The Restructuring of the American Economy

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The American economy is going to change more over the next five years than it has over the last fifty years. As with any drastic change, there will be big winners and big losers—that's what a restructuring looks like. The purpose of this paper is simply to act as a guide to make you the most amount of money possible with your time (not necessarily your money[1])—to share the most important changes to the global economy, specifically the American economy.

Driver of the Change – Money, The End of the Dollar Reserve System

We're at the end of a long-term debt cycle, the transition phase where a new reserve currency and a new world order is established. There're plenty of stats online to try to confuse you about why the world order is changing, but it's largely because of two simple reasons: 1) almost the entire world is in poor financial condition; and 2) the current world order does not closely represent current world power, where power is measured by economic output. When a system is both insolvent and misrepresentational of reality[2], society coordinates to change it. It's been the same story every time, from the fall of the Roman Empire[3] to the fall of the British pound, the last world reserve currency before the dollar.

Poor Financial Condition

The world is in poor financial condition because it has a lot of debt without enough income (or income growth) to service that debt.[4] There are two solutions to unserviceable debt: either default on your debt or devalue your debt, with latter done via money printing. Defaulting on debt is incredibly painful, and people always prefer the path of least pain. Thus, any country that can print their way out of a default will. The countries with the best ability to print themselves out of defaults are the world reserve currencies, as those countries can dilute foreign or hostile holders of their currency, directing the newly printed money only to their own corporations and allies.[5] Family and friends of reserve currencies avoid painful defaults at the

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[1] For that paper, see here. If you can find something that's going to outperform Ether (on a risk-adjusted basis) over the next five years, please reach out to me.

[2] The global economy is highly distorted both internationally and domestically, where international distortion is represented by an overallocation of wealth to the West, specifically the US, and domestic distortion is represented by intra-country wealth gaps.

[3] The Roman Empire's balance sheet, up until its collapse, looks scarily identical to the US's: https://twitter.com/drew_macmartin/status/1418927575825534976.

[4] Global debt to GDP levels are at all-time-highs, substantially higher than the 1940s, the previous all-time high. Covid rendered this problem even worse; debt skyrocketed while GDP in most Western countries went negative. Some countries are in better shape than others because of population growth, technological growth, or a combination of both—these countries tend to be in Asia.

[5] Only world reserve currencies are held by enough neutral or hostile parties for the dilution to be meaningful enough that inflation doesn't run rampant (i.e. if the currency were only held by locals, inflation would directly match the amount of money printed).

expense of outsiders, who fall economically behind due to their competitors' earlier and cheaper access to capital.

That's how the US, as the world's largest reserve currency, is and will continue to try to get out of its terrible financial condition today, just as it has in the past.[6] However, the US does not hold the internationally dominant (and growing) economy that it did in the past, when the last world order was established.[7]

Misrepresentation of Power

Today, the dominant and fastest growing economies are on the opposite side of the world. Asia now has a larger economy than the Americas and Europe combined, with a significantly higher projected growth rate for the next decade. Despite the dollar being 60% of global currency, 74% of all countries now trade with China more than the US.[8]

The US's misrepresentation in the current monetary system is so obvious that it's almost disconcerting: the US economy accounts for 15% of the world's GDP, but US equities account for 56% of the world's equity value; the US economy accounts for 18% of the world's trade, but the dollar accounts for 60% of the world's currency holdings. If fundamentals were to align with prices, our trade and output would either need to increase by about 3.3 times or the real value of American sovereign assets would need to fall by about 70%. Fundamentals always align with prices on a long enough timescale.

The Transition Phase

The world has significantly over-allocated to the United States because of the network effects of reserve currencies, which are incredibly strong due to the number of parties (the entire world population) that you need to coordinate around the global monetary system. The current global monetary system was formally established on August 13, 1971, when President Nixon took the US off the gold standard, with the dollar already acting as the world's reserve currency (due to the Bretton Woods Agreement of 1944). Since 1971, acting as a free-floating (meaning unpegged) world reserve currency has turned all American sovereign assets into a global safe haven: investors globally have known that American asset holders will be bailed out first in any negative event, be it a housing crisis or a global pandemic. Negative events have become increasingly likely over the last 50 years, due to the global economy's fifty-year-long, simultaneous increase in leverage (global debt to GDP ratio) and increase in connectivity (globalization).[9] As the probability of global economic shocks has increased, so has the premium

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[6] The last time the world faced similar insolvency and inequality levels to today's was the Great Depression (today, debt to GDP levels and internal wealth gaps are significantly higher than the 1940s). The US got out of the Great Depression through mass government spending and a corresponding devaluation of the dollar, as did most other countries. However, the US was an economic superpower in the 1940s, accounting for more than 40% of the world's GDP and trade.

[7] The Bretton Woods Agreement of 1944 was the formal end of the Great Depression (and, to an extent, World War II). It was the resolution to a new world order and corresponding monetary system and corresponding world, one that was fit to oversee the world after the war. At Bretton Woods, the US was announced the world's sole empire.

[8] You can see a visual here: https://mobile.twitter.com/balajis/status/1416913771562344450.

[9] The simultaneous increase in leverage and connectivity (both at all-time highs) has created a significantly more fragile global economy. Fragile systems are much, much more likely to fail.

that global investors (including Americans) have been willing to pay for American assets.[10] Today, investors in American assets are paying 330% premiums for the security of owning assets that they know will be bailed out by the current monetary system.

However, because the US must devalue the dollar via inflation (due to its large, unserviceable debt burden), at the same time it's blatantly apparent to the world that the US is no longer the international power it once was (because of the US's lack of real economic activity), it is an incredibly easy opportunity for every other country to re-coordinate around a new system. And they are incredibly incentivized to do so: the dollar system puts their economies at a significant disadvantage to the American economy.[11] As a wise investor once said, "Show me the incentives and I'll show you the outcome."

The transition away from the dollar is already happening gradually: foreigners have already begun to decrease their relative positions in American assets, without any public coordination.[12] Soon, it will happen suddenly (as most paradigm shifts do). Once the global economy publicly coordinates that the American economy is not what its prices reflect, foreigners will mimetically sell off all US assets to their fair valuations—this is what's going to happen over the next five years.

Implications for the American Economy

The entire US economy will be hurt by a 70% real (not nominal) correction in the value of dollars and American equities. That means your income and net worth will have to increase by at least three times for you to have the same quality of life that you had before.[13] Our lives are supposed to get economically better with time, not worse, and so it will be very painful at first. The change has built up for 50 years.

However, the inability to rely on reserve currency status will force the American economy to become significantly more productive, if we wish to remain a globally relevant power (which I believe, albeit speculatively, is the case due to how we are drastically different from Europe in terms of our geography, culture and economy). A more productive American

[10] In any bad event, the United States could print itself out of individual, corporate and government debt defaults, without going through the restructurings that most economies went through to become more productive (i.e. the Asian markets). This is the financialization of the American economy: we printed to cover costs instead of produced to cover costs. As a result, since 1971, the United States has gone from a dominant international manufacturer of goods to the place where the world stores wealth because of network effects of money. As those network effects unwind (due to the fundamentals having shifted to a far enough extreme to warrant a change), the US economy must adapt.

[11] In times of both prosperity and hardship, friends and family of the US will have significantly lower costs of capital than foreign businesses, and thus friends and family of the US can grow more cheaply than outsiders' businesses, a significant advantage. Additionally, in times of crisis (which are the most painful), the dollar system forces an overwhelming reliance on the US—a significant key man risk that could destroy an entire country's economy. A restriction of the access to dollars means your entire country can default during a time of crisis. Thus, countries often have to go against their own interests to appease the US, in preparation for a time of crisis.

[12] Foreign holding of US debt has been flat since the end of 2019, despite our 33%+ increase in US debt. Link here: https://fred.stlouisfed.org/series/FDHBFIN.

[13] American governments and corporations will have significantly less capital to buy raw goods and to pay workers—that means lower real salaries and higher real costs of goods (i.e. stagflation).

economy is incredibly exciting given how many smart and ambitious people live and work here. That's how we became the world's reserve currency in the first place.[14]

A significantly more productive American economy is one devoted to high-technology (high-tech) manufacturing, as is the case for any leading economy in human history.[15] High-tech manufacturing is the only route to exporting significantly more goods and services than a country's population size would suggest it can create. It's inherent in the definition of high-tech: you're saving those you sell to so much time and money (because of how advanced your technology is to their own alternatives) that they are willing to pay you the world's highest margins for your products. Those margins then last for a substantial period of time due to the difficulty in replicating high-tech manufacturing processes (i.e. the inability for anyone to copy Taiwan Semiconductor Manufacturing Company's chipmaking precision, despite its founding thirty years ago—see the Appendix for more details on high-tech manufacturing processes).[16]

Everything is mimicked eventually—economies are efficient—but the more high-tech a product is, the more time and money it requires to mimic it, and so it can be exported globally at higher margins for a longer period of time. The ability for everything to be mimicked eventually is what drives continuous innovation in the global economy.

Discerning the Best High-Tech Industries and Companies

Despite how fast the world changes, people remain the same in most ways. Namely, we will always want more time to live and more energy to use. Time and energy are the two

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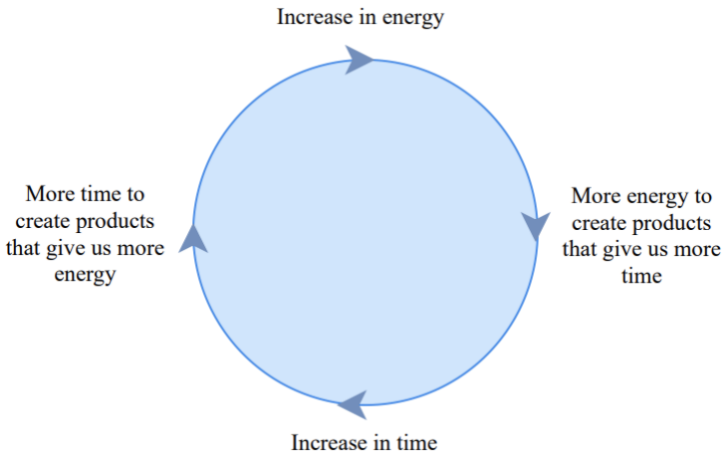
[14] The alternative to becoming significantly more productive is to increase population size. However, allowing hundreds of millions of immigrants (what we would need to do in order to match the world's overallocation towards us) is incredibly unlikely in the near-term. An example of an incredibly intelligent approach to growing America's population can be found in Radical Markets, although, again, this is very unlikely. If this paper were to focus on increasing America's population by four times, the paper would focus on real estate markets and which areas would be most likely to capture the greatest population growth.

[15] A technology is a product or tool (semantics) that provides unarguable efficiency improvements to all of its users; high-tech is the same but carries an implication of existing at the forefront, creating new products that no one can copy because they are so new and, as a result, require substantial learning and investment to copy. Thus, our previously innovative internet companies no longer fall under this definition, as they are easily replicable at this point (and are in fact being no-coded by other Americans!).

[16] Working in high-tech manufacturing, at both small and large companies, will be most Americans' best chance (everything's probabilistic) to see an increase in wealth that renders their lives economically better tomorrow than it is today. You're not going to 3.5x your current economic standing without pursuing an opportunity that you may think is risky today but, in reality, is a necessity for our economy. We need to make more things that allow us to live more efficiently, and to sell those things around the world with margins that we can reinvest into our economy (to create even more productive goods), forcing them to either hold our currency or to sell their currency for ours via automated market makers (equivalent of real-time forex markets), increasing the value of our currency in real terms in either possibility. While we currently have the best technology sector—and consequently our economic output of 15% is 3x our population size of 5% of the world's—15% is about 3.5x away from where we need to be for current real valuations of American stocks and bonds to make any sense.

substrates of every other aspect of life.[17] One might think that increasing our time is more valuable than increasing our energy[18], but that is not necessarily the case: increases in energy and time create a flywheel—an increase in one leads to an increase in the other—and so the market sizes of the two will likely fluctuate cyclically, as most things do.



Thus, the order below is not based on what I think are the largest industries (to determine that requires market analysis beyond the scope of this paper). I can, however, quite confidently state that the categories below will be the ones where your time is rewarded the most financially in the restructured American economy[19]:

- Time-increasing products (wellness)
    - Medicine (Moderna, Pfizer, Regeneron)
    - Foods & Beverages (Impossible Foods, Just Eggs, Plenty)
- Energy-increasing products (sustainability)
    - Transportation (Tesla, Boom, Cruise)
    - Materials (Quantumscape, Modern Meadow, Danimer Scientific)

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[17] An increase of time gives us more experiences, old and new; an increase of energy decreases the costs of our old experiences and creates new experiences. Because humans are driven by stories (and the corresponding status games that come with stories), and stories are driven by experiences, experience rules all else. Thus, time and energy rule all else, because without them experience doesn't exist.

[18] While old experiences are often just as enjoyable as new ones, they are also much more easily mimicable (low-tech), due to that, as time increases, so does economic efficiency. The best example of this is the restaurant business, the most competitive business in the world arguably because eating has been the longest lasting human transaction. New experiences are significantly less mimicable, and so the businesses that create them can enjoy much higher margins. However, all new experiences are iterations on old experiences, as people really haven't changed that much for the last 10,000 years. Examples of new experiences we didn't imagine are the types of road trips we go on now versus Louis and Clarke's time (which will further change with the advent of self-driving cars), or creating healthful, sustainable proteins that allow us to eat more great-tasting foods without the negative health effects (i.e. the current vegan burger copycats, although while not currently healthy, will continue to iterate and continuously create healthier, better tasting versions of their products).

[19] There is a distinction between time-increasing and time-saving products because the two are fundamentally different: one (wellness) gives us more seconds on Earth, whereas the other (productivity) allows us to work more efficiently; energy-saving and energy-increasing products don't share the same discrepancy, as energy is energy—a fungible good (not all time is fungible, i.e. work time and leisure time are very different).

- Time-saving products (productivity)
    - Robotics—physical (Relativity Space, Anduril, Boston Robotics)
    - Robotics—digital (OpenAI, Deepmind, Bubble)

Many of these companies fall under both—the more they fall under, the better, as it signals that what they are doing is at a further edge of innovation.[20]

The best way to decipher the most innovative businesses is to quantify how much energy or time they save.[21] People expend energy and time in the economy to create goods and services, and so quantifying the current pay of the jobs that will be disrupted can also be helpful.[22] In the transition to a high-tech economy, there will be a lot of disruption, meaning a lot of job changing—that's what a restructuring looks like. Don't feel bad for leading the disruption. Because we all pay taxes to the same insurance pool, you're helping everyone by creating the most amount of wealth for all Americans—that's the beauty of a democratic capitalistic society.

The Downside of a Restructured America

There will be two types of relative losers in the American restructured economy[23]: those that lose because the dollar is no longer the reserve (monetary driven), and those that lose because a high-tech business disrupted their current business (technology driven):

- The losers of the end of the dollar system are the businesses who have been responsible for allocating dollars in our current system, namely the American financial services and management consulting industries.[24]

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[20] For example, Relativity Space is a novel transportation (space exploration) and robotics (they 3D print 95% of their rockets' parts, constructing them in under 60 days) company. Tesla is a novel transportation (sustainable energy) and robotics (autonomous driving) company. Impossible Foods is a novel wellness (healthier foods) and materials (new sources of proteins) company.

[21] For example, Amazon saves it users, on average, 75 hours per year compared to shopping in person. That's 3 days, or about ~1%, of your life that you just got back. Think about how many runs to the library Google has saved.

[22] This is what people mean when they say technology replaces old jobs with better, new jobs (although the word 'better' is subjective, as change is work that not everyone is willing to make it). Moderna should render surgery obsolete on a long enough timescale. Impossible Foods should make cattle farmers obsolete. Tesla should make oil drillers and Uber drivers (via its robotics overlap) obsolete. The list goes on. The education to retrain workers quickly will be provided by innovative school models (such as Lambda school), as no democratic government can keep up with the innovation in the private markets (why the US's 'wait and see' regulatory approach is so smart).

[23] The best our restructured economy can do is close the asset valuation differential as much as possible, which will be difficult considering we are downward trending in high-tech production and that inertia (second law of thermodynamics) is a fundamental law of everything. However, because people primarily judge their well-being by comparing themselves to their neighbors, even if we are worse off compared to the world, it won't feel that bad. Instead, there will be a domestic status game, where those that can close the gap the most (by creating the products we can export globally) will be significantly better off domestically, despite perhaps being worse off globally.

[24] The world allocated too much wealth to American institutions, both banks and corporations (that's why everything is 3.3x overvalued). Investors didn't know where to put the overallocated wealth, and so they hired bankers; operators didn't know where to put the overallocated wealth, and so they hired management consultants. As the world ends it overallocation to the US, US investors and operators will no longer have significant amounts of excess capital lying around—everything will be put to use (as should be in an efficient economy). Historically, it is a

- The losers of technological change are those who failed to see how high-tech could disrupt them, which could happen to just about any business that isn't paying attention, given the degree of change that is happening.

The only industry that I know of that is being disrupted by both technological and monetary forces is the American financial services sector. Decentralized finance on Ethereum (technology disruption) completely upends the financial services industry, just as the internet completely upended the journalism industry. At the same time, foreign and domestic holdings at American financial institutions will decrease significantly for the foreseeable future (monetary disruption), as the market finds the fair valuation of American assets. Thus, the biggest losers in the restructured American economy are, unironically (everything's a cycle), the same businesses that benefitted the most from the Nixon Shock of 1971.

In Conclusion

The American economy is undergoing a fifty-year restructuring over five years (~2021-2025). It has already begun: foreigners are no longer buying our newly issued debt (the end of a fifty-year trend) and some have already begun to sell it[25], as they gradually and then suddenly come to agree that the current monetary system is no longer fit to oversee the global economy. In response to the end of a reliance on money printing, the restructuring of the American economy is necessary to increase US output to a level closer to US asset valuations. In the new world economy, American asset valuations that will no longer be able to rely on the dollar's world reserve currency status.

To ensure the least painful transition possible, the US government must start incentivizing the restructured American economy as quickly and efficiently as possible, via spending on both high-tech products[26] and the infrastructure[27] needed to make more high-tech products. The more we print and allocate to the new economy before the world moves off the dollar, the less the dollar will be devalued over the long run (sorry world, but it's a competition). While there might be a significant amount of short-term pain (as is the case with any restructuring), over the long-term all Americans will experience all the benefits of a more productive global and American economy. We'll live significantly longer, healthier, and happier lives, with more of the old experiences we love and more of the new experiences we can't yet imagine. That's what it's all for anyway, right?

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terrible sign for a reserve currency when its financial sector is larger than its manufacturing sector, as is the case now in the US (by a wide margin).

[25] Japan, one of our historically most prominent buyers, is already diversifying away; Russia, the fifth or sixth largest economy in the world (depending on your metric), is already a net seller. Link here.

[26] Moderna, Relativity Space, Anduril, Tesla, etc. have all received government funding or incentive programs.

[27] See the most recent infrastructure bill, although we should err on the side going bigger, not smaller. The bigger our head start in the new economy, the better. Education also falls under infrastructure and is likely its most important subsector.

Appendix: How America Becomes High-Tech, Investment of Dollars and Time

Because an emphasis on high-tech manufacturing is what America needs to remain competitive, the best investments (intellectually and financially) into sovereign American financial assets (equities and debt) will be into high-tech manufacturing businesses. That's supposed to be the purpose of a capitalistic economy: to increase economic output as much as possible, something we unfortunately stopped doing once the world let us get lazy. High-tech companies are fairly easy to discern: not only do they create new products, but they also create new manufacturing processes to scale the production of those products, manufacturing processes that are extremely novel and consequently extremely difficult to replicate. Their manufacturing processes almost always allow for the creation of even more novel, also significantly demanded products, designed either internally or externally (although external parties will pay a fee for using the manufacturing process).

The best reference for a (previously) high-tech internet company's product and manufacturing process is Amazon and Amazon Web Services (AWS). While Amazon and AWS have transitioned out of high-tech already (largely due to the increased speed of innovation in the digital world over the physical)[28], the processes to create the next batch of high-tech companies in the physical world will be much more defensible. The processes to optimally create re-usable rockets (i.e. Relativity Space), self-driving and sustainable cars (i.e. Tesla), and cures for awful diseases (i.e. Moderna) is much more capitally and knowledge intensive than managing a bunch of warehouses filled with servers (i.e. Amazon and AWS). Thus, America's new high-tech businesses at scale should be significantly more defensible than Amazon, and Amazon was still defensible for twenty years.

You won't need to work for any of the companies mentioned above. There will hopefully be millions[29] of American businesses that service the best high-tech industries, from those who mine or source raw materials (i.e. MP Materials' rare earth mine) to those who master certain services needed to allow high-tech products to optimally grow (i.e. Coinbase's security system enabling the public blockchain sector to grow).[30] The most important thing you can do is learn quickly, so you can identify which specific high-tech businesses and manufacturing processes are worth your time.

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[28] The digital world is much, much easier to build in than the physical world. Consequently, a technology has already come that will disrupt all digital middlemen (link here), and so Amazon and AWS are now easily mimicable, although Amazon holds other businesses that might still be considered relatively high-tech (i.e. Alexa robotics).

[29] The advent of decentralized autonomous organizations (DAOs), corporations launched incredibly cheaply on Ethereum, will drastically increase the number of firms in the economy, due to lowering the barrier to entry to form a corporation.

[30] High-tech companies are inherently driving forward new markets; these markets will need massive support at every level (i.e. science to create better materials to go into 3d printers, to better package vaccine proteins, to better store energy, etc.). It may be more economical to start a smaller business than to work for one of the large ones—it will depend on your expertise in the industry and your ability to learn quickly. In general, intelligence wins, because intelligence learns more quickly and thus can become an expert more quickly. Timing is also very important—the earlier you enter the correct market, the better your chance at winning.