

# The Consilience Report



*The winds and waves are always on the side of the ablest navigators. ~ Edward Gibbon*

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## **Panta Rhei, Extremus...**

Afghanistan poppies, elite overproduction, the Tower of Babel, and detective rabbits...

The core of Heraclitus of Ephesos' philosophy was Panta Rhei, the idea that *life is flux*. Change being the only constant, we never step in the same river twice, the world tomorrow will not be quite like the one today.

I'm going to present to you an admittedly partially baked idea of something I've been chewing on.

The premise is that we've crossed a critical nexus, a phase transition of sorts, in a broader historical context.

This transition can be primarily explained through structural-demographic theory, deglobalization, and accelerating technological advancement. These are different yet intimately connected drivers. These forces are leveling the hierarchical top-down nature of existing power structures, driving us towards a great flattening that will be characterized by greater variance and increasing entropy. In other words, we're entering Panta Rhei, *Extremus...*

The above prompts give us entry points to explore what these forces are, how they manifest, and what they mean for our near future.

### **Afghanistan poppies and elite overproduction...**

Let's travel back to 2012 to when I was living in a retrofitted shipping container in the barren desert of Helmand Province, Afghanistan. I was there on a contract for the DIA working as part of an Economic, Political, and Intelligence Cell, called EPIC for short.

The job required my team (myself, a DIA agent, a British LtCol, and an Estonian Major) to travel around southern Afghanistan, typically by Osprey, to meet with the movers and shakers of the region. These were your elites, politicians, police and security captains, drug kingpins and warlords, tribal leaders, religious elders, etc...

We'd attend long meetings, many hookah smoke filled shuras and Jirgas, and work to develop and nurture sources. All in an effort to keep a finger on the pulse of what the networks of power in the country were up to.

If you know anything about Afghanistan, then you know what a messy and difficult task this is. The routine backstabbing, shifting alliances, and double-dealing commonplace amongst those in power were such it'd make Tony Soprano's head spin.

It was a fun, if not a *very* frustrating job at times.

By far the most difficult aspect of the job though was simply being a part of the broader US mission in the country.

This was a mission with no real objective, no guiding purpose, and yet our nation continued to expend large amounts of blood and treasure on it. We routinely enacted policies that were not only poorly thought through but almost seemed designed for self-sabotage. Being party to these policies up close forced one to the conclusion that the United States suffers from the problem of being run by *seriously unserious* people.

The story of Afghanistan poppies illustrates this point.

Early in our 20-year occupation/war in Afghanistan US and British policymakers decided they wanted to end the cultivation of opium poppy. Opium poppy gets turned into heroin. Heroin is bad. Therefore, we should eradicate it, I assume is how their 3rd-grade logic went.

One of the problems though is that opium poppy is Afghanistan's *largest* cash crop. The country produces 80% of the world's poppies. This accounts for well over \$1bn in annual revenue or 8% of the country's GDP. And employs more than 130,000 farmers.

You can imagine there were perhaps a few vested interests in *not* seeing this source of livelihood, you know, completely killed off.

Western Ivy-bred think-tankers were not deterred by such facts on the ground though, and so we pushed ahead.

First, we did a compensation eradication regime where we paid cash directly to the farmers for each jerib (unit of area) they torched themselves. This was plagued at the

outset by corruption, moral hazard, gaming, etc... and the policy was abandoned in less than a year.

So the brainiacs in charge went back to the drawing board or etch-a-sketches or Minecraft modules, or whatever they use to give form to their genius and came back with a new plan for direct interdiction. They decided that we should go directly after the large traffickers and processing laboratories.

To the surprise of no one on the ground, this was *immediately* gamed as well. The more connected drug lords used the opportunity to take out their less powerful rivals, typically with the full blessings of the local government. And what resulted was a complete vertical integration of Afghanistan's drug trade and a material *increase* in poppy cultivation.

To further salt the wound, the interdiction gave the Taliban — who had long been pushed out of the drug trade thus locking them out of a major source of financing — a welcoming inroad back in, as their security was sought after by less connected trafficker and farmers.

But, because the barrel of stupid sometimes has no bottom, we followed these disasters by doubling down. We went for full manual eradication; spraying the crops from above, using security forces to burn them, and forcibly arresting those who did not comply.

The impact was devastating, if not at all surprising...

The regional economies where poppy production was prevalent, went into a tailspin. Unemployment went through the roof, families were torn apart as farmers sold their daughters as brides to repay bad debts, and there was a near-total pauperization of former relatively prosperous regions.

This created a wave of refugees (again, these were the poorest, least connected, and most vulnerable) who were forced to uproot their families and abscond to the eastern regions, often making their way into Pakistan where many ended up being radicalized in Deobandi madrasas before going on to join the Taliban.

Poppy cultivation did significantly drop, though. At least for the first 12-months. Then it shifted East, into Taliban-controlled territories. And within two years, it was back at all-time highs and has been trending higher ever since.

So not only did these policies to end poppy cultivation ultimately result in significantly higher poppy production. They also managed to completely turn the public's support back in favor of the Taliban, which was no mean feat.

The local populace stopped providing key intelligence to the US military and they actively began harboring Taliban fighters. The effectiveness of our policy was quite incredible, really. We managed to hit a hat trick of stupid. Taliban leadership couldn't have done better if they'd had full control of US decision-making themselves.

You can trace a clear line from the start of these anti-drug policies to a critical shift in the balance of power back to the Taliban, resulting in their eventual victory. And sure, there was a lot more involved. We had plenty of other strategic failures. But if you had to pick one that caused the US's defeat. It was this one. Our policy to eradicate the farming of poppy.

So this leaves us with the question: why?

Why would the most powerful and capable country in the world enact such poorly conceived iatrogenic and completely unnecessary policies designed solely for the purpose (I imagine) of proving the [Cobra Effect?](#)

The answer: elite overproduction.

Peter Turchin, a biologist turned Cliodynamist (the study of historical cycles), has been developing what he calls Structural Demographic Theory (SDT) for the last 20+ years. At its core, SDT is a theory that looks to quantify the critical drivers of stability/instability within a society.

Its aim is descriptive rather than predictive. Acknowledging that it's operating within a dynamic non-linear system, SDT looks to identify the conditions in which major turning points in history occur (war, revolutions, insurrections, etc...).

To do this SDT looks at a host of important variables (demographics, institutional power/credibility, debt levels, and so on). But the one variable Turchin has discovered to be the most important, is the level of elites within a system.

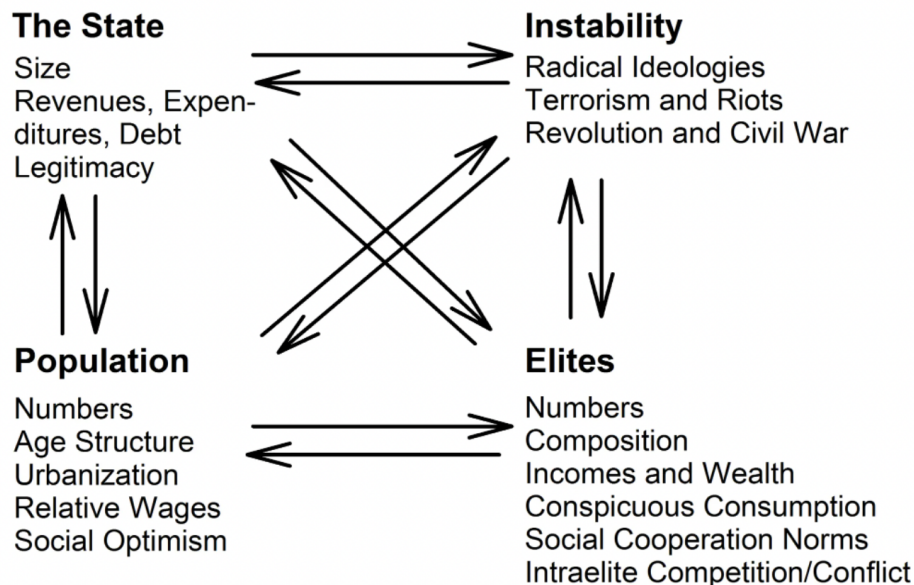


Figure 1. The main logical components of the structural-demographic theory.

He defines elites in a number of ways but essentially an elite is someone who possesses a certain level of material wealth in relation to the general populace.

Another way of looking at it is that when inequality is high, so is elite overproduction. And when you have more elites than you have elite positions to keep them occupied (positions of power, influence, importance), you end up with intra-elite competition. And this competition is the main driver of instability within a social-political system.

Just like you can't have too many alpha bonobos chimps within a certain number of square miles of each other, you can't have too many Nancy Pelosi's, Tucker Carlsons, Jamie Dimon's, or Donald Trump's within a society, or else they turn on each other, and the system itself, in order to outcompete and out exploit one another for personal gain.

The pro-democracy group More in Common surveyed 8,000 Americans in 2017 and 2018. They classified the respondents into 7 different groups according to their shared beliefs and social media history. The two groups at the poles which held the most extreme political views (either conservative or liberal), were also the *most* active social media users/posters by a wide mile.

These two extremist groups were similar in a few other interesting ways...They were both the richest and the whitest (aka. elitist) of the seven. Not only that, they both showed the *least* variance in their political and moral attitudes within their ingroups.

This is the cyclical force behind the saying: hard times make for wise men, wise men make for good times, good times make for fools, and fools make for hard times...

When a social system has too many elites, you get bad policy and politics. You get divisiveness. You get culture wars, violent racial protests, and Jan 6th insurrections. You get poppy extermination policies in failed wars run by *seriously unserious* people with zero accountability.

According to Turchin's SDT models, we crossed a criticality threshold in 2020. Meaning, the underlying conditions within the western world are ripe for increasing instability, political violence, and war. And we'll remain in this environment until the system goes through a major correction.

I can go on writing about SDT for ages. It's one of the more convincing theories behind historical cycles I've come across. But for the sake of brevity, we'll end this bit here. If you'd like to learn more, then I suggest picking up a copy of *Ages of Discord* or *War and Peace and War* which are both his more accessible books.

### **The Tower of Babel and detective rabbits...**

Martin Gurri, the former CIA analyst made the following observation in his book "A Revolt of the Public":

*A curious thing happens to sources of information under conditions of scarcity. They become authoritative as the amount of information available to the public increased, the authoritativeness of any one source decreased.*

There was more information created in the year 2001 than in every single year of human history before then, combined... This number has been doubling roughly every year since, increasing at an exponential rate. An exponential rise in information = an exponential rise in uncertainty = an exponential rise in distrust for authority.

This all eventually leads to a disintegration of the current power structures of society. He writes:

*Uncertainty is an acid, corrosive to authority. Once the monopoly on information is lost, so too is our trust. Every presidential statement, every CIA assessment,*

*every investigative report by a great newspaper, suddenly acquired an arbitrary aspect, and seemed grounded in moral predilection rather than intellectual rigor. When proof for and against approaches infinity, a cloud of suspicion about cherry-picking data will hang over every authoritative judgment.*

Gurri believes that ultimately the “Fifth Wave of Information” will end with the top-down control that elites have exerted over the populace since the industrial age. What will follow is a complete negation of the center (the elites) by the border (the citizenry).

What that ultimately means, Gurri doesn’t proffer an answer. He doesn’t believe the border or networks can ultimately govern, they can only tear down. And he doesn’t think hierarchical authority structures can survive this new information age. His best guess is chaos, where *bureaucratic inertia confronts digital nihilism. The sum is zero...*

Gurri wrote his book back in 2018. And his ideas were quite prescient it seems. But one quickly evolving potent force, one that will act like jet fuel to this information age fire, is the rise of sophisticated AI tools.

The age of AI will bring an infinite supply of hyperrealistic disinformation. GPT-3 like AI bots will create and write an endless supply of intelligent and convincing essays, thought pieces, tweets, and FB posts perfectly customized to their targeted audiences pushing whatever ends they’re programmed to do.

No longer constrained by manpower, countries like Russia and China will flood the information sphere with deep fake video and audio clips of western leaders saying and doing things that support whatever narrative they’re trying to push.

As the costs of this technology goes down, this tech will become available to all. It will sit within everyone’s iPhone. I don’t need to waste ink here laying out where this will all go. It doesn’t take much of an imagination.

Like the author Jonathan Haidt wrote in his recent essay titled [Why The Past 10 Years Of American Life Have Been Uniquely Stupid](#) in *The Atlantic*, we’ve created an actual modern-day Tower of Babel. We are at risk of losing our ability to communicate because we won’t be able to distinguish, let alone agree on, what’s real and what’s unreal.

This is already happening. Recent examples abound, between COVID, the Russian invasion of Ukraine, and so on. But this is nothing... This is just the trickle before the flood.

We're moving into a new era, a new world. The elites will fight it out amongst each other while the public wrenches their authority from them at the borders. Seriously unserious people will continue to sleepwalk into the storm while the edifices of the old power structures are ground to dust. Technology will intensify it all. Infinitely so.

What is coming is The Great Flattening... A world run wild with variance, entropy, chaos... There'll be more upside, as well as more downside. More misinformation and more revealed truths. It will be *Panta Rhei, Extremus...*

Your Macro Operator,

Alex

## MIR Micro Report

Alex outlined the macro case for increased chaos, a flight towards onshoring, and greater fragility in an ever-increasing complex world.

Three companies that benefit from this macro-environment are:

- **Leonardo, Inc. (LDO)**
- **EPAM Systems (EPAM)**
- **Vidler Water Resources (VWTR)**

Each idea shares the same macro tailwind, but the *actual* businesses are wildly different.

LDO is Europe's leading defense/aerospace manufacturer. They supply countries with fighter jets, attack helicopters, and various cybersecurity products/services.

EPAM is the fastest-growing outsourced software engineering development company. They help businesses reduce tech debt by providing design, implementation, and consulting services.

Then there's VWTR, an off-the-beaten-path \$300M small-cap that owns water rights in Nevada, Mexico, Arizona, and Colorado. The water rights are valued *at cost* on the balance sheet, drastically understating intrinsic value. Oh, and they sport \$300M+ in Net Operating Losses (NOLs).

We'll spend the following pages diving deeper into each of the above businesses.



Let's get after it.

## Leonardo, Inc. (LDO): A Call Option on Increased European Defense Spending

LDO is Europe's leading defense and aerospace company. They provide militaries/governments with jets, helicopters, aeronautics, and space equipment.

Here's the elevator bull pitch: **The war in Ukraine will provide a *considerable* boost for LDO's products, which will lead to sustained revenue and cash flow growth over the next decade.**

There are a few reasons why this opportunity exists:

- Italian company without many US-based investors taking a serious look (last Seeking Alpha article written in 2018)
- Decent amount of debt (2.5x leveraged)
- Their cash-draining business segment (Aerostructures) distorts the entire business earnings power
- The CEO might go to jail for tax fraud (which wouldn't be LDO's first tax-fraud CEO hire!)

We believe the reward is well worth the hair as **the company will likely look *far different* in 5-10 years than it does today and trade for ~EUR 25/share (125%+ upside).**

Let's break down LDO's business model.

### How LDO Makes Money

The company makes money through four main business segments:

- Helicopter
- Electronics
- Diagnostic/Retrieval Systems (or "DRS")
- Aircraft

LDO manufactures and sells various **Helicopters**, including the AW09, AW609, and Hero models. The company sells choppers to militaries, governments, and civilian customers (think police, etc.).

The company generated EUR 4.16B in revenues and EUR 406M in EBITA (9.8% margin) from its Helicopter segment last year.

Then there's the **Aircrafts**, which LDO sells at industry-leading 13% profit margins. LDO's Aircraft segment benefits from a strong leadership position within myriad programs like EFA, JSF, EuroMale, and Tempest.

The company also generates revenue through training programs (M345 and M346) and service contracts. The Aircraft segment generated EUR 3.27B in revenues and EUR 432M in EBITA (13.2% margin).

The third revenue driver is the **DRS segment**. DRS sells Advanced Sensors and Computing as well as Integrated Mission Systems. You can learn more about that business [here](#). Last year the DRS segment generated EUR 2.8B in revenue and EUR 258M in EBITA (9% margin)

Finally, the **Electronics division**. LDO's [Electronics division](#) provides laser systems to the Apache, F35, and other DoD programs. Last year, Electronics generated EUR 4.52B in revenue and EUR 485M in EBITA (10.7% margin).

The four business segments generate ~EUR 14.75B in revenue (before corporate eliminations of ~EUR 965M) and EUR 1.3B in EBITA.

These are *good* businesses, but they're restrained by LDO's money-losing Aerostructures segment.

## How LDO Loses Money: Aerostructures

LDO's Aerostructures segment provides a soup-to-nuts procurement process involving:

- Subcontracting products
- Drawing parts
- Equipment
- Auxiliary materials and tools

The [Aerostructures segment](#) is a bad business for two reasons. First, it's a commodity business where low-cost production wins. That's fine if you operate in low-cost areas like Turkey.

Italy, however, is an *expensive* country to run a commodity business, which leads to Aerostructures' significant operating losses.

For instance, last year, the segment generated EUR 442M in revenue **but lost** EUR 203M in EBITA.

The good news is that management expects to be EBITA breakeven by 2025.

If you include the Aerostructures business, LDO converts ~24% of its EBITA into Free Operating Cash Flow (FOCF), or EUR 209M last year.

Here's the crazy part. Without Aerostructures, LDO would've converted **50%** of its EBITA to cash flow for **EUR 548M**. That's 162% *more free cash flow*.

That's one of the ways LDO could look *vastly* different in a few years from its current form. The second way is through its service revenue contracts.

## LDO's Service Revenues: The Otis Elevator of Defense?

One way to think about LDO's business is as a giant elevator operator, but for defense. Helicopters and aircraft act as "installed bases," which LDO uses to generate high-margin service revenues.

There are a couple of reasons why this is a great business. First, defense maintenance is a highly recurring business. Helicopters and aircraft require routine maintenance and service work to stay in peak operating condition.

Additionally, militaries/governments must adapt to the constant technological changes in sensors, lasers, and electronics.

Here's why this matters. LDO has ~30 years of Customer Support & Service activities in its current installed base to generate **~EUR 10B** in *net cash flows*.

**Discount those cash flows to the present, and you have EUR 5B+ in NPV, which is the company's current market cap.**

Before pitching our valuation case, let's examine two critical risks associated with LDO.

## Risks: CEO Goes To Jail & Ceasefire Drawdown

There's a >0% chance that LDO's CEO, Alessandro Profumo, will go to jail by the end of the year for committing fraud in 2015. You can read more about that [here](#).

Profumo going to jail isn't the *worst* thing that could happen. Is he a decent CEO? Yeah. Will the company crater without him? No.

Profumo doesn't run the day-to-day operations, and shareholders can think of him more like a Chairman. That said, the news of Profuma going to jail would likely result in a short-term share price decline.

There’s also the “risk” of a ceasefire in Ukraine. I say “risk” because we can only *pray* that the conflict in Ukraine ends. Unconventionally, a truce is excellent for defense businesses like LDO.

The ceasefire would give governments and militaries a chance to breathe and place more orders with LDO. Plus, it would allow LDO to cycle through its existing backlog.

Retail investors will likely sell into the ceasefire news, offering us an excellent spot to add to our position.

### Thinking About Valuation: EUR 25/share Possible?

We can think about LDO’s valuation in two ways: **Sum of the Parts (SOTP)** and **Exit Multiple**.

Let’s start with SOTP. Management expects revenues to grow mid-single digits with EBITA growing high-single digits. You can see our assumptions and exit valuations for each segment below.

Business Segment	2026 Revenue	2026 EBITA	Exit Multiple	Segment Value
Helicopter	5350	588	7	<b>€4,116.00</b>
<i>Notes</i>	<i>7% CAGR</i>	<i>11% Margin</i>		
Aircraft	4206	547	6	<b>€3,282.00</b>
<i>Notes</i>	<i>7% CAGR</i>	<i>13% Margin</i>		
DRS	3774	377	6	<b>€2,262.00</b>
	<i>8.7% CAGR</i>	<i>10% Margin</i>		
Electronics	6092	700	6	<b>€4,200.00</b>
	<i>8.7% CAGR</i>	<i>11.5% Margin</i>		
			<b>Total</b>	<b>€13,860.00</b>
			<b>(Less: Net Debt)</b>	<b>€3,205.00</b>
			<b>Est. Market Cap</b>	<b>€10,655.00</b>
			<b>Current Market Cap</b>	<b>€5,707.00</b>
			<b>Upside</b>	<b>86.70%</b>

We’re likely understating the potential exit EBITA multiple LDO could receive for each business segment. For example, the average aerospace defense company trades for

~14x EBITDA and 30x FCF. **The above scenario assumes a 50% multiple discount to peers, and there's still an 87% upside.**

Let's look at cash flows.

LDO expects to convert ~55% of its EBITA to FOCF in 2022 and >70% by 2025 (assuming Aerostructures reaches breakeven).

We'll assume LDO converts ~75% of its 2026 EBITA to FOCF. Then, we'll assume a modest 12x FCF exit multiple (still a >50% discount from peers).

Here's how cash flows and valuation would look if the above scenario materialized (see below).

Business Segment	2026 Revenue	2026 EBITA	Cash Flow Conversion	Exit Multiple	Segment Value
Helicopter	5350	588	441	12	<b>€5,292.00</b>
<i>Notes</i>	<i>7% CAGR</i>	<i>11% Margin</i>	<i>75% Conversion</i>		
Aircraft	4206	547	410.25	12	<b>€4,923.00</b>
<i>Notes</i>	<i>7% CAGR</i>	<i>13% Margin</i>	<i>75% Conversion</i>		
DRS	3774	377	282.75	15	<b>€4,241.25</b>
	<i>8.7% CAGR</i>	<i>10% Margin</i>	<i>75% Conversion</i>		
Electronics	6092	700	525	15	<b>€7,875.00</b>
	<i>8.7% CAGR</i>	<i>11.5% Margin</i>	<i>75% Conversion</i>		
				<b>Total</b>	<b>€22,331.25</b>
				<b>(Less: Net Debt)</b>	<b>€3,205.00</b>
				<b>Est. Market Cap</b>	<b>€19,126.25</b>
				<b>Current Market Cap</b>	<b>€5,707.00</b>
				<b>Upside</b>	<b>235.14%</b>

We get ~EUR 19B in market cap. **That's 2.35x higher than the current price!**

The good news is that **we can make a ton of money without making unrealistic assumptions about the future.** European defense spending is here to stay.

7-8% top-line CAGRs are likely understating future demand. 12x exit multiples on FCF is likely understating what private buyers would pay for the business (given the ~30x FCF industry average).

Here's the Bottom-line: **LDO is a great business. Once it reconciles its Aerostructures cash burn, the company should generate 70%+ FOCF conversions on structurally higher revenue and EBITA margins. These businesses have**

long-term secular tailwinds as Europe realizes it needs to shore up its defenses, creating a long runway for sustained organic growth.

## EPAM Systems, Inc. (EPAM): A Temporary Hiccup In A World-Class Business

EPAM is the fastest-growing outsourced software engineering development company. They help businesses reduce tech debt by providing design, implementation, and consulting services.

The company IPO'd in 2012 and has done nothing but grow. For instance, revenues and net income have 8x'd since 2012. EPAM has also aggressively hired talent since its IPO. What started as 3 employees is now a 58,000-person operation.

EPAM focuses on a variety of industries, including financial services, retail & consumer, travel & hospitality, insurance, and healthcare, to name a few.

### INDUSTRY FOCUS



Financial Services



Media, Entertainment & Telecom



Business Information Services



Retail & Consumer



Software & Hi-Tech



Travel & Hospitality



Life Sciences



Healthcare



Energy & Utilities



Automotive & Manufacturing



Insurance

The company is a certified “Compounder Bro” stock. Over the last five years, EPAM has compounded revenues at 27%, EBITDA at 31%, and FCF at 29%. During that time, investors saw their shares compound at ~32%, from \$75/share to \$300/share.

Why do customers choose EPAM in the first place?

Customers in the above industries don't specialize in IT services. Moreover, it would cost a fortune to build their own comparable IT services team in-house. It is cheaper *and* you get a company (and people) that eat, sleep, and breathe IT services.

Usually, these types of businesses trade at extreme valuations. And that was EPAMs MO, trading between 35-50x FCF over the past five years.

However, the war in Ukraine inflicted critical short-term damage to EPAM's stock. Why? Most of the company's employees are based in Ukraine, Russia, and Belarus. Russia's invasion drove shares from a high of \$680 to \$300 (as of this writing).

Herein lies our opportunity: **EPAM is a tremendous business trading at a reasonable price due to a short-term geopolitical issue. Over time, the business should continue to roughly double its EPS every few years. In turn, investors will likely value the business at >30x earnings.**

**Today, you can buy EPAM for ~18x 2025E EPS.**

Let's see how EPAM makes money and how they create value for customers.

## What Does EPAM Do?

EPAM helps companies reduce their tech debt by providing people, development tools, and processes to bring outdated infrastructure into the digital age.

In its simplest form, **EPAM generates profits by charging a take rate on the gap between a customer's tech debt and where they need to be to remain competitive.**

You can visualize it through my fancy illustration below (and yes, I know my handwriting needs work).

The company makes money by charging fixed or hourly rates for various projects (consulting, design, etc.).

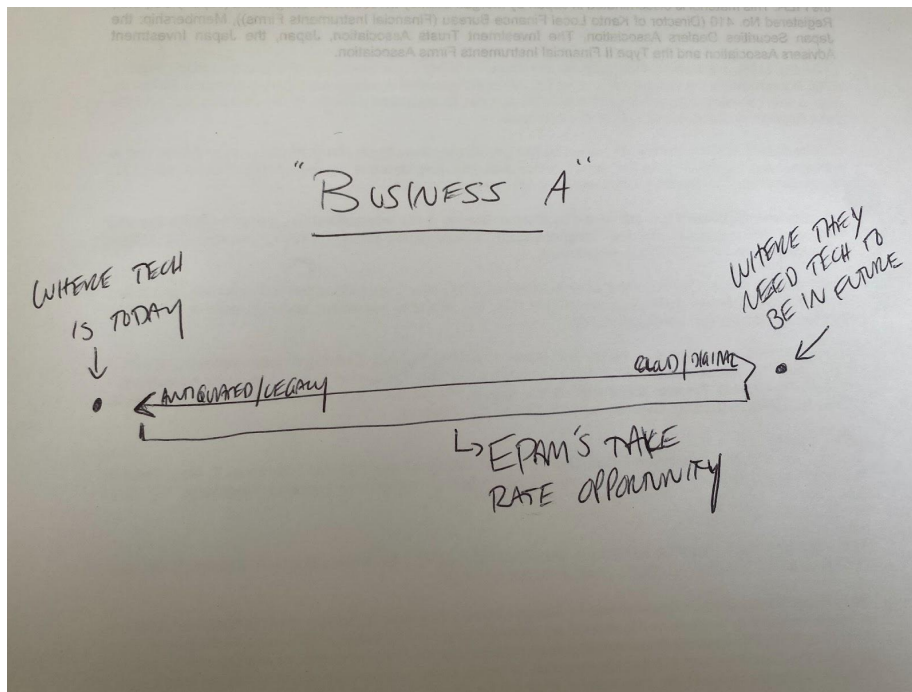
So how does EPAM win against competition? **Vertical and horizontal scale.**

## “Nobody Got Fired For Buying IBM”

Everyone loved IBM back in the day. Why? The company was the golden ticket out of the principal-agent problem. If you bought the stock and it went up, great! After all, IBM is a great business. And if the stock went down, who cared? You didn't make a stupid choice. It just didn't work out.



EPAM is like IBM for CIOs with IT budgets. Imagine you're the CIO of a large financial services company and you need to upgrade various IT services and processes.



Who do you choose? Do you choose EPAM, which has a demonstrated history of excellent work in the space and an extensive Rolodex of industry-specific customers? Or do you select some cheaper, lesser-known provider?

You choose someone like EPAM because scale matters in this business. You achieve scale by completing smaller projects for customers (\$1-\$2M). You then earn larger projects (\$3-\$5M) from more prominent customers in that industry.

The end game, of course, is reaching “go-to provider” status where customers sign \$10-\$20M projects. **EPAM has reached “go-to provider” status.** Check out just a few of their top-tier customers below.

**DAIMLER**

Our Digital Learning program was recognized with a 2020 Daimler Supplier Award in Innovation.



Helped Liberty Global deliver a personalized viewing experience to their consumers by implementing Agile methodologies via set-top box and mobile app.

**Wolters Kluwer**

Enabled Wolters Kluwer to deliver a better risk management and compliance experience for its healthcare practice through a platform that retrieves and organizes actionable data.

**MarathonOil**

Helped Marathon Oil create a next-generation cloud native data platform to deliver performance, scalability, and reliability.

**UBS**

Received the Banking Technology Award for Best Use of IT Private Banking/Wealth Management with UBS for the development of UBS SmartWealth, a digital wealth management tool.

**EQUIFAX**

Built a new cloud foundation for Equifax that will enable them to develop innovative data-driven products and services that help their customers live their financial best.

**jamba**

Designed a holistic future state vision for Jamba and then made their digital touchpoints real.



**BACARDI**

Created an award-winning DevOps Automation Platform for Bacardi to improve brand consistency, accelerate time to market, and deliver operational cost savings.



That's the vertical scale component.

The other meaningful way to expand a moat is through **horizontal scaling**.

EPAM's lifeblood is their employees (or "EPAMers") and the knowledge they possess. More employees mean more customer support, greater industry diversity, and a broader skill-set.

Horizontal scale benefits occur when a company can hire enough employees to service every problem a customer may face. [ValuePunks](#) highlighted a critical quote from an expert call in his EPAM deep dive (read here):

*"So a lot of data and analytics, predictive analytics, machine learning-type engagements, and automation RPA kind of wrapped around a lot of that intelligent automation. A lot of CRM projects, member experience gamification. So a lot of things -- data-driven, custom engineering, but also very good at insight. So, if it was an analytics project, they (EPAM) were good at finding the best way to kind of provide insights and help clients with accelerators and making data-driven decisions."*

In other words, more employees give companies like EPAM more shots on goal to solve customer problems. This leads to higher customer satisfaction and a greater willingness to work with EPAM in the future.

Can you see the virtuous cycle take shape?

## What About Competition?

After reading the above section, a logical question would be, "But what about competition?" After all, companies like Accenture (ACN.LSE) boast 60K+ employees with myriad vertical/horizontal scale benefits.

There are two reasons why I'm not particularly worried about competition.

First is the industry TAM. According to Gartner, **global IT spending will reach \$4.5T in 2022**. \$1.2T of that \$4.5T spending budget will come from IT services, EPAM's playground.

However, it's important to note that future IT services spending will come from digital services (think cloud computing, cybersecurity, digital marketing, etc.). Growth won't come from legacy services.

Digital vs. Legacy is critical because EPAM built its business on providing *digital services* to its customers. It doesn't have to switch its entire model from legacy to digital to meet customers' needs.

## Thinking About Valuation: Per-Employee Metrics

EPAM relies on its 58K employees to help solve customer problems. The more bodies, the more revenue, and profits you generate.

As such, we can think about valuation on a per-employee basis. Last year, EPAM had 52.6K engineers, designers, and consultants.

The company generated \$3.76B in revenue and \$546M in EBIT during that year. That gets us ~\$72K in revenue and ~\$10.72K in EBIT per employee.

Management estimates that they can hire ~4.4K new employees per quarter or 17.6K per year. Let's assume EPAM hires at *half* that rate over the next three years. That gets us 26.4K new employees for a total of 79K.

Next, let's assume the business stays static and generates ~ the same revenue and EBIT per employee. **That gets us \$5.7B in revenue and \$847M in EBIT by 2025.**

88% of EPAM's EBIT flows through to bottom-line earnings, which gives us \$745M in net income by 2025.

Assuming a 30x P/E multiple, you get ~\$392/share or 33% higher than the current stock price.

Remember, that's assuming EPAM hires at *half* its estimated capacity.

What would valuations look like if they *could* hire ~17K employees per year over the next five years? You can see the results below.

	2021	2022	2023	2024	2025
<b>Employees</b>	52,600	69,800	86,800	103,800	120,700
<i>Rev per</i>	\$72,000	\$72,000	\$72,000	\$72,000	\$72,000
<b>Total Revs</b>	<b>\$3,787,200,000</b>	<b>\$5,025,600,000</b>	<b>\$6,249,600,000</b>	<b>\$7,473,600,000</b>	<b>\$8,690,400,000</b>
<i>EBIT per</i>	10,700	10,700	10,700	10,700	10,700
<b>Total EBIT</b>	<b>\$562,820,000</b>	<b>\$746,860,000</b>	<b>\$928,760,000</b>	<b>\$1,110,660,000</b>	<b>\$1,291,490,000</b>
<i>NI Conversion</i>	88%	88%	88%	88%	88%
<b>Total Net Income</b>	<b>\$495,281,600</b>	<b>\$657,236,800</b>	<b>\$817,308,800</b>	<b>\$977,380,800</b>	<b>\$1,136,511,200</b>
<b>P/E Multiple</b>	35	35	30	30	30
<b>Est. Market Value</b>	<b>\$17,334,856,000</b>	<b>\$23,003,288,000</b>	<b>\$24,519,264,000</b>	<b>\$29,321,424,000</b>	<b>\$34,095,336,000</b>
<b>Per-Share Price</b>	<b>\$304</b>	<b>\$404</b>	<b>\$430</b>	<b>\$514</b>	<b>\$598</b>
<b>Upside From Current</b>	<b>3.44%</b>	<b>37.27%</b>	<b>46.31%</b>	<b>74.97%</b>	<b>103.46%</b>

This is a rough, back-of-the-envelope valuation method. But it paints a picture of what the company *could* look like in a few years, assuming historical hiring trends.

## Main Risks with EPAM

There are a couple of critical risks to EPAM's bull thesis. The first is hiring talent. What if EPAM permanently loses its Ukrainian/Russian/Belarusian talent? That's ~14K employees right there. If that's the case, it will take EPAM longer to reach enough employees to model any price-to-value severe dislocation.

Secondly, *good* IT service professionals are a dime-a-dozen these days. We should expect wage increases to eat into EPAM's operating margins and reduce net income in the short term.

## Concluding Thoughts

It's not every day you get to buy a legitimate Compounder stock for <20x 2YR forward earnings. But here we are. There's no doubt EPAM hit a rough patch with the Ukraine invasion. However, if any CEO can ride this company through the storm, it's Dobkin.

Dobkin is a gamer. He came to the US without any money and didn't speak English. That didn't stop him from building a \$17B business and massive wealth for himself, his employees, and his shareholders.

EPAM boasts a strong balance sheet with \$1.2B in net cash and should compound revenues and profits by mid-20% for years to come.

## Vidler Water Resources (VWTR): A Straight-Shot Water Rights Play

VWTR owns water rights throughout Arizona, Colorado, Nevada, and New Mexico. Formerly known as PICO Holdings, the company changed its name to Vidler Water Resources in 2021.

The company makes money by selling and/or leasing its water rights to real estate developers, alternative energy facilities, or other commercial/industrial users like water utilities or government municipalities.

Fierce shareholder activism in 2015-2016 prompted the board to shut down ancillary operations (like canola oil plants and selling off a California real estate division). The activism resulted in the firing of the entire management team in 2016.

Today, VWTR is a pure-play, highly-focused water rights asset collector with a passion for shareholder returns.

In fact, I encourage you to read the company's [Investor Presentation](#). You'll be amazed at how often they use "shareholder returns."

Anyways, let's get to the value proposition. The company has a transparent business model:

- **Monetize** existing assets at maximum present value and ROIC
- **Return** capital to shareholders
- **Reduce** net costs where applicable

There are a few reasons why this opportunity exists:

- It's a \$300M small-cap company with a low trading volume
- Recently got removed from nearly every Russell 2000 Index (forced institutional selling)
- Assets are held at cost on the balance sheet (vastly understating actual value)
- Investors don't appreciate the value of NOLs

## VWTR's Water Rights Assets

The company segments its water rights into three main asset groups:

- Arizona
- Northern Nevada
- Southern Nevada

There are two terms to know before diving into specifics: **Long Term Storage Credits (LTSCs)** and **Acre-Foot (AF)**.

According to [CAGR D](#), **LTSCs** are created when eligible renewable water supplies are stored underground at a permitted recharge facility. The LTSCs must remain in storage for at least one calendar year. Each LTSC authorizes the pumping of **1 acre-foot (AF)** of renewable water stored underground.

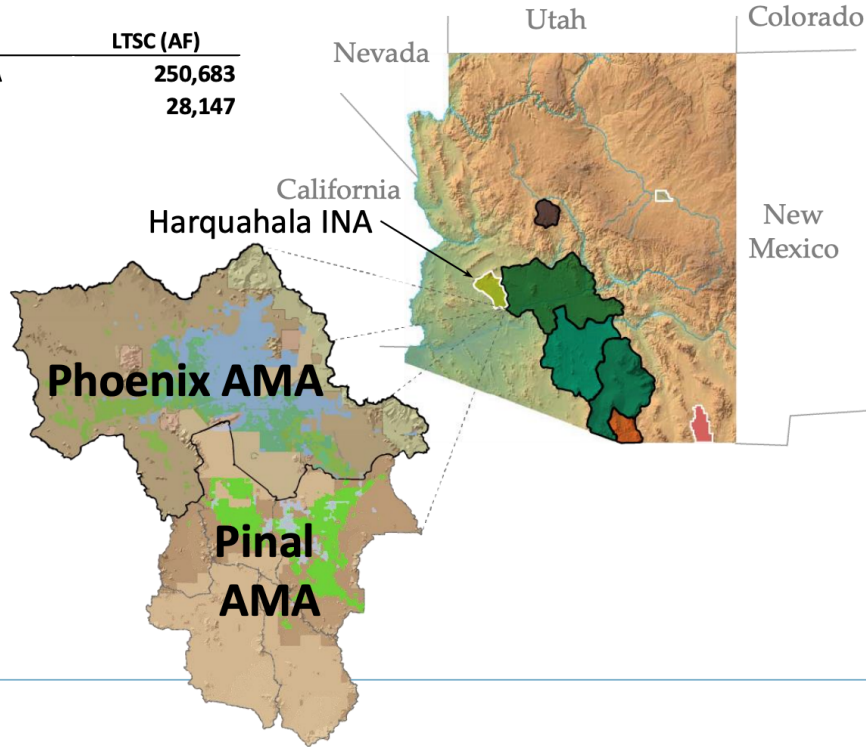
### Arizona Assets

The company owns **28,147 LTSCs** banked in the Phoenix AMA, with another **250,683 LTSCs** banked at their recharge site in La Paz, AZ. In total, the company owns ~278.8K LTSCs in Arizona.

Last year, VWTR sold 250 LTSCs for \$375/LTSC. Additionally, the company raised its price on LTSCs to \$400 for their entire Phoenix inventory.

### Vidler Assets in Arizona: Long-Term Storage Credits

Location	LTSC (AF)
Harquahala INA	250,683
Phoenix AMA	28,147

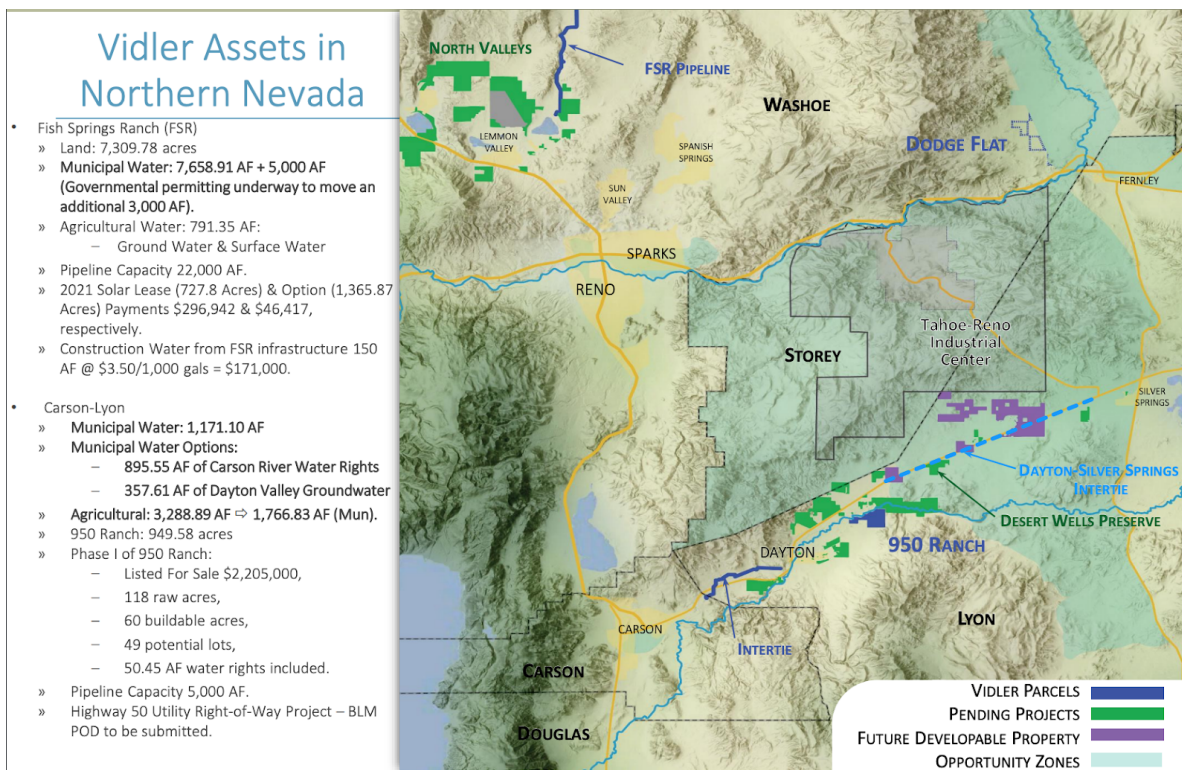


Let's assume that each LTSC in Arizona is worth \$400. **That gets us ~\$112M in water right asset value** (or 1/3rd of its current market cap).

#### Northern Nevada Assets

VWTR's 51%-owned subsidiary, Fish Springs Ranch, owns 7,658 acre-feet (AF) of municipal use water rights. Last year, the company priced those assets at \$43,575/AF for residential use and \$37,800 for industrial use.





The company also owns/controls 4,192 AF in and around the Dayton, AZ area. Current pricing for those assets is \$27,000/AF.

**VWTR’s Northern Nevada assets are worth a combined ~\$209M.**

### Southern Nevada Assets

VWTR owns 2,900 AF permitted water rights in the Tule Desert and Clover Valley. There’s also an additional 4,340AF water rights that may be awarded in eight years.

The company also owns 500 AF water rights in Kane Springs Valley and another 1,009 in Dry Lake Valley.

How do we value these assets? In March 2020, VWTR sold 30AF rights for \$13,000/AF.

**Assuming \$13K/AF, we get *another* \$113M in asset value.**

### Ancillary Water Assets: New Mexico & Colorado

As mentioned earlier, the company owns water rights assets in NM and CO. In New Mexico, VWTR holds 1,209AF in the Lower Rio Grande. They also own 93.373AF in Summit County, CO.

We do not have pricing data for those AF water rights.

### What Will Drive Water Rights Prices Higher?

There are two main reasons why water rights will be higher in five years:

- Drought/global climate change
- Population density/urban development

Metro Phoenix – Resale Days of Supply (Net of Pending)



Let’s start with drought. VWTR owns water assets in desert-like climate states like Arizona, Nevada, and New Mexico. These states are prone to drought. For example, the Lower Basin experienced a drought just last August.

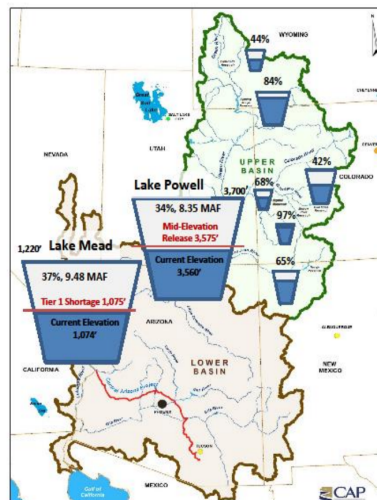
Moreover, Pinal, AZ government exhibited insufficient groundwater to support its existing residents (emphasis mine):

*“...insufficient groundwater in the Pinal AMA to support all existing users and issued assured water supply determinations.” (Arizona Department of Water Resources).”*

The other way to increase the value of a scarce resource is through **increased demand**. You can’t buy a house fast enough in either AZ or NV!

Here’s what I mean. Since 1990, available housing has increased by 34% in AZ and 148% in NV (the national average is 34%).

Meanwhile, all this is happening while the Colorado River remains in a water shortage.



### Colorado River Water Supply Report

System Contents: 22.72 MAF  
As of May 31, 2021

Reservoir Capacities (MAF)			
Reservoir	Current	Change*	Maximum
Lake Mead	9.48	-0.57	25.90
Lake Powell	8.35	-0.21	24.30
Flaming Gorge Reservoir	3.15	-0.03	3.75
Fontenelle Reservoir	0.15	+0.03	0.34
Navajo Reservoir	1.10	+0.05	1.70
Blue Mesa Reservoir	0.35	-0.03	0.83
Morrow Point Reservoir	0.11	+0.01	0.12
Crystal Reservoir	0.02	0.00	0.03

\* With respect to previous month's report

Between droughts, a warming planet, and massive immigration, you've got the perfect storm for higher water rights prices over the next decade.

There are a couple of ways the water rights lose value over time.

For instance, the states in which VWTR owns water rights could experience massive emigration. Or we reverse the water loss in the Colorado River. Or states like AZ, NV, and NM experience fewer-to-no droughts.

Finally, management could do something stupid like takeout the company below intrinsic value, or allow a buyout from a company at a price that doesn't reflect true intrinsic value.

All the above seem highly unlikely.

Higher water rights prices translate to increased revenues and earnings for VWTR. Which leads to greater shareholder returns via buybacks and special dividends.

Regarding shareholder returns, let's discuss VWTR's final asset: **Net Operating Losses (NOLs)**.

### **VWTR's Massive NOL Bank**

So far, we've demonstrated that VWTR owns ~\$433M in water rights assets, which is ~1.5% higher than its current market cap.

The company's second Easter Egg is its Net Operating Loss Carryforwards or NOLs. According to VWTR's latest Annual Report, the company has a combined \$344M in federal and state NOLs. Most of these NOLs expire between 2028 and 2038.

In other words, **VWTR could earn its market cap in net income and pay \$0 in income taxes.**

### **Concluding Thoughts**

I hate saying a stock is a "no brainer" in public markets. But VWTR is the closest thing to a no-brainer I've seen.

The company has its entire market cap in NOLs and owns a scarce resource asset valued at \$430M+.

Management is also incentivized to monetize those water rights and return capital to shareholders.



The company has Performance-Based Options packages for management that expire in 2024. These exercise only if the 30-trading-day average closing sales price equals or exceeds 125% of the grant date stock price.

The grant date stock price was **\$19.51**. In other words, to have those rights fully vested, the stock would need to trade at ~\$24.4/share. The current stock price is ~\$16/share.

Your Value Operator,

Brandon