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[00:00:00] **Lyn Alden:** Money is a ledger that people use and that could be a ledger that relies on nature like gold. It could be a ledger that relies on shared society, like basically central banking. So money's just the circulation mechanism. How we price things and how we store liquid value. When it is broken, it makes things way less efficient and it makes us more likely to do things that are mal-investment as we're trying to arbitrarily store value with different levels of sophistication based on what we know to try to protect ourselves from that the government can kind of push at scale on something and say, Hey, we wanna build this new capital, by the way, we're gonna devalue all of your wages to do it.

[00:00:38] Everyone's trying to scramble to kind of get their share back up to how it used to be.

[00:00:47] **Nate Hagens:** Today I'm pleased to welcome back to the podcast investor and bestselling author Lyn Alden, to provide an update on the monetary situation of the United States and the world. Lyn is an independent analyst and founder of Lyn Alden Investment Strategy. She also serves as an independent director on the board of swan.com, and as a general partner at the venture capital firm, ego Death Capital.

[00:01:13] Lyn is the author of the 2023 bestselling book, broken Money about the past, present, and Future of Money through the Lens of Technology. In this episode, Lyn and I explore a broad range of topics including fiscal dominance, the historical context of economic downturns, the role of energy in shaping financial systems, the significance of cryptocurrencies, and ultimately the importance of understanding these dynamics to navigate future economic challenges and better prepare for the future.

[00:01:47] I invited Lyn back because she is so articulate and uniquely high signal to noise on explaining the relevant aspects of the centrality of money to our lives and futures. Yes, energy and ecosystems are critically important, but money is currently steering the train. Before we begin, if you enjoy this podcast, one of the biggest ways you can support us is by subscribing to it on your favorite platform and sharing this episode with someone who might also learn from it and enjoy it.

[00:02:21] We believe in making this content free and accessible to as many people as possible, and appreciate your support With that, please welcome Lyn Alden. Lyn Alden, welcome back to the show. Thanks for having me back. Happy to be here. I don't often re-invite finance experts, to the show. I mean, we are taking a wide boundary view of the human predicament.

[00:02:46] I know that finance is, an important layer that is a leveraged risk on top of the rest of society. But the reason I invite you back, you're one of the few newsletter, subscriptions I have that explains what's going on because you are also, very good at explaining complex, waterworks of financial machinery to lay people.

[00:03:11] And you understand the importance of energy to our economies. And though I don't know you well, I think you are, a deeply pro-social person that cares beyond yourself, about the greater good, even though your focus is on money. So,

[00:03:27] **Lyn Alden:** welcome back. Thank you for having me, and I appreciate that. And my initial background is engineering.

[00:03:32] And so even when I look at finance, I'm always kind of doing so through a system engineering lens. And I think that comes out, in multiple ways. And it's The, the curve ball that I throw. So I'm not sure I have the record of being a finance person that comes back. Maybe the engineer in me is, the one coming back.

[00:03:48] That makes

[00:03:49] **Nate Hagens:** sense. Okay. So, this conversation could go lots of different ways because there are lots things happening in the finance and energy, world. But let's start with this. A phrase that you have said a lot, in fact, so often that it's starting to be attributed to you is nothing stops this train.

[00:04:12] So let's start there. if you could simplify and explain what, is the train and why is there

[00:04:18] **Lyn Alden:** no stopping it? Sure. So the train is US fiscal deficits and the quote comes from the show Breaking Bad. Oh. and, later in the show basically, for those, I don't wanna spoil it too much, it's an older show now though.

[00:04:31] But, basically Walter White, the, main character, he has cancer. So he gets into, he uses his chemistry teaching background to. You know, do nefarious things, and earn money that way. and eventually he cures the cancer, but he can't stop. he's too invested in what he's doing, the power that it gives him and all that.

[00:04:53] and so his, things start to get heated and his colleagues say, you know, we should lay low. We should pause for a bit. We should, turn things down. And he says, no, nothing stops his train. and basically he wants to stick. full go, keep accelerating, no slowing down. And so I often use that, that funny moment.

[00:05:13] It's a really kind of like cinematic moment where he says that he's, like putting on his hat. And it's a whole scene and I often use that to refer to us fiscal deficits, which is to say, there's a lot of talk about how to reduce the deficits. if their current size is too big, what are the impacts?

[00:05:29] Who are the winners and losers from them? and and when I was on your show last time, we talked partially about fiscal dominance. So the idea that, that, fiscal policy is a lot more powerful right now, on the economy and capital markets than, monetary policy is, and the nothing stops his trained, view is basically.

[00:05:50] The somewhat more cinematically phrased version of that, which is that we're in fiscal dominance. That fiscal dominance is continuing, and that there are very, few narrow ways to get out of fiscal dominance in any sort of, investing time horizon. So five to 10 year periods, that we are basically stuck, more or less in fiscal dominance is what that means.

[00:06:12] **Nate Hagens:** So as a, a refresher, just. Briefly unpack fiscal dominance. What, sort of tools, are in that and what does it imply?

[00:06:22] **Lyn Alden:** So fiscal dominance happens, generally speaking, once a country gets over like a hundred percent, public debt to GDP or sovereign debt to GDP, and especially when combined with some sort of.

[00:06:33] Demographics or other things that give them structural physical deficits. And the reason that the debt load matters is because, any sort of meaningful interest expense on the debt further blows out their physical deficit and makes that rather, unsustainable. and so when you have lower public debt to GP, and Central Bank says, Hey, look, there's inflation, they will try to raise interest rates, and they'll slow down bank lending most of the time, and they will generally contribute to, higher fiscal deficits because the interest expense will go up on them as well.

[00:07:07] but generally speaking, because they have low debt to GDP, the breaks that they're putting on the private sector are bigger than any sort of inflationary breaks or acceleration they're putting on the public sector. The problem is when you get over a hundred percent or 120% debt to GDP, when the central bank raises rates, they actually blow out the fiscal deficit bigger than the reduction they do for bank lending.

[00:07:32] So they don't really slow down the amount of total credit in the system anymore. And if it gets bad enough, they could potentially accelerate total credit while trying to slow it down. It's just, a different type of credit. another way to put it is if you add up all net new bank loans in a given year, and then you add all net new corporate bond issuance in a given year, and you just look at that kind of private sector debt level, you could also add, private credit, but that's more opaque.

[00:07:58] But it, it's general small compared to those other two. But if you add all that together, the US fiscal deficit. It's about that size or larger. and whereas for most of the past 70 years, outside of kind of brief recessionary periods, private sector credit creation was bigger than public sector. but in fiscal dominance, public sector's bigger, and so it's a different type of regime for where money's coming from, where the net kind of credit formation's happening.

[00:08:28] **Nate Hagens:** So. When we think about debt, the way that I think about debt, is money in our bank, in your pocket, in your wallet, and, you know where people have it. It's a claim on energy and materials when we spend it largely. And therefore, debt is a claim on future energy and materials. So when we add up all the debt, there's, the US government has a large chunk of debt, which you were just referring to.

[00:08:56] Then there's also, corporate and, municipal and individual household debt. And what you're saying is the government debt now, like 37, 30 8 trillion, something like that, is a approaching the size of all the, non-government debt. Is that, a fair statement?

[00:09:18] **Lyn Alden:** that's fair. But more specifically, I was referring to how much new is created per year.

[00:09:22] So the flow of existing, like basically the public sector debt is more added in a given year, or roughly equal or more than the whole private sector adds.

[00:09:31] **Nate Hagens:** One of the things I want to talk to you about is the distinction, between, Keynesianism, MMT and some other monetary systems. But MMT, modern monetary theory correctly points out that most of our money historically comes into existence from commercial banks making loans.

[00:09:54] It used to be 30 or 40 years ago that 95% of our money came into existence that way. But what's happening as we run, as we spend more, because we need to, prop up social systems in the military and everything else. That amount isn't enough. So the government has to make up for the difference and borrows more, borrows money into existence.

[00:10:19] And so what you're saying now is every year it's no longer 95% from commercial banks. It's more like 50 50.

[00:10:27] **Lyn Alden:** yes, it's a very big chunk. and this was the case back in, say, the thirties and forties, the 1930s and forties. that was the last time the US was in fiscal dominance. and most of the, western, you know, the most of the developed world was in it.

[00:10:40] and then since then, we've been primarily in monetary dominance, which your point, basically most, broad money is being created by fraction reserve banking. you know, making loans, and supported by the Central Bank. You know, they will increase the base layer and provide liquidity whenever there's sort of a contraction in that process.

[00:10:57] But generally speaking, they're, kind of, operating through the commercial banks. and then ever really since the global financial crisis, and then especially ever since, COVID, that kind of one two punch, it looked a lot like the 1930s and forties again. So the whole 2010s period, had a lot of similarities to the 1930s in terms of what was happening on our financial plumbing system, kind of that shift from private sector debt to, public sector debt and deficits.

[00:11:23] and then, much like how World War II kind of, really accelerated a lot of what was happening during the Great Depression. the pandemic and the lockdowns and the stimulus really accelerated kind of the malaise that was already, and, the rotation that was already happening. throughout the 2010s.

[00:11:40] **Nate Hagens:** I'm excited about this conversation 'cause we're friends now, and I don't have to, like, the, first interview that you were on, that was the very first time we had ever spoken. I'm just gonna ask you whatever comes to my mind and Sure. And just go, what caused the Great Depression and how is our similar, our situation today, similar to the late 1920s from all the things you were just referring to.

[00:12:03] **Lyn Alden:** So there's a lot of factors that caused the Great Depression. There were people that disagree. one of the things I point out a lot, and I pointed this out in broken money in my book, and this is the, angle that I don't see discussed very often is that from roughly the, like the second half of the 18 hundreds, and then going into the early 19 hundreds, humans invented telecommunication systems and then they spread them across the Atlantic, across, you know, Europe and the United States.

[00:12:29] and we started transacting in IOUs, very quickly around the world. and they were IOUs for gold, and gold barely ever moved anymore. and when that happens, the entities in question that are doing the transaction, they become very reliant on the big centralized ledgers that are operating the system.

[00:12:49] these were kind of monopoly powers, the banking system, the tel, the telco system, the governments that, operate both. this was a very centralized set of ledgers and technology and. One of my favorite books from the era was, Jevons, the same jevons of the Paradox, but he did a whole study on money, called Money and the Mechanism of Exchange.

[00:13:08] He was talking about details of coinage and details of banking, and he was pointing out that basically every friction in finance was being solved by another layer of centralization. So if I wanna send money to you, it's really easy. If we both have an account at the same bank, we can say, debit me and credit you.

[00:13:25] you know, that's been going on since, you know, bankers in Venice and before. and then of course, if, we have a third friend who has a different bank and one of us wants to send money to them, you know, it's nice if our banks talk to each other as well and have a mechanism in place to send money.

[00:13:39] And if there's enough banks doing that, then it really makes sense for 'em to tie into a central bank and say, well, you know, if I wanna send money to someone else, I tell the bank, they tell the central bank. It just kind of debits accounts appears elsewhere. And then the fourth and final layers, if you have international entities.

[00:13:54] Their central banks wanna tie into some big financial hub. In, 11th day it was London, now it's more, New York. And what he pointed out was that the, you have like a four layer stack of centralization, and it's hyper efficient. He's like metal, barely ever has to move. This is all just kind of claims going everywhere.

[00:14:13] And even pointed out, it'd be absurd if you had two streams of gold just flowing across the Atlantic at all times. He's like, we just, we obviously just net the difference. And he is like, so on one hand it's great, it's super efficient. On the other hand, he is like, this is currently levered 20 to one. and, so he's like, I don't want people to forget that all these claims are claimed for gold.

[00:14:33] and if 5% of the people go to the bank and said like, my gold, the system's not gonna have it. So now the

[00:14:39] **Nate Hagens:** parallel is not, are only, are these massive US and global claim financial claims. On gold or something physical, but also on energy and materials, which, yeah, which wasn't quite a constraint back 80 years ago.

[00:14:54] **Lyn Alden:** Yeah, less so. and you know, to finish your earlier question of, great depression, so we had this kind of multi-decade buildup of credit. Basically it was, a new technological age. There's lots of new inventions. just new all the communication systems of the world coming together. And allowing people to talk in, real time almost.

[00:15:14] and that of course, blew up in World War I, it never really recovered fully between the wars. There were attempts to put the, Pandora's Bach back together or kind of put the genie back in the, you know, whatever, description you wanna use. But they never, it, they kind of cobbled it together, weekly.

[00:15:32] And then of course, the problem was you had all these crazy imbalances. There was capital flowing from like one continent to another. You had kind of gold pegs that didn't really make sense anymore. Like you try to eg at the prior war amount, even though you doubled the money supply, for example. so the UK was having issues like that.

[00:15:49] You cause these really big credit bubbles to form, through multiple reasons. not just, there's never just one reason. But this was the technological and credit backdrop of the whole thing. And so going into the Great Depression, like in 1929 in the us, the number of broad claims and total.

[00:16:09] instruments per like, the amount of claims per dollar was extremely high and banks had very little, kind of cash as a percentage of, their total assets. They were very much levered. There were even people borrowing money to, to buy stocks at scale. For kind of the, first time at such large amounts.

[00:16:28] and so eventually that, all really imploded. It's kind of, you can keep building credit and every time there's a bump in the road, you can cut interest rates. but generally speaking, and, this is something that, that Radi and his firm have done a lot of research on the long-term debt cycle.

[00:16:43] When you build up a massive amount and you cut in rates all the way to zero, and even that's not enough to reinflate the next cycle. That's when you enter something more dramatic. And the two times the US reached, that was the Great Depression and then the global financial crisis. and that's why I often use those in parallel.

[00:17:01] **Nate Hagens:** But the global financial crisis was kind of like World War I on your timeline. It wasn't really healed, it was just the can was kicked again.

[00:17:09] **Lyn Alden:** Yeah. But I would kind of say the same thing happened throughout the thirties, which is they never really got the system back together throughout the 1930s. Kinda like how in the 2010s they never really got the system back together.

[00:17:20] And then World War II hit, so the, prior periods don't really correlate perfectly if you were to correlate them. the.com bubble had some similarities to the Roaring twenties, for example, or even the housing bubble of the, two thousands decade had some similarities to the, Roaring twenties.

[00:17:39] but we didn't really have that one, two punch of a giant global war, fortunately. But what the global financial crisis and the Great Depression had in common is they were the peak in the private sector debt bubble. and then throughout the, decade after that, you had this kind of gradual rotation of debt from the private sector more to the public sector.

[00:17:57] And then what you had in common from the 1940s and the 2020s was then you ran hot, you ran way bigger deficits, you kind of burned off some of that debt at the sovereign level, and continued that rotation from private sector to public sector, and also had a little bit more of a top down command economy to some extent.

[00:18:17] **Nate Hagens:** Okay. So I have a lot of follow up questions here. Let me take 'em one at a time. We were levered, you said something like 20 to one going into the Great Depression. what is the corollary to that now, give or take?

[00:18:29] **Lyn Alden:** so going into the great, recession, the global financial crisis, if you look at, total debt in the US system compared to base dollars, it was around 50 to one or 60 to one.

[00:18:40] right, right at kind of the prior moment. now because they expanded the base so much, they shrunk that, now it's something closer to 20 to one, which is still significant. and so that's where you can kind of look at, depends on what you want to count, but basically any contractual IOU for a dollar, either on demand or by a specified time is the calculation that I use.

[00:19:06] So that includes, any sort of bank deposits. They're like, most of them are either demand deposits or, time deposits. Majority demand, any sort of bond instrument that owes you certain dollars by a certain time period. these are all basically fair claims for dollars. And then the only thing that really counts as a base dollar is a direct liability of the central bank in the current system.

[00:19:30] And so the main two components of that are physical currency, and bank reserves. so we're, levered about 20 to one by that metric.

[00:19:38] **Nate Hagens:** So the last I looked, which was many years ago, there was about 1800 or $2,000 of actual dollars physical bills for every American citizen. is that kind of what you're talking about when you say, the 20 to one leverage?

[00:20:00] **Lyn Alden:** So that'd be about half of the base dollars. Okay. So the other half would be bank reserves, which is, owned, by banks. Okay. So when the bank has a deposit at the Central Bank, that's a bank reserve and, you know, they can transfer 'em to other banks. and to some extent they're fungible with physical dollars.

[00:20:17] And then the part that the retail public uses, the, direct currency, the physical currency, the, funny thing about the physical currency is a really big chunk of it is outside the us. Especially larger denomination bills. so I don't have the calculation on hand, but it is a fairly small amount.

[00:20:32] like you said, it's, you know, a handful of thousands, per American. Sounds about right.

[00:20:37] **Nate Hagens:** let's go into, Keynesianism, and MMT, et cetera. can, you maybe, Explain Austrian monetary theory, Keynesian, and contrast that to MMT and where are we now in a brief overview, and then I have a follow up to that.

[00:20:57] **Lyn Alden:** Sure. So I mean, that, that could be a whole podcast. I'll try to summarize what is, itself basically a book? So, Austrian economics is primarily kind of a bottom up analysis. it's, based more on individual decision making, individual, marginal analysis. you know, how basically decisions are made, you know, kinda like a, hive of things end up happening because of a series of individual, decisions.

[00:21:22] People have desires, they have needs. there's resources, there's pricing markets to, you know, connect the suppliers to the, buyers. one of the big, kind of, things that, that, that field kind of, put forth to broad, economy. Economics is the idea of marginal analysis, which is to say, there's never a simul, there's not like a universal demand for something compared to something else.

[00:21:47] So for example, what is more expensive diamonds or water? and you know, generally speaking, diamonds are more expensive than water. and yet someone who's very thirsty in the desert somewhere will give any diamond they have for water. So basically the marginal price you'd pay for a liter wa of water a day is every your entire net worth.

[00:22:08] Whereas after that, your, what you pay for water trends towards zero. and so it kind of shows that there's no, necessarily one price for anything or one, objective in intrinsic comparison of something to something else. It's, basically whether or not something meets your need at that time, and place.

[00:22:26] and so it's kind of based on that bottom up analysis. Ian, that approach was kind of the idea that. They observed that there's credit cycles in the economy. and they proposed that the government can provide a countercyclical force, to those credit cycles, and that if you do that properly, you could smooth them out and therefore reduce the damage.

[00:22:49] where the Keens in and the auctions would generally disagree is that the auctions would say that the whole pro, the whole project of central banking and raising a lowering interest rates and stuff like that is contributing to the, severity of those, private sector credit, you know, waves happening in the first place, and that therefore trying to put out the fire often starts the next fire.

[00:23:12] And then there's also the observation that generally speaking, you know, if, you ask Keens what should they do with deficits and, surpluses, he would say run deficits during recessions and run surpluses during good times. Whereas in practice, they're always running deficits and just of different sizes.

[00:23:29] so that's kind of that, that Keens universe, Austrian debate, MMT enters the picture with, it's kind of like post Keynesian in the sense that all of the current system, all of our current financial system, the majority of it still runs almost like legally as though it's on gold, even though it's not.

[00:23:48] Which is to say, for example, if the government wants to spend, they have to borrow. and, MMT kinda looks at this and says, this is all fiat Now, you, could technically just spend. You don't even have to issue bonds to spend, you could just print money. And of course they would then say, well, if you, obviously if you print too much money and do something crazy with it, then you're just gonna cause inflation.

[00:24:13] But if you print money and do something productive with it, like build a bunch of nuclear power plants or semiconductor factories or whatever the case may be, then you'll have more supply of goods and services offsetting the increase in the money supply. Therefore, you might not get price inflation.

[00:24:30] So they generally advocate for kind of acknowledging that our system is not really based on gold anymore, and removing some of the constraints around that. whereas those that would push back on them, whether they're keynesians or auctions, would say, well, the, fact that the system is ba still kind of based on gold is what kind of keeps it on the rails, because there's still multiple levers that have to happen.

[00:24:54] For spending to happen, even though it's all ultimately just a paper ledger. So you

[00:25:01] **Nate Hagens:** are claiming that, on the surface our system is no longer, tethered to gold, but in an indirect def facto way, it kind of is.

[00:25:14] **Lyn Alden:** Exactly. And, there's, it, there's a couple interesting steps there because a lot of people point to 1971 as the moment where we were no longer tethered to gold.

[00:25:23] and I would say there's a couple aspects of that. One is even before that time, the system was gradually less tethered to gold, even while we were still officially tethered to gold. And so, for example, from, the Great Depression all the way up to 1971, you know, banks, they couldn't redeem dollars for gold, for example, only like, you know, foreign official creditors.

[00:25:44] Could we kind of gradually decoupled what, the dollar is from gold. And importantly, we, decoupled all the lending decisions from banks from ever, you know, touching gold. there are so many abstractions between them, and that was all pre 1971. So 1971 just kind of made it official. and then after 1971, even though we're no longer tethered to gold at any sort of base level, many of those higher level systems are still kind of based on the premise that there's some scarcity to the dollar.

[00:26:16] and that's true for generally fiat currencies in general and any sort of one with a reasonable division of powers. and, you know, central banks to some degree of independence, tends to operate a system that's this more constrained than it might otherwise be. So

[00:26:31] **Nate Hagens:** here's my view, I think the financial system is indirectly tethered to gold, like you say, but the economic system in the United States and globally, and this is my, one of my, Disagreements with MMT is tethered to energy and ecosystem functioning. So MMT correctly shows that there's a double ledger, that an asset and a liability come into existence when money is created, when there's a loan made at a commercial bank, but there's a third and a fourth, ledger. As well, there's a claim on energy and that new energy and materials that comes into the economy from that money being spent is also a claim on nature, and, our ecosystems.

[00:27:17] So globally and in the US when we create more, money, either from fiscal dominance or from conventional monetary creation, all of this is a claim on energy. And right now, and this may change with AI and electricity becoming a little bit more dominant than it was, but right now, oil still makes the world go round.

[00:27:44] and in our country, you know, the Permian is on its last legs of, growth. And I don't know where we go after that. We go north to some of the, shale plays in, Alberta. So, so bring in energy and AI, if you like. what are your current thoughts on how that fits into your, no stopping the train.

[00:28:06] **Lyn Alden:** It's funny 'cause some people ask me, could physical constraints stop the train? Could they put a lid on physical deficits? so either energy restrictions or demographic restrictions or, anything else? The, kind of, the, weird outcome, the unintuitive outcome is that limits like that tend to accelerate the train because the train is nominal, at least the way I refer to it as, which is to say, for example, when you come across an economy that does run into serious resource constraints, it's generally not that its deficit shrinks, it's that his deficit blows out and the currency units devalue very sharply initially.

[00:28:41] **Nate Hagens:** I agree initially. the train, you patch the turbo boost on the train in response to resource constraints. Yeah. but then there's a hangover after that. We'll get to that later, but keep going.

[00:28:52] **Lyn Alden:** Yeah. And so, basically one of the problems that we're facing now in the us and we are the reason we have structural fiscal deficits now.

[00:29:00] More so than before. one is the accumulation of debt on the public ledger, which is, you know, for the most part interest-bearing. and then there's, demographics. So basically the, baby boom generation, a lot of the things that happened is, based on their life cycle. So for example, the reason there was so much bank lending in the seventies and eighties is 'cause that's when the baby boomers were entering their home buying years, their first homes.

[00:29:24] And that's kind of the peak credit formation. and then now as that very large generation enters their retirement years, they're tapping into social security, they're tapping into Medicare. and so, the government, you know, was, previously running say a surplus and social security. Now they're running a deficit in social security.

[00:29:41] And so that is getting spent back out into the economy. And so that's now on some of those like, you know, future liabilities that people often talk about on of the public sector. that's gradually year by year being realized, in the present, which is that more people retire. They, you know, their, liability.

[00:29:59] The government's liabilities are often priced, not necessarily just in dollars, but in medical services and cola adjusted dollars like social security. and so that's, pouring out to the, aging demographic. and so these are the structural things that are going out. And to your point, these are all claims on, you know, real things.

[00:30:20] People generally expect that, you know, if they hold bonds, they're gonna. Retain their purchasing power, they expect that their social security check is gonna, you know, continue to buy them what they expect, at least when, the coal adjustments are taken into account, they expect that their, Medicare is gonna give them equal or more medical services than it did last year.

[00:30:39] so that's a claim on people's labor. That's a claim on people's, technology. That's a claim on energy. all, these things are, you know, tied to the real world in various capacities. and so basically the US has all these promises that are very entrenched politically, to pay out. over the next 5, 10, 20 years.

[00:30:59] and the ratio of, retirees to workers has significantly changed, with a, you know, slowing population growth. 'cause a lot of these systems were designed with the idea that every generation is gonna be bigger than the prior generation. So just kind of infinite population growth. So as you kind of potentially reach, you know, max population and, slow down, well,

[00:31:18] **Nate Hagens:** not only population, but GDP Infinite, GDP growth.

[00:31:21] **Lyn Alden:** Yeah, Population and similar kind of, or growing resources per person. and so as you kind of, run past that, you start to get issues and you generally speaking. when a sovereign gets very indebted like this, it defaults one way or another. if it's an emerging market and it's owed in currencies, they can't print.

[00:31:41] They're more likely to default nominally, they restructure it, it's alight term. and, if it's a developed country where the liability is are in their own ledger, they generally default through purchasing power. And so, for example, over the past five years, it was, you know, one of the worst periods ever for bonds.

[00:31:58] you know, e every, of course, every treasury holder got paid back every dollar they're owed, but they can buy back less of almost anything, that they could compared to five years ago. So that's consumer goods, that's services, but then that's also financial assets, stocks, gold, Bitcoin, energy. You know, most, things out there.

[00:32:16] **Nate Hagens:** So bonds, someone paid a thousand dollars for a bond and got three, four, 5% interest, 30, 40, $50 a year on that. A thousand dollars and they got their a thousand dollars back. But what you're saying is when they got that a thousand dollars back, it had devalued compared to

[00:32:36] **Lyn Alden:** everything else. Exactly. They can buy less, hospital services.

[00:32:39] They can buy less childcare services. They can buy less gold. They can buy, less equity in the best businesses in the world. They can buy less Bitcoin. They can buy everything. Everything other than maybe electronics and a couple other things, they've, been devalued relative to.

[00:32:53] **Nate Hagens:** And so you labeled that as,

[00:32:55] **Lyn Alden:** kind of an invisible devaluation?

[00:32:57] Yes. And that's the same thing how we got out of the 1940s. that was the last time we had this much public debt to GDP. And it was that, back then it was a combination of growth and inflation. So we did have very strong demographics back then. we did have very strong real growth, during and after the war.

[00:33:17] but it was combined with significant currency devaluation. So they did yield curve control, you know, during the forties and early fifties where at one point we peaked at 19% inflation, but they still, held yields hard at 2.5% even on the long end of the curve. I didn't know that. And how did they do that?

[00:33:34] By buying bonds like the Bank of Japan did? yes. The Fed, increased their total bond holdings by about tenfold, from 1942 to 1945. and, they, pegged each part of the yield curve. So the front of the curve, they pegged at say a third of 1%. the back end of the yield curve, they pegged at 2.5% so that they had this artificial, you know, moderately steep yield curve, and they basically have an open bid to buy any bond that tries to go over that yield.

[00:34:03] **Nate Hagens:** So to be clear, we had massive inflation during that time. So in a free market, bonds would've gone to 20, 25% yields, but clearly that would've completely crushed the economy, let alone a war economy. So the government's like, we can't let that happen. So the central bank stepped in and capped the interest rate that was on the bonds.

[00:34:27] This has also been happening in Japan. Do you see this happening ahead in the United States?

[00:34:32] **Lyn Alden:** I do, there are softer ways to do it, so it's not always as explicit. For example, if they, hold the front end of the curve lower, you know, at a certain steepness of the yield curve, it can entice borrowers to come in and buy the long end just because they're getting such a better deal compared to the short end.

[00:34:52] and there's certain entities that kind of have to own some of the paper, like banks, insurance companies, things like that. also qe, just kind of printing money to take some of the supply off the market, potentially, helps keep a cap on yields. You know, for example, when the UK was having their guilt crisis in 2022, the, their yields were blowing out and causing kind of a recursive situation because of the leverage, the Bank of England.

[00:35:15] And at, that point, they had something like 10% official inflation. The Bank of England actually canceled a speech around balance sheet reduction. Went out to do basically emergency QE to buy UK sovereign bonds, to put out that fire, help get yields back down. now they eventually went back to balance sheet reduction once the fire and the leverage and all that kind of recursive situation was behind them.

[00:35:39] but basically the, short answer of all that is there are softer ways to do yield your yield curve control. They're not so explicit, during 2020. So during the peak of the whole kind of equity crashing and all that, the Fed Minutes, I mean, they openly discussed the possibility of doing yield curve control should they have to.

[00:35:57] and they ended up not pulling that lever. but that is absolutely some, that's kind of their, that's kind of their break the glass strategy.

[00:36:05] **Nate Hagens:** you could say, okay, so. The way I see it, just in this still narrow boundary of looking at the financial US economy, and we'll expand, a little bit later.

[00:36:17] Beyond that, the way I see it is the only potential realistic way out of fiscal dominance is to let the economy run hot, as you say, and grow at higher rates than the interest rates that we pay on debt. So running real GDP of something like 7% with the current funding rates of three or 4%, that could theoretically bring debt to GDP down to 70 or 80% or something like that.

[00:36:44] So. Is that possible for how long and what then?

[00:36:49] **Lyn Alden:** so I would say that's possible. now there's still the cost that if that happens, if they, if you, if they run a run it hot playbook, it's ge still generally the case that you wanna own almost anything other than bonds. because you're still running a hot nominal environment.

[00:37:04] There's still a lot of money supply growth that will generally find its way to the scarce IT assets best equities, gold, bitcoin, waterfront properties, fine art.

it'll kind of go in there. And anything that we're really productive in that we're making more of, it could be, it could be semiconductors, it could be electronics, it could be, if, AI, for example, is making certain white collar services more abundant and, affordable than they used to be, you know.

[00:37:32] Maybe bonds and cash are kinda holding up relative to some of the things that we're getting way better at, but it's still rapidly devaluing compared to whatever is truly scarce, which outside of certain production cycles will absolutely, for example, include energy, over the longer run.

[00:37:47] **Nate Hagens:** Some of my viewers of this platform might be interested in their own investments and like, I need to take my money out of this and put it into Bitcoin or gold or waterfront properties.

[00:37:58] But the purpose of this podcast isn't to look at the next three years or five years, necessarily, but how in the heck is society and the biosphere and future generations going to navigate the bottlenecks of the 21st century that are created when the train stops is basically the question. But I think most people don't understand that.

[00:38:24] Th that aerial view yet. So I think this, bottom up approach from an engineering mind is, helpful. So, but before I get to that, let's talk about AI briefly. I have a paradoxical view on AI that's just recently been forming. I long poo-pooed the concept of peak demand that the IEA said because of electric cars and all these things, we're not gonna need oil anymore and oil growth is going to drop not because of supply constraints, but 'cause of human demand.

[00:38:58] But I now think the, reduction of white collar jobs, as you say, the reduction of lots of jobs. May, boost productivity, society wide, but the large swath of loss of income from blue and white collar jobs, is going to be a reduction in demand for basic oil and diesel services like summer vacations and all these things.

[00:39:28] And that's gonna actually paradoxically create a drop in demand for oil, because of the economy. And therefore, if there's a drop in demand for oil and we go to $40 oil or something like that's gonna actually cement peak oil, which as of now is still November, 2018 because the decline rate, the, running in place faster and faster, red queen phenomenon is just gonna catch up all, the quicker.

[00:39:57] What, do you think about all that?

[00:39:58] **Lyn Alden:** I think it's an absolutely reasonable thesis. like you, I tend to take the view that, like I tend to, I tended to fade the view that people are just gonna naturally, demand less oil over time. ev you know, even for example, the energy component that goes into making a, for example of reasonably high performance electric car is actually a lot of energy resources

[00:40:19] **Nate Hagens:** for sure.

[00:40:19] The plastic, rubber, the asphalt, all of it.

[00:40:22] **Lyn Alden:** Yeah. The, all the equipment to get the metals outta the ground and refined and, just, yeah, still massive energy input. now the optimistic snare that they presented was, you know, these other technologies would displace oil, which I found gi unrealistic.

[00:40:36] What you paints the more pessimistic picture, which is that because of kind of a wave of kind of. More people becoming impoverished. Yeah. That they'd able to afford less. unfortunately, that's kind of what you see in certain emerging markets when they have crises, which is when they have some sort of, major economic or currency problem, you'll get less per capic assumption from that country.

[00:40:59] and people will kind of tighten their belts. so you absolutely could get that phenomenon, in the developed world. it, it would, you know, it's hard for me to. Kind of guess how stained that would be, because there probably would be some sort of really severe political pushback against that.

[00:41:14] Well,

[00:41:15] **Nate Hagens:** it almost would have to be accompanied by some form of universal basic income or some regressive support. Otherwise, there would be revolution,

[00:41:24] **Lyn Alden:** which potentially then re accelerates the demand side. I mean, part of the, fiscal dominance kind of theme right now is that with Social security and Medicare, we are subsidizing demand for certain things.

[00:41:35] So we're, subsidizing, you know, that generation's retirement now that, after, the prior working, now before ai it was, it would argue that there were fewer workers supporting those retirees. Now with ai you potentially have kind of ironically more workers, in some capacity. but yeah, anytime you have a situation where.

[00:41:56] People are poor, they're gonna consume less resources. But then if you do sub subsidize them and get them back up to their prior consumption levels, then you kind of rein, reinflate that demand. so as long as the materials are not that expensive, I generally think that's what most governments will air toward.

[00:42:16] Like if they find $40, oil, they're more likely to say, let's pass a multi-trillion dollar package, to re-accelerate some of that.

[00:42:27] **Nate Hagens:** No stopping that train either.

[00:42:29] **Lyn Alden:** I think it's very hard to stop, I would say.

[00:42:32] **Nate Hagens:** Yeah. Yeah. So let's, leaving oil aside for the moment, what are your views on AI and productivity and the changes that it may make?

[00:42:41] Are you a super believer or moderate or skeptical?

[00:42:45] **Lyn Alden:** I'm moderate. I mean, you know, in, in businesses I'm involved in, we use it. it's certainly a tool. that's out there now, similar to how, I mean, most automation was, you know, we automated a lot of blue collar work, early, starting with like the factory and I mean the tractor and other sort of, things that just, you know, made one farmer build to do the work of 10 farmers, for example, with equipment, hydrocarbons, technology, all this, AI kind of does that for some white collar work.

[00:43:15] and I think we're gonna go through a period where that gets adopted by the economy. so various, companies will be using these tools and trying to either, you know, kind of sustain their current output with fewer workers, either with layoffs in some cases, or with attrition, and kind of.

[00:43:34] For them from their perspective, right size, their company. I, you know, my, where I'd be a little more embarrassed than the biggest optimist on the technology is I, think eventually it hits a ceiling. you know, these AI models are basically probability engines. they, you know, they run all these calculations, say what is likely to come next.

[00:43:55] it's an inherently a different way of thinking than humans. Funny tests I like to do is, you know, if I don't, if I find myself not finishing a book, I'll, go to AI and say, Hey, summarize how this book ended, just so I know. and I relied on that a couple times and then I wanted to. Check. I wanted to remind myself of a book I read before, because some years later there was like a se a, a sequel to it, and I was like, remind me what happened in this book.

[00:44:19] And it said all this stuff. And I was like, that's actually wrong. Like, that's all wrong, what you just told me. And it's like, oh, I'm sorry. Here's what actually happened. I'm like, that's actually wrong too. And it's like, oh yeah, I'm sorry. You're totally right. here's what happened. I'm like, okay, now you got it.

[00:44:30] I was like, so should I just like disbelieve everything you said? Yeah,

[00:44:33] **Nate Hagens:** I know. one would think that would improve over time, but it's been my same experience as well. So let's get to a topic that, bridges some of these things. And I know that you've been, right in the center of the fairway on this.

[00:44:49] and this is cryptocurrencies, particularly Bitcoin. you were a strong, proponent of Bitcoin, on the show. I think you were on the show and a little more than a year ago. It's much more than doubled since then. I don't talk about Bitcoin much on this show. I think it's probably going a lot higher because it's one of the things that people buy when they realize the train is not gonna stop.

[00:45:16] I don't think it's an answer to the, energy growth, ecosystem. Challenges that human society has. But I do think from an investment standpoint, it, probably goes a lot higher. but maybe, give us an update on your crypto view and, particularly I wanna bridge that with what we were earlier talking about with deficits and the dollar, and debt.

[00:45:45] And maybe you could introduce the concept or, the topic of stable coins and what they are and how relevant they are into this picture. we're, unpacking.

[00:45:56] **Lyn Alden:** sure. and for the years that I've been covering the space, I've been, pretty bullish on Bitcoin and bullish on the growth of stable coins, but then pretty bearish on most else in crypto.

[00:46:08] so I faded most, most of the themes other than those two. and, I continue to hold those views. if we touch on Bitcoin for a second, I agree with you. It doesn't just solve all these problems related to energy or other things like that. Basically what it is, it's an alternative ledger.

[00:46:26] so we talked before going back to Jevons in, in the 18 hundreds. Most frictions in finance were solved by another layer, centralization and Bitcoin is basically an alternative at the base layer. So it's kind of an alternative to central banking. So instead of just everything kind of tying into the fed, it ties into this more distributed, node system of nodes and miners.

[00:46:46] and that things can, you know, layers can, and do build on top of that. and basically it's a way of operating a ledger in a distributed. And it didn't just come outta nowhere. There was re, you know, going back to David Chm, in his Berkeley dissertation, in the eighties. it was about how to operate a database or a ledger, by mutually distrustful entities.

[00:47:07] So how, basically, how do you make a distributed ledger database? and then there's tons of things building on top of that. For the decades, all the encryption pieces had to fall into place. the global bandwidth had to get sufficiently good to allow something like this to be actually workable.

[00:47:22] and all these kind of pieces gradually came together. And then someone finally kind of put enough pieces together, kind of al almost as early as the technology would allow. and now it's been growing for 16 years, through various boom and bust cycles. Any, anytime something has upward volatility, it attracts leverage.

[00:47:38] In euphoria, you get a period of downward volatility. You've gone through something like four or five of those now. Like, some of them were like 90% drops. yeah, There were multiple 90% drops. the latest ones have been a little smaller, which is generally what you'd expect when you're talking about a trillion dollar asset rather than, you know, multi-million or multi-billion dollar asset.

[00:47:59] more liquid, more distributed. But, you know, volatility risks already there. A lot of analysts, they kind of view Bitcoin as a line on a chart. So like they mentioned, it's an investment. They think it might go higher or lower. my involvement in the space, for years now is, I mean, I, because I'm also involved in Bitcoin venture with Ego, death capital, Jeff Booth and others, we, I talked to founders throughout the space that are actually building things on top of Bitcoin.

[00:48:27] you know, I talked to the, some of the, core developers. It worked on Bitcoin for years, you know, those that, actually published the, code that, that people use. I talked to, like, I'm friends with Alex Kla, you know, the Human Rights Foundation, so I, he, was on the show. Yeah, he's great, isn't he?

[00:48:43] Yeah. I talked to him and also, not just him, but like I, you know, I, talked to some of the people that they work with, people that are operating in very inflationary or authoritarian regimes. and, you know, kind of see what they're doing with Bitcoin or stable coins to bypass, you know, their local issues.

[00:49:00] So basically it's this kind of, this alternative system that exists for them. going back to stable coins for a second. Basically for years, for, a long time there've been the idea of offshore bank accounts. Wealthy people, you know, in, in countries in the world can have accounts somewhere else.

[00:49:16] It's not something that's available to, you know, the middle class or working class. stable coins kind of take that technology and, you know, minimize the overhead. so they say that kind of everyone can have an offshore bank account now. it is basically what a stablecoin is. It's, a token, that trades on some sort of blockchain.

[00:49:37] it could be Ethereum, it could be Tron, it could be a layer on top of Bitcoin. there's multiple places where they trade, and they're, you know, backed by. T-bills, dollars, bank accounts, you know, various entities can offer these and they might have different levels of trust.

[00:49:55] but basically it's these pools of dollars and dollar denominated tokens that are redeemable, for dollars at least by large entities.

[00:50:04] **Nate Hagens:** So when stable coins come into existence, that it, does that increase the amount of dollars in existence?

[00:50:10] **Lyn Alden:** not the number of dollars, no. It just kind of affects where dollars are.

[00:50:14] and so generally speaking, for a stablecoin to be created, someone wires dollars to a stablecoin issuer, and then they get stable coins. and those are the large entities and then they're the wholesale, you know, workers of them.

[00:50:28] **Nate Hagens:** It, what does the mean, I mean, does the name imply the reality? Are they stable or can there be a lot of leverage on there?

[00:50:36] The same, there, there would be with Bitcoin or, some, other, leveragable item.

[00:50:42] **Lyn Alden:** So. The ones that are done properly are pretty stable. because unlike Bitcoin, that has its own fluctuating price, it's not redeemable for anything. the market is just kind of assessing what is a Bitcoin worth. stable coins have a mechanism to make them stable toward the dollars they're arbitraged if they become temporarily disconnected from their peg.

[00:51:04] now when and

[00:51:05] **Nate Hagens:** the peg is the US

[00:51:05] **Lyn Alden:** dollar or some For most, yeah. Yeah. Over 99% of stable coins are pegged to the dollar. There are gold back stable coins, and there are various limited amounts of other fiat stable coins. basically any, anything you're pegging with, which is mostly dollars. In the past, especially when they were young, I mean, stable coins were invented in like 2014, in the early years.

[00:51:26] and often they were denied banking, so they'd kind of get pushed the periphery of the system. Kind of toward the gray area, and there were various things that would happen and kind of, you know, people would, I think rightfully question the backing of them, as they've grown larger and more accepted, and somewhat more transparent.

[00:51:44] you know, they've had a very strong history of maintaining their pegs. And if anything, they're more backed than typical bank account is by short term, you know, tbi, reverse repos, things like that.

[00:52:00] **Nate Hagens:** Some of your assets that you want zero risk. Do you have those in stable coins in an account somewhere instead of at a First National Bank of Pennsylvania? I'm not sure where you live. I forget.

[00:52:11] **Lyn Alden:** I'm usually in the us. so I Your answer your question, I don't because, so when we look at stable coins, the biggest users of them are non-Americans, that want dollar access.

[00:52:22] so basically four people that do have direct access to the banking system, including money markets, if they want, and other things like that. there's historically been less of a reason to hold stable coins. the, kind of the killer use case for stable coins. So for people that, and I often come across this for Americans who say, why would anyone want a stable coin?

[00:52:43] It's like, well, it's not really for us per se. it's for two main reasons. One, cross-border payments. So for example, there's over 40 currencies in Africa. Imagine if every US state had their own currency. All the frictions moving money around in the country. Latin America has over 30 currencies. basically these are generally more efficient cross-border transaction mechanisms than the correspondent banking system.

[00:53:08] **Nate Hagens:** So it's a little more decentralized. Yes.

[00:53:11] **Lyn Alden:** I wouldn't say decentralized because there's still a very big honeypot that's kind of holding the collateral that backs the stablecoin. But the, Mechanism to send it is generally more efficient, is probably the best way to describe it. That it's relying more on technology and less on manual ledgers.

[00:53:29] **Nate Hagens:** So Treasury Secretary Scott Besant has said that stablecoin growth, is likely to help bring in an additional, I think, $3 trillion in treasury bond demand. So, I think that will help the front end of the curve. But under your Nothing stops this train narrative, then the long end, yields are, likely to stay under pressure.

[00:53:55] how do you, see that?

[00:53:56] **Lyn Alden:** so, I agree with you. Going back to The's point. so the two main use of stable coins, one is cross border. The other one, and this, is the one that ties more directly into, what the sec, treasury Secretary is saying, is that the other main, use case for them is people that want dollars that otherwise have trouble accessing dollars.

[00:54:18] And that's, going back to the offshore bank account thing that I mentioned. So if someone's in Nigeria, they don't trust the local currency. Maybe they do like gold and Bitcoin, but they also want something lower volatility for the next month or three months. And they want dollars. stable coins are an efficient way to do that.

[00:54:33] Like for example, right now on this call, I could hold up a QR code, or you could hold up a QR code and I could pay you with Bitcoins, stable coins, gold back, stable coins, whatever you as the payee would want. And if, for example, if, I hired a Nigerian graphic designer, there's any number of ways that I could pay her around her local banking system, as long as it's, she's in a country that's legal for me to do that.

[00:55:00] whi which most countries are,

[00:55:02] **Nate Hagens:** here's, a question for you. And I think I, a, I asked Alex Gladstein this, but I forgot the answer. And, such, as my, non-stable neurons, when the US. Does fiscal dominance and issues more debt. and MMT, yeah, we can invest in the right things by spending money into existence.

[00:55:27] But there are many countries around the world, you might know how many that their currency is linked to the US dollar. So when we spend money into existence to help the US economy, with services and, other things, those benefits don't get in the other countries that, but the, declining devaluating currency does.

[00:55:53] So what are your thoughts on that?

[00:55:55] **Lyn Alden:** so that's absolutely true. it's tricky 'cause we're, touching on kind of a couple things in rapid succession here. but, so I guess to tie some of this together, basically any country that's running a big deficit wants buyers of its bonds to try to limit how much yes de valuation's happening back to the treasury secretary's point.

[00:56:14] Right now across the world, there's generally less, either, either interest or other reasons. At the, sovereign level, there's less interest in holding dollar assets. So treasuries, in particular there's been an uptick in these entities wanting to hold gold, for example. generally speaking from the bottom up level, there's been no such de dollarization.

[00:56:34] So, for example, you know, in the streets of Cairo, people still want dollars as much as they did before. And so when you're, Scott, Bessant and you say, well, there's all this demand for dollars. Maybe their governments are trying to de dollarize, but the people want dollars 'cause there's network effects and liquidity.

[00:56:52] and the branding of the dollar stable coins are a way to get, you know, make it easier for them to get their hands on dollars, which around the margins can support the value of the dollar. that, that's kinda the way that they're looking at them is, all these mechanisms to get dollars out there.

[00:57:07] now. When we go to the topic of Debasement, even when you get someone to buy your bonds and buy, you know, wanting to hold your currency, as you know, kind of a global reserve currency is generally pretty good at doing. There's still winners and losers from the system. generally speaking, anyone who's not on the receiving side of the deficits is kind of paying for it with their debasement, and that could be people within the country, or that can be people outside of the country that are using that dollar as savings.

[00:57:38] And, you know, to your prior point like this is this podcast is not necessarily just meant toward investing in any sort of significant way, but the other factor that often gets overlooked in all these discussions is that anyone's wage that's denominated in a currency. Basically every contract that is nominated, that currency gets affected by printing decisions.

[00:57:57] Yeah. and so, if the government kind of put its thumb in one direction, and they try to harden their currency, they'll, benefit some over others. And if they do the other direction where they rapidly weaken the currency, they'll benefit some over others. And that's all of those that are either earning their paycheck in, currency or those that are, say, smaller businesses that are selling goods and services for the currency.

[00:58:22] I'm gonna

[00:58:23] **Nate Hagens:** flip in another direction. it, sorry. It's just how my, brain is today. So in another, nothing stops this trained scenario for many people. Around the world, and especially in the United States watching this podcast, that train runs over them, in a way if they have all of their income denominated in dollars without any tether to these, base ledgers that, that you're talking about.

[00:58:52] This is why it affects the average person, this very complex story that you're telling.

[00:58:58] **Lyn Alden:** yes. and so if you're the rest of the world, generally speaking, you have an incentive to minimize your dollar exposure. And get into assets that the US government and the US bankings were not, you know, creating more rapidly.

[00:59:13] you know, if you're holding a treasury that pays you 4%, but the number of dollars going up per year is 7%. You're getting your share of the network is getting diluted. Whereas, for example, if you're holding gold, you're not getting a yield on it, but the amount of gold's only growing by maybe 1% per year globally.

[00:59:29] So your, dilution rate is generally less and no one can just press a button and freeze it, for example. Okay.

[00:59:35] **Nate Hagens:** Let, me ask you this question, and I wonder if you've been asked this before, because I think about this. I clearly see and have seen for a long time the tea leaves that we are not going to voluntarily tighten our belts in the United States or in the world, therefore.

[00:59:54] Nothing stops this train Republican, democrat, doesn't matter who's president, we will, vote for a higher debt ceiling. I think the newest forecast, Michael Hartnett from Bank of America said 2032 US debt will be around 52 trillion. so those people that. Change their ledgers in anticipation of this and are buying hard assets.

[01:00:23] You mentioned waterfront property with climate. I'm not sure that's a, hard asset that I would want to have, but gold and Bitcoin and real estate and, all the other things. But I think that is a small percentage of society. So if golden, let's say Bitcoin continues going up and goes to 500,000 or a million dollars per Bitcoin, just let's just say, doesn't that create massive wealth inequality?

[01:00:50] Because a small portion of society is gonna hold a lot, a large percentage of the Bitcoin and then there is some sort of a crypto feudalism that is a result of that?

[01:01:02] **Lyn Alden:** I would say for the most part, and I think that the line of thinking is reasonable, the magnitude has to be considered. So at a million dollar Bitcoin, the total value of all Bitcoin is about 2% of global capital.

[01:01:15] So, you know, if you look at ad reports, okay, it used to be, it used to be, credit Suisse. now, you know, that department's been transferred, but basically there are various investment banks that kind of try to catalog roughly how much assets are out there. When you add up, you know, all equities, bonds, currency, real estate, gold, fine art, handful of other things.

[01:01:36] what is all of that worth? it's somewhere, I mean, and you know, this data is probably a year or too old, so these, and these numbers tend to change, but it's, somewhere in the ballpark by quadrillion dollars. So it's

[01:01:48] **Nate Hagens:** a thousand trillion,

[01:01:49] except Lyn, to manifest that value.

[01:01:54] When you spend it, that is all a claim on energy and ecosystem services.

[01:01:58] **Lyn Alden:** Yeah, I mean a lot of, well, a lot of it will be real estate, which requires maintenance. some of it will be gold, but the majority of it will be equities, bonds, and currency. Different assets have different, rates of velocity.

[01:02:11] So real estate's got low velocity, you know, currency's got much higher velocity. but that's kinda the pool of assets gold's around 2% already. okay. Bitcoin's around 0.2%. so if Bitcoin 10 x is, it gets to roughly the size of gold and it'll be another 2% of, that total, do you think that's gonna happen?

[01:02:30] Eventually? My base case, unless something can find a way to physically disrupt the Bitcoin network, my estimate would be the, yeah, I do think it'll get to 2% of global assets. Well, that could happen two ways. That's true.

[01:02:45] **Nate Hagens:** Yeah. and if that wasn't clear, it could happen by Bitcoin catching up to everything else or everything else crashing.

[01:02:53] Yeah. but what about the, the energy requirements, for all this? Because if this increases in price dramatically and everything else is just another thing that when it's spent, gets turned into energy and, materials Yes.

[01:03:14] **Lyn Alden:** yes. generally speaking, I mean, I think the idea of storing value for the future is good.

[01:03:19] yeah, I agree. Now, our, current economy is kind of geared toward disconnects, but Bitcoin is just a ledger. Literally, Bitcoin is just a decentralized Excel spreadsheet. That's really all it is. it's, one of the competing ways that people can decide to store value. and it's got pros and cons relative to other ones.

[01:03:37] You know, gold is kind of the most, eternal one in a sense. whereas Bitcoin is a combination of portability and scarcity. So it's, a really kind of sound ledger. and compared to gold, it's easier to move around, in the world, which, for a lot of people is very relevant. So it's this other ledger that people now have access to.

[01:03:59] And importantly, it's easier to transfer. You know, if I wanted to send you gold, you know, that'd be costly and cumbersome. Whereas we could do a Bitcoin transaction here on the call, for example. and it's not a credit instrument, it's actually just final value delivered. and so Bitcoin has utility, but it's still just a ledger.

[01:04:17] It's still just a way to kind of store semi-liquid capital. in a network effect, that is valuable, it's still ultimately something you wanna eventually spend for goods and services or leave to your children to spend on goods and services or donate them to a charity so they can spend on goods and services.

[01:04:35] It's still ultimately just portable capital.

[01:04:38] **Nate Hagens:** So let me ask you this. You, kindly, recently watched, one of my online presentations. And so my basic premise is that energy and materials underpin our productivity and technology is on top of that. We combine technology with energy, which is basically the labor equivalent of 500 billion human workers right now with the coal oil and natural gas added to our system.

[01:05:05] And at the same time, we keep increasing our monetary claims on them. Fiscal dominance, as you said, on top of the monetary claims from fractional reserve banking. And we're effectively as a culture treating hydrocarbons. As interest when they're really principle, they seem like interest in the near term, but in the longer term generations, their principle.

[01:05:30] So you watched, I think my summit talk. I'm curiously where, do our views overlap, and where did they diverge on the big macro picture?

[01:05:41] **Lyn Alden:** I mean, I think they overlap for the almost everywhere. so I, you know, I, do try to take a systems view of how things are going to work, and how things they work now.

[01:05:52] and we've already seen, like I mentioned over the past five years, when you have a disconnect between the ledgers that we're using. And good services and energy and all that in the real world, defaults and devaluations happen and devaluations are just types of defaults. And so, for example, anyone who held bonds five years ago expecting that they could buy a certain amount of goods and services, based on real world ability to supply those goods and services.

[01:06:17] Now this, in this particular five years, there wasn't really energy that was the constraint, it was other types of constraints. 'cause there's multiple types of constraints. But basically all of those bonds buy fewer things than they used to. And anyone who's studied or spent time in emerging markets has seen that there's sometimes more severe versions of that.

[01:06:37] and so you can absolutely have major disconnects, which are, which end up manifesting much like defaults either through defaults or purchasing power debasement. so I do think that as you have a system that kind of always grows nominally and it's even kind of designed, so it has to grow nominally.

[01:06:54] compared to the rural constraints, you, that manifests in debasement and, various types of purchasing power loss.

[01:07:02] **Nate Hagens:** So given that our views largely overlap, if you take an aerial view and, look at the situation here of the global human economy in 2025, where we're creating more and more, financial, digital claims on a finite and eventually declining amount of, natural resources.

[01:07:24] What is the longer term story here? What are the scenarios, that the train stops? And, then what my view is then currency reform, and a reduction in living standards and what I call The Great Simplification. But I'm, wondering what, you see.

[01:07:44] **Lyn Alden:** So the part where you might or may not diverge, I'm not sure.

[01:07:46] And I, the, I think the reason I wouldn't even say I, I do or don't is because when you go far enough in the future, there's too many. Outcomes that are hard to judge By

[01:07:56] **Nate Hagens:** the way, let, me just interrupt you. there, one of the things I really appreciate about you, not only talking today, but following your Twitter feed and your newsletter is like me, I sense that you view the world in a probability distribution.

[01:08:10] You don't say this is going to happen and then, you know, testosterone, dopamine drive, this is what it's gonna be. You're like, well, it could be, this could be that. There's a scenario, there's possibilities and I think more people should view the world that way. Sorry to interrupt.

[01:08:26] **Lyn Alden:** I try to look at things as if else.

[01:08:27] So I look at, if anyone is managed like an engineering project, there's something called a Gantt chart. So there's all these things that kind of happen in parallel. Like, okay, one person has to do this, one person has to do this, and this. Then you find the critical path, like what is the thing that is likely gonna take the longest or that has the highest likelihood of being disrupted in some way and say, well, what if that gets disrupted?

[01:08:47] How does this affect the other strands? that's called the Gant

[01:08:51] **Nate Hagens:** path.

[01:08:52] **Lyn Alden:** A Gantt chart. Gantt chart, okay. And, the path, the longest path is called the critical path. That's basically the one that you wanna make sure does not get disrupted because it, you know, if some task can be done in parallel and that takes five days and the longest one takes 15 days, it doesn't, you, you shouldn't spend your time trying to make the five day one only take four days.

[01:09:10] You should make sure that the 15 day one either doesn't get extended or if, you can shorten that in any way, do that. so basically you have this kind of analysis of here's all the things that are happening in parallel, which things you're actually worth paying attention to, because certain decision points on that path can affect the other paths.

[01:09:29] Whereas, which other paths are less critical and therefore are less likely to disrupt other paths. That's generally an approach I take.

[01:09:38] **Nate Hagens:** Super. So bring that approach back to the train. Stopping,

[01:09:41] **Lyn Alden:** right? So, generally speaking, the parts that are very entrenched are demographics. the mechanism of the system itself that kind of always needs to grow nominally the way it's currently, like the whole fraction reserve banking system on top of central banking, where loans are made in interest.

[01:10:00] you know, with, interest bearing, you know, liabilities, that's the interest is not created interest not created with the loan. So that system always kind of has to grow or die nominally. Yep. and so you, that's, a critical path basically. So, and then the, whole political polarization around, you know, there's, defenses against tax increases, the defenses against entitlement cuts, that's all intertwined.

[01:10:25] so you kind of look at that path. so, there's very few ways to actually stop the train nominally. Yep. and so then the question is, to what extent do these other things keep falling in place to allow that to keep going on in a real term? So, for example, what keeps the energy flowing or disrupted?

[01:10:45] what keeps the labor issue from becoming too top heavy? You know, if there's, too many retirees per worker, does AI help with that or hurt that, for example,

[01:10:55] **Nate Hagens:** and by the way, the train could stop for a lot of people while the aggregate train keeps powering on.

[01:11:02] **Lyn Alden:** Absolutely. I mean, one of the, and this goes back to the point where everyone's cur, everyone's wages are do in a currency.

[01:11:08] And if you're running a big deficit, if you're not on the receiving side of that deficit, you're generally impaired. and so when I talked, when I talk about nothing stops his trade, it's literally about. The large US fiscal deficits are continuing, and those have ramifications, both investing ones and economic ones.

[01:11:28] and there's winners and losers from that system. And unfortunately, right now, the way it's kind of designed is that it's good for those that are either older or wealthier. On average, it's less good for those that are, younger and or, especially those that are kind of in the middle. Like if you're working class or middle class, but you're not so impoverished that you're retire entirely getting help.

[01:11:50] But if you're kind of doing well enough that you're not really getting support, but you're also not, you know, you're working all the time. you're kind of the one on the short end of the stick there, in, the current system. And so basically I think that this whole thing keeps nominally growing.

[01:12:04] Then the real outcomes. it's largely gonna depend on certain decisions. Are there wars or not wars? 'cause any sort of war is usually a productivity killer,

[01:12:12] **Nate Hagens:** but a war would also cause more fiscal dominance, out of necessity probably.

[01:12:18] **Lyn Alden:** Yeah. You'd, accelerate the nominal side, and potentially then also impair the real side.

[01:12:24] so that, that's, why 1940s, were so inflationary. And that's also why when I was analyzing the, pandemic stimulus in 2020, I was like, if you just kinda looked at the charts of what's happening right now, it looks like a war. and that was, before 2022 with Russia invading.

[01:12:40] But I was like, Hey, before then, this already looks like wartime finance. It just so happens that luckily it's not a kinetic war, it's, the pandemic lockdown disruptions, things like that. of course later we brought in kinetic war, 'cause he sensed that tend to happen in clusters. but basically base case is these things run hot nominally, and then it becomes a question of, will we be able to keep, you know, what time horizon will we be able to keep energy flowing?

[01:13:07] and other things kind of. You know, moving around such that it minimizes

[01:13:12] **Nate Hagens:** disruptions, there's plenty of energy. I just don't think there's enough cheap energy at the a hundred million barrels a day scale to keep this current system of claims going. And the way that I see the train stopping, and by the way, your train metaphor maps onto what I call the economic Superorganism, where we outsource the wisdom of our system to the financial markets.

[01:13:38] And there's this invisible imperative to grow. Like you mentioned, that we don't create the interest when we create money. And so I see the natural. Yields rising on bonds of governments around the world as we have to print and, spend more into existence. But they're not gonna allow that because that would kill the system.

[01:13:59] So they're gonna have to do yield curve control. So eventually what happens is it too big to save situation where a country like France or Japan no longer can manage, the amount of, all their ex extent claims. it probably won't be the US but it could be the us because you've focused so far this, conversation on fiscal dominance and yield curve control and all that in the us, but the US has 90% plus of our own energy supply.

[01:14:32] We've gotta be in better shape than countries like Japan that are already doing yield curve control on steroids. so I just, I see this eventually manifesting in currency reform of some sort, which results in. Well, I don't know what it re, I mean, that's kind of the purpose of this podcast is I'm hoping, that, results in a bend, not a break scenario for society.

[01:14:58] But what are, I'm, I've thrown so many disparate questions at you. Thank you for, playing rapid fire, financial ping pong with me. But what do you have to say about what I just laid out?

[01:15:10] **Lyn Alden:** So this is a global phenomenon, especially for the global developed world. so Japan is the furthest in fiscal dominance with over 200% debt to GDP.

[01:15:19] now people often ignore their Japan strengths, which is that they ran decades of, trade surpluses and current account surpluses. so they built up a lot of financial claims on the rest of the world. They've also built up, and they've still maintained a very strong industrial base. and then there's also the fact that they have a Harmon rather harmonious society.

[01:15:42] Yes. which is a type of, it's basically a type of social capital. So the us and parts of Europe will score lower, on social harmony than Japan and certain other, countries in the world. and that, very much matters, when you're kind of looking each country, managing the state of their ledger.

[01:15:59] a more, more disorganized situation's always harder. now the US is the one generally running the, among the developed world, we're running near the high end of the size of fiscal deficits relative to our GDP. so we are running things hotter than much of Europe. in Japan, and we combine that with a structural trade deficit, but the global reserve currency, which are kind of tied at the hip.

[01:16:23] so I do analyze each one separate. I, most of what I said will apply to, all the major developed market currency blocks, but generally at different timeframes or different degrees.

[01:16:34] **Nate Hagens:** But don't you think it's important that the US is largely energy independent and Europe and Japan are not?

[01:16:40] **Lyn Alden:** I do, with the caveat that they, you, I tend to look at trade blocks and so for example, Japan, they have valuable things that they can provide to certain other economies that do have energy.

[01:16:54] and they have a willingness to, you know, have LNG and systems like that. And so, and as an example, when Europe had their energy crisis in response to, you know, their gas from Russia getting disrupted, it ended up, you know, temporarily Europe paid the price. But then what they did was they outbid countries like Pakistan.

[01:17:14] They had all this, all contracts that were geared toward one way. All, you know, you could see on the maps, like these ships would change course go toward Europe, where they're paying, you know, top dollar or top euro for, the marginal, l and g and you're outbidding, sadly the, poor places of the world that weren't even involved, in, the initial conflict.

[01:17:35] Japan is generally in a position where the combination of an industrial base, and, in our current system, quite a lot of claims that they, do have the ability to rapidly turn them into, to, scarcer things. And they also, some of their claims are things like commodity deposits, energy deposits, energy infrastructure around the world.

[01:17:55] It's like, you know, wholly owned companies around the world, which they can be challenged when there's heightened periods of nationalism and resource competition.

[01:18:03] **Nate Hagens:** Could you see a scenario where Japan turns their trillion plus, I think, holdings of US treasuries. And sells those down to put money into Bitcoin and gold and land, I mean.

[01:18:20] Then that would require even more yield curve control. Yes,

[01:18:24] **Lyn Alden:** they could. I mean, we, so the whole Chinese Belt and Road initiative has been a gradual shift towards saying, we don't want, we don't wanna keep accu accumulating treasuries. We instead wanna accumulate basically loans or other things to tie to real assets across the development world.

[01:18:39] That, that's been China's approach. Japan has done that to some extent with their private sector, which is, the government owns a lot of treasuries and other kind of financial things, but their, entire economy, they will own, you know, infrastructure projects, resource projects around the world.

[01:18:57] In many cases, they help build them because they, that ties into their engineering and industrial base where they can go out and say, okay, here, we're gonna help you. Help you build fast rail, we're gonna provide you excavation equipment, we're gonna, you know, do all these things that all the kind of technical plumbing that happens behind any sort of big project.

[01:19:16] Japan's often, you know, they're, a global player in that, and then sometimes they'll end up with, part ownership or otherwise, you know, kind of receivables. so they, they have their own kind of energy shortcoming and resource shortcoming on their island nation, which they've done a pretty good job of offsetting, to some extent.

[01:19:34] I'm, I've been more worried about Europe, because they have, similar situation, but, less, homogeneity, pragmatic, yeah. Yeah. Less, other issues there. so when you look at, say the, blocks of United States, Europe, Japan, they have different pros and cons. One example we, I can tie this into to, to show this, because a lot of this can sound theoretical.

[01:19:57] I mean, I spend part of each year living in Egypt. so I live most of the year in the us. I live a couple months each year in Egypt. I, have property there. My husband's family's from there and my have friends there. And so we kind of go back and forth between the two continents. Some question.

[01:20:12] They speak

[01:20:12] **Nate Hagens:** Arabic in Egypt.

[01:20:14] **Lyn Alden:** Yes. Yes. Yeah.

[01:20:14] **Nate Hagens:** So you speak some Arabic?

[01:20:16] **Lyn Alden:** a little bit, but the people I know tend to speak a lot of English. Okay. So I've been slower to learn. It's kind of embarrassing how long I've been going there and how little I speak in terms of ratio, but I'm trying. Yeah. but the, to use them as an example, over the past 10 years, Egypt has had declining energy consumption per capita.

[01:20:37] so for, decades they were rising, ever since roughly the, revolutions that happened, well over a decade ago, but now about almost a decade and a half ago, they've had. More issues to, to contend with. and they've generally had a topping out of energy per capita and a gradual decline, which in a developed countries less of a big deal.

[01:21:00] Like we've had the same thing happening in the United States. We're actually, you know, consuming less per capita. That's in large part because we kind of outsourced our heavy energy intensive industry.

[01:21:10] Now the problem with, Egypt is it happened at about one eighth the level per capita Right.

[01:21:15] As it happened in the us. So it's not as though they all met their energy needs and instead we're good now. No, there's still actual dire poverty in many parts of the country and, very high percentage of the population. I mean, they have. A handful of thousand dollars GDP per capita, it's, not a, it's not a wealthy nation.

[01:21:33] it's on the high end of Africa, but it's on the low end of almost anywhere else, in terms of energy or per capita GDP. But the point is they've entered an environment where energy consumption's flat to down at a level that's in the ballpark of an eighth of America. What is that, like a fourth of, Europe or, you know, it depends on the country in question.

[01:21:54] and, they've done things like, they're trying to build a new capital. So they spent tens of billions of dollars building a new capital city, which is currently still a ghost city, but they're trying to make it not a ghost city. They are trying to bring on more, energy, in the form of nuclear.

[01:22:12] **Nate Hagens:** Nuclear. Why wouldn't they, one of the sunniest countries in the world just scales solar panels everywhere because

[01:22:18] **Lyn Alden:** it's challenging. they tried, they, their government actually tried and it's been, hard. Yeah. the funny thing is most Saharan countries don't really have a ton of solar.

[01:22:27] When I drive, down like the Red Sea coasts, you'll pass pretty big turbine fields and, some solar fields, but mostly for them it's natural gas oil. Interestingly, they burn oil for electricity. Which is not super common, but they do it not super smart either, but keep going. But it, yeah, it's kind of outta necessity.

[01:22:48] and, they're, they are trying to bring on a big nuclear plant. So what they deal with is over these, let's call it 10 year period, they've got declining energy per cap. they've got, they're still growing their money supply rapidly, and it's more rapid than the us. It's, instead of something like 7% a year, for them it's like 15 to 20% per year.

[01:23:07] And

[01:23:07] **Nate Hagens:** how do they buy their energy with those Egyptian currencies? Or do they have to translate those into dollars first

[01:23:14] **Lyn Alden:** for the most part dollars. Okay. so they historically had dollar revenue with the Suez Canal, which has been, more impaired ever since the disturbances in the Red Sea. and so ba basically they have that source of dollars then that they used to export natural gas.

[01:23:32] Now they have to import on average more than the export, but they have a seasonality to it. and, so, you know, they generally have, rolling blackouts in the summer when they have, when they're all using the air condition in an energy constrained environment, in a very hot environment. they're, You know, their, like telecom system is not great. So, for example, internet bandwidth, per capita, just overall kinda internet speeds are kind of lackluster even compared to other countries of similar, development. and so the, point is that, I mean, if you look at the average Egyptian, you know, they're earning more units of local currency per hour of time than they did five years ago, 10 years ago.

[01:24:18] but if you ask a lot of them, you know, how many hours does it take to buy a car? it's generally more hours. or how many hours does it take to buy a laptop? Even, generally speaking, it'll be equal or more hours. Are Bitcoin and gold a thing on common people's minds there or not? Bitcoin less so.

[01:24:38] It's interesting, if you look at, say, Nigeria and Egypt, so two of the, two of the three most populous countries in Africa, Nigeria is way into Bitcoin and stable coins. Egypt, has, is generally not as technical as Nigeria is. they've been slower on the Bitcoin and stablecoin side. but for example, in Egypt, people will literally go out to the black market in Cairo and, get physical dollars.

[01:25:03] So they'll like, especially when there's a disconnect between the official rate and like, what is actually the supply and demand. There's these kind of black markets that develop, or gray markets, and people will accumulate. Like I, I knew, I know a physician that would hold physical dollars in his apartment in.

[01:25:21] 20 24, 20 25, as what he perceived as the best savings technology for near term savings.

[01:25:27] **Nate Hagens:** So dollars to an average Egyptian are like Bitcoin to an American?

[01:25:33] **Lyn Alden:** I would say kind. Yeah. Kind of. they, so they, a lot of them will view the dollar as appreciating or protecting them versus what's happening in the local currency.

[01:25:41] Now, generally speaking, it'd be dollars if you need to hold something for months or up to a year, maybe, the next, they like, they do like gold. So gold is, a thing there at scale. it's, perceived as more volatile. and then a lot of them will like real estate as a store of value. But that leads to some mal investment because.

[01:26:01] so population's growing. They'll build these like satellite cities outside of Cairo, and then people will, you know, build, they'll, fund a development in one of those newer cities, as a form of savings basically. and so you kind of pre-build a lot of real estate that you tend then take years or decades to fill up.

[01:26:22] So at any given time, there's quite a bit of empty property. and a lot of it is because people are trying to solve their store value problem, in a way that they perceive as better than dollars or gold.

[01:26:34] **Nate Hagens:** You know, we're, dancing around just a fundamental question that is starting to bubble up in our country, in our culture, which is, what is money?

[01:26:45] What is it for? What is value? What is GDP for? And I think a lot of people growing up when we did would just assume, oh, these dollars, that is real wealth. But it's really a financial marker of the things that have real wealth. and that financial marker is being diluted by the month. and so what's the end game here and what sort of advice, do you have for the listeners or for society given the, aerial financial, stopping the train?

[01:27:26] The train doesn't stop a story that you've unpacked.

[01:27:29] **Lyn Alden:** I would say, yeah, money is a ledger that people use, and that could be a ledger that relies on nature like gold. it could be a ledger that relies on, you know, kind of shared society like basically central banking. And of course there's different ones.

[01:27:42] So, so Egyptians will generally trust the dollar one more than they trust their own one, for example. whereas, you know, but they, won't trust it quite as much as gold and us as Americans won't trust as much as, gold or other things. So money's just the. Circulation mechanism, how we price things and how we store liquid value.

[01:28:01] when it is broken, it makes things way less efficient. and it makes us more likely to do things that are mal-investment as we're trying to arbitrarily store value, with different levels of sophistication based on what we know, to try to protect ourselves from that. the government can kind of push at scale on something and say, Hey, we wanna build this new capital, by the way, we're gonna devalue all of your wages to do it.

[01:28:26] And everyone's trying to scramble to kind of get their share back up to how it used to be. The reason I like to use Egypt so much is because, you know, it's a semi extreme, but not totally stream example. So it's not like a Venezuela, it's a functioning country. you know, it's.

[01:28:44] Life there this year looks the same from my perspective, going there every year as it did five years ago. and just all the, squeezes happen around the margins. and of course there's some people that are severely impaired, other people that are, more protected. So you have this kind of constrained energy environment.

[01:29:02] So you often talk about what, what's gonna happen to the whole world. But of course, it, can happen in pockets prematurely. So in Egypt's case, and it

[01:29:09] **Nate Hagens:** already is.

[01:29:10] **Lyn Alden:** Yeah. So they're already in the energy constrained environment. They're trying to fix it so far, somewhat unsuccessfully. So, to your point about the arbitrariness of GDP, their per capita GDP numbers that they report are decent.

[01:29:23] and yet I like to look at energy, especially for countries that are still at the low end of energy, per capita, where it's, quite meaningful. Makes a big difference in people's lives. And this also technological productivity plays into it because, for example. One of the things that has partially, saved the average Egyptian during this is Chinese cars.

[01:29:46] So, for example, the cost of a Volkswagen has maybe tripled or quadrupled in a pretty short period of time, but then China comes in and says, well, we have the equivalent of a $15,000 car, that maybe three years ago had a reputation for bad reliability. But because they've gone up the, quality stack so quickly, it's kinda like when Hyundai, you know, kind of entered the market in the cheap stack, and then they get up to the middle stack that China's car is doing the same thing.

[01:30:13] We don't see them in the us but when you look at kind of the whole developed world, China's now the biggest auto exporter in the world. So you'll see a lot of Egyptians switching to Chinese cars. Which is a way of saying it takes me more hours of working to afford a Volkswagen than it did five years ago.

[01:30:29] It should be the other direction. if our productivity's improving, I should be able to work less for the car, but I have to work more for the car. Luckily, this other manufacturer comes in and says, tap the price. So it kind of saves them to some extent. But all these things, that you talk about happening globally are happening.

[01:30:47] And I think those are worth studying because you get an idea of how people resp, how people respond to it, how it hurts them, and it's, you know, it's, a thing happening in real time.

[01:30:57] **Nate Hagens:** And what sort of lessons can we, glean from looking at countries like Egypt and how they're responding to energy constraints?

[01:31:05] **Lyn Alden:** Part of it is knowledge. You wanna make sure the more you understand what's happening, the more you're able to protect yourself, and your loved ones. number two is humans are adaptable. So even things that seem pretty extreme are adapted to. especially when they're, you know, outside of like war where things can just, things can get cut in half in a year or something like that.

[01:31:29] So outside of very non-linear events, people are able to adapt to a variety of circumstances and life goes on, even though it's not the end, it's not the end of the world. And so a lot of times when, Americans talk about things, they, everything seems like the end of the world. And it's like, go spend a month in Egypt and not at a resort actually, like, you know, living, you know, in a neighborhood there.

[01:31:54] talk to people, know people there, and you'll get an idea of how the world. Can function.

[01:31:59] **Nate Hagens:** Let me ask you this, 'cause we, haven't brought up this topic at all, but, temperatures in the earth are getting warmer and Egypt, where it is on, the equator in the north of Africa, it's quite hot. So with wealth inequality and a reduction in energy per capita, I would assume some percentage of the population does not have access to fans or air conditioning in the, hotter months.

[01:32:27] Is, that been an issue, with wet bulb temperatures or, heat related, stress on populations in your experience or observ?

[01:32:37] **Lyn Alden:** Well, it has, because even, those that do have it, often, like I mentioned 'cause of the energy constraints, there'll be blackouts where people will lose power. and obviously losing power for an hour or two hours or three hours is less severe than losing it for an entire day.

[01:32:51] and then of course, the way that economies tend to work is that richer areas will be prioritized. Yeah. and so it's, it is usually the, more impoverished that face, more of the challenges. So yeah, it absolutely is an issue. And Egypt also has, I mean it's long had a water shortage issue, which they've managed to avoid becoming acute.

[01:33:10] But for example, one of their biggest political issues is that, to the, to their South Ethiopia has built a very large dam, that can potentially reduce the flow of the Nile. and Egypt has obviously not been thrilled about that. So they've had on, they've had multi-year kind of, political conflicts with them.

[01:33:30] Around basically water rights regarding the Nile. so that's obviously a very big issue. And then you could, they explore things like desalination, but as you know, that's very energy intensive. That's where things like, yeah, very expensive. Yeah, very expensive, very energy intensive. That's where things like building nuclear factor in.

[01:33:47] And so they, the government tries to do things that are pro energy. so, so far it just shows how hard it is, where even they'll, have a top level goal, but if it's not their number one goal, then they're, you know, likely gonna fail to reach it.

[01:34:00] **Nate Hagens:** You're quite well connected in the financial community.

[01:34:05] do you think that. Energy blindness. we mentioned that term when you first were on the show, 18 months ago. Do you think people are becoming more aware of the centrality of energy and, energy security in our world than, a few years ago in, in your sphere?

[01:34:24] **Lyn Alden:** I think, well it's funny 'cause finance tends to think of like the flavor of the day.

[01:34:30] and so right now it's more about materials like rare earths and things like that. It's kind of realizing how much, military and even like, you know, like electrification and stuff relies on rare earths and how much China controls of that market. and that has impacted kind of up to the sovereign level some of these negotiations.

[01:34:50] so that's become more. Kinda rapidly learned in the area of finance, I think because energy's gone back to being relatively, inexpensive and pretty, you know, flowing pretty readily right now. I think, from what I've seen, the financial community's kinda lost interest. Yeah. In the importa of energy, a front burner.

[01:35:07] You're right. Exactly. Whereas for me, it's like, okay, there's no near term catalyst per se, that makes me worried about energy. but I'm still very much watching, for example, what's happening in, the Permian. I'm very much watching, you know, what's happening in, energy markets around the world because this will come back.

[01:35:26] And I think once again, the, finance sector will be largely surprised by it. And so I, at least for me and, people that follow my work, I try to have us not be surprised. But yeah. So there's a lot of moving. But that's the thing, any anyone, no matter what field people work in, they're siloed in a certain thing.

[01:35:42] They're siloed in what their job is, their family situation. There's so many things that people don't keep track of. and that's true for finance professionals, just like anyone else. So you get these really big disconnects that sometimes are investment opportunities, but then also, of course their economic realities and they can result in policy errors.

[01:36:02] they can result in. Worse sometimes. and it's, you know, it's something to navigate. I

[01:36:08] **Nate Hagens:** wanna be, respectful of your time because I could keep asking you questions and you would, you would hit back every lob that I sent you, I'm sure. do you have any closing words, for the viewers of our show?

[01:36:22] Generally, I

[01:36:23] **Lyn Alden:** would say it's funny 'cause we're hu like, we're geared toward kind of expecting a status quo to be normal, literally for like a century now humans have been on this trajectory where things change so much within a span of a generation. at the moment that's only accelerating, with AI and everything.

[01:36:44] and it's a very disruptive time in general, in many cases, especially for non-Americans. But, Americans are also not immune to it. and. You know, I think the best you can do is be as well informed as possible as, you know, kind of cultivate as much virtue as you can and connections as you can, not, everything's financial, and understand what's happening.

[01:37:07] I tend, you know, I think where we might differ a little bit is I tend to err somewhat on the side of optimism in the sense that we tend to be pretty, creative as a species. So we tend to push things longer than we expect. Whenever you start to kind of run into a friction pricing and other mechanism, con convinces a bunch of us to focus on something and we manage to find the next runway, I focus less on the biggest thing of what happens when you run into this event.

[01:37:36] It's more like going back to the Egypt point. It very much can happen locally. It very much can happen for a period of time, and those are all microcosms. Of course, what can happen in the bigger picture. And so I think the best people can do is be knowledgeable of it, be prepared for it. try to make sure that their skill sets are in demand as technology changes, and try to make to the extent that they're interested in investing, to make sure that their assets are well aligned, with the kind of things that are coming.

[01:38:07] And that's the best that we can all do. And, your program and others like it are, trying to share as much knowledge as possible for people to discuss the issue and protect themselves and protect others. Thank

[01:38:17] **Nate Hagens:** you Lyn Alden, to be continued. we'll, see what's on the front burner, next year, and in the near future.

[01:38:26] Thank you for your clarity, and helping people understand what's going on in our world. to be continued, my friend. Thank you for having me Again. If you enjoyed or learned from this episode of The Great Simplification, please follow us on your favorite podcast platform. You can also visit The Great Simplification dot com for references and show notes from today's conversation.

[01:38:49] And to connect with fellow listeners of this podcast, check out our Discord channel. This show is hosted by me, Nate Hagens, edited by No Troublemakers Media, and produced by Misty Stinnett, Leslie Balu, Brady Hyen, and Lizzie Ciani.