **Quarterly Journal of Economics**, November 2021. That causes a short term boost in economic demand, but eventually reduced demand and GDP as the debt load gets higher on those who don’t have enough to save. They also explain that interest rates have decreased as wealth of the rich gained ever greater **supply** money available, and debt interest burden has gotten higher for borrowers, thus lowering money **demand**.

Historical total public and private debt since 1950 is demonstrated by the following graph from FRED that shows vast increase in growth of public and private debt—**“All sectors; Debt**

**securities and loans**” shows total public and private debt in the US from the 1950's to the present: In 1950 it had nominal value of \$389B but now is equal to \$99Trillion dollars, virtually for all recent time an always rising number. (graph figure 4).

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

It burdens taxpayers with interest expense which represents an income stream from those of low wealth to others of high wealth, however this interest burden gets gradually reduced by inflation. This immense total can be seen as a record of accumulated past savings that have been converted over seventy years' saving of cash into debt, never having been reduced, now fossilized into to a huge pile of bonds and other means of paper debt that represent in value nothing more tangible than a “promise” to pay money eventually. It represents over \$300,000 borrowed for payment of products/services delivered (on average) to every man, women and child since 1955 that is way too huge to actually ever be “paid back.

Just one recent book about the problem caused by such immense debt has been written by economists Amir Sufi and Atif Mian in 2014 entitled **House of Debt**.

Though there are a few people that believe that such disastrous debt must eventually be paid back—as long as enough inflation is built in to the economy, it will not be ever need to be paid back. And it has had tremendous benefit to the economy—\$100 Trillion worth of goods/services going back to 1955 have somehow been consumed by citizens that they did not have to pay anyone—except for the money that was needed to pay for interest on Treasury and private debt. The \$100 Trillion was likely paid for almost all by wealthy exporters.

**The flip side of the act of loaning is described by economist Richard Koo**—When events of economic austerity have been declared necessary by economic “experts,” high amounts of loanable funds have been paid back to the “exporters.” This reverses the loan process, resulting in what economist Richard Koo describes as a “**balance sheet recession**” which causes an economy to go into a downturn—having the opposite effect they had when they were generated.

**If interest rates are too high, loanable funds are likely to be in low demand, slowing an economy.** On the other side, if interest rates are too low and credit risk to lenders is high, money supply may be low, being held in a “liquidity trap” of saved money. This can cause wealthy people to hold their savings without loaning them, having the same effect as the Fed when it withdraws money to slow an economy. This quite likely happened as an important cause of the 1930's depression.

**Method 7: Increase GDP by increasing production of new goods/services targeted to exporters.** Create new jobs to produce new products/services to sell to “exporters” that can maintain GDP by moving money from “exporters” to “importers.” This is why economic “growth” is necessary for an economy. It is not because the economy has need for more stuff. Production of more stuff is necessary to provide jobs, and thus generate spending money for the redundant workers so they can continue to purchase what they were spending before, plus the new output they are producing with their new jobs.

**Method 8: Persons default on credit debt:** Default on debt amount of **\$D** will decrease imbalance by the amount **\$D**. However, if the creditor is judged “too big to fail,” the Fed may decide to print money for the default amount for the creditor. This will improve the monetary wealth of the creditor by **\$D**. The amount of “credit” will be converted to “cash” which will increase the money supply by the amount of the default.

**Method 9: Agents can give gifts of products/services to others:** For example several agents can combine into one family to act as one agent. One family member earning sufficient money can distribute goods/services to support others in the family. Charities funded by people who earn enough income can provide necessary products/services to others who can not afford to pay.

## **Section 6: Some Economic policy implications:**

1. High “Domestic trade imbalance” has been defined, which forces poorer income distribution and lower GDP. Rather than increasing GDP being the main objective, now with highly productive economies, a more important economic objective is good distribution of goods/services, which can increase GDP to a more broadly diverse group of income recipients.
2. This essay does not claim incomes should be more equal. It does claim that the \$difference between agents’ incomes and their spending should be reduced.
3. Taxes should be placed most heavily on those agents classed as “exporters” to improve domestic trade balance.
4. Minimum wages should be established in an economy to reduce income imbalance to obtain better domestic trade balance and distribution of all produced goods/services
5. Income very high compared with median will usually increase domestic economic imbalance, and should be discouraged by high progressive income taxes. The US economic history in the 1950’s strongly suggests that this does not weaken an economy.
6. Tax on wealth is said to be difficult to enforce. A difficult to evade method can be constructed by building deliberate inflation into an economy. Reduce impact to those with low wealth/income by a fixed, constant guaranteed annual income for everyone. Pay with progressive tax on “exporters” who are wealthy.