ARM YOURSELF WITH THE KNOW HOW, ANALYSIS, AI/ML TOOLS, AND DATA YOU'LL NEED TO AUTOMATE PROCESSES AND ACHIEVE YOUR GOALS IN ANY INDUSTRY

VT RISK

Valuable Technology Magazine

INNOVATION RESHUFFLES THE CARDS...

	STABILIZES	DETERIORATES
YES	**TECH RACE** Trade complexity ↗↗↗ Trade Volumes ↗↗↗ Market share volatility ↗↗↗	**TECH RIFT** Trade complexity ↗↗ ↗↗ Trade Volumes ↗↗ Market share volatility ↗↗ ↗↗
NO	**TECH STALEMATE** Trade complexity ↗ Trade Volumes ↗ Market share volatility ↗	**TECH COLD WAR** Trade complexity ↗↗ Trade Volumes = Market share volatility ↗↗

Source: Coface
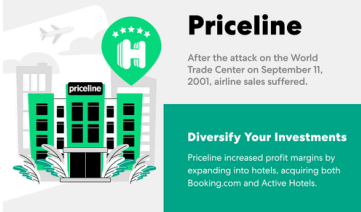
ELECTRONICS TRADE ENVIRONMENT...

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WILL YOU SURVIVE A FINANCIAL CRISIS?
How to Prepare your Small Business

HOW ECONOMIC CRISES IN THE US HAVE IMPACTED SMALL BUSINESSES

The Great Depression (1929)
20,000 companies went bankrupt after the stock market crashed.

The Great Recession (2007–2009)
40% of unemployment was attributed to losses at small businesses.

The Coronavirus Pandemic (2020–)
60% of businesses have permanently shut down due to the pandemic.

6 VALUABLE LESSONS LEARNED FROM RESILIENT BUSINESSES

Priceline
After the attack on the World Trade Center on September 11, 2001, airline sales suffered.
Diversify Your Investments
Priceline increased profit margins by expanding into hotels, acquiring both Booking.com and Active Hotels.

Ford
From 2008–2010, Ford was in deep financial trouble, along with the entire American car industry.
Preserve Cash and Reduce Debt
When sales suffered from recalls, they preserved cash by pulling models from their lineup and eliminating expendable production costs.

Lego
The U.S. experienced a stagnant toy market during the Great Recession.
Expand Your Clientele Portfolio
Lego expanded to more customers by leveraging global markets in Asia and Europe to improve profits.

Starbucks
During the Great Recession (2008), the company was forced to shut down nearly 1,000 stores.
Focus on Customer Relationships
Starbucks made a commitment to increase its focus on customer relationships by engaging online and welcoming feedback.

Kellogg's
During the Great Depression (1929), the U.S. market crashed causing companies to go bankrupt.
Invest In Advertising and Marketing
Instead of cutting costs, Kellogg's doubled its advertising budget and increased profits by 30% by 1933.

Delta
The aftermath of 9/11 left airlines needing to find ways to rebound from loss of profits.
**Look Beyond Layoffs to Cut Costs**
Delta's investment in better training for crew members lead to higher customer satisfaction.

EXPERT INSIGHT ON HOW TO RECESSION-PROOF YOUR BUSINESS

Changes in the innovation and trade environment and their possible outcomes over the next decade

In the financial sector, however, the current geopolitical fracturing is not causing any fragmentation, at least not yet. "*Major companies and financial institutions are continuing to invest and finance themselves all over the world*"

Legend:
- China - Global value added in manufacturing (lhs)
- U.S. imports from China (rhs)
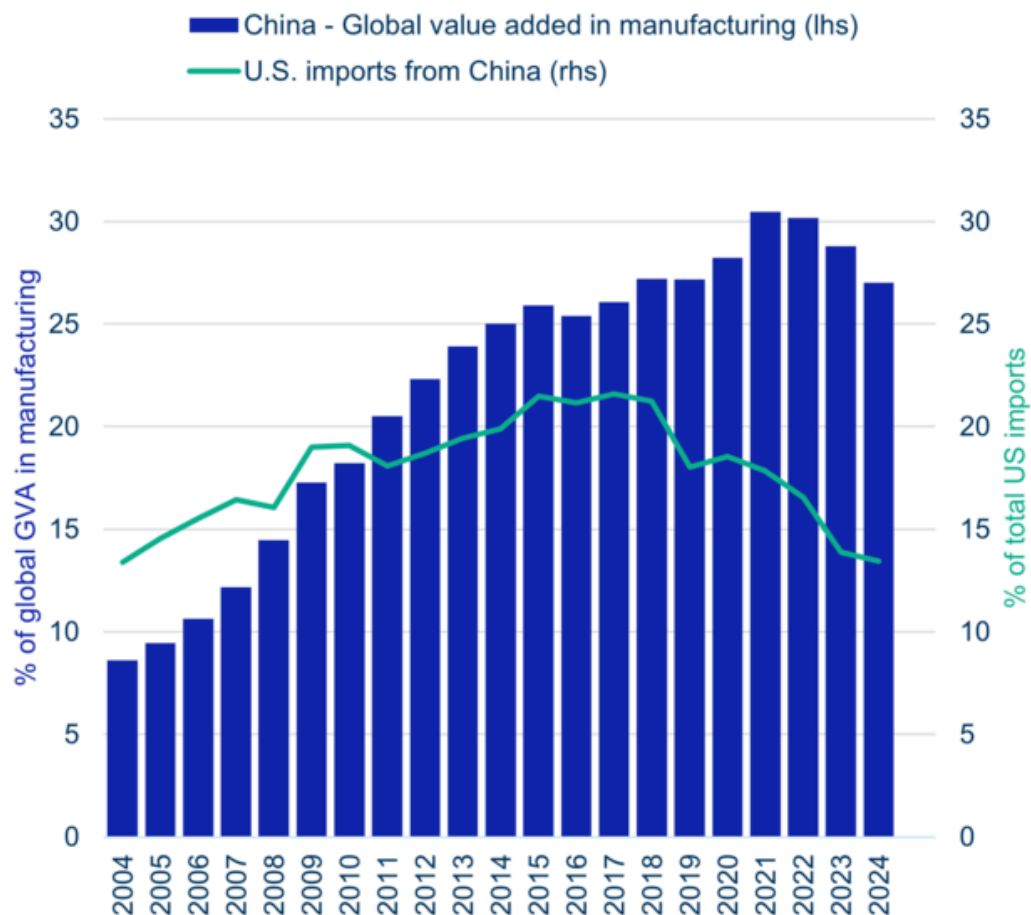
GLOBAL TRADE: GEOSTRATEGIC TENSIONS

The latest Coface economic study "Fragmented Globalization: Fragmentation and Geopolitical Restructuring" anticipates the fractures and the dynamics that will shape the future.

The main conclusions combine the perspectives of geopolitical experts, global economic actors and Coface economic research:

- A multipolar world: the US, China and possibly India are emerging as competing global blocs.

- The risks of US trade policy: Not only Trump's second term has led to an increase in average trade tariffs, but it has also generated lasting and unprecedented unpredictability in the legal and political regime governing world trade.

- China's expansion: Faced with overcapacity and US trade restrictions, China is strengthening its ties with alternative markets and investing in nuclear energy and military power.

- Europe's weakened role: Political fragmentation, reduced defense investment and economic challenges limit the EU's influence in global trade, despite recent efforts to overcome these difficulties.

- Business Strategy: Companies need to reassess supply chains, trade credit insurance, and geopolitical risks to remain resilient

Lessons form 2007-2011 financial crises

People must be prepared for anything, but especially for difficult situations. When markets grow, businesses flourish and everyone, including management, is happy, but leaders are seen especially in times of crisis (Ovidiu Dîmbean-Creţa Rector at ASEBUSS Executive MBA)

At the beginning of the financial crisis, many businessmen in Romania (as many other countries) made the mistake of believing that the country would not be affected. Then, they believed that the recession would not affect their company in any way. => Difficult equation: hubris vs strategy

"This is a typical thought at the beginning of a financial crisis. One can easily find those who claim that the current crisis is different from previous ones. We are more sophisticated and smarter than our predecessors, so it is impossible to make the same mistakes - or at least that is what is believed."

We might believe that the territories of states are untouchable and will continue to exist regardless of financial circumstances. "Let's not forget that in 1936 the independent state of Newfoundland could no longer pay its foreign debt, and was then absorbed by Canada under pressure from Great Britain and became just a province. Similarly, at the micro level, when two banks merge, the one with difficulties is absorbed." (Serban Toader, ZF interview)

US CRISES PROBABILITY 2025

Likelihood of a recession in the next 12 months
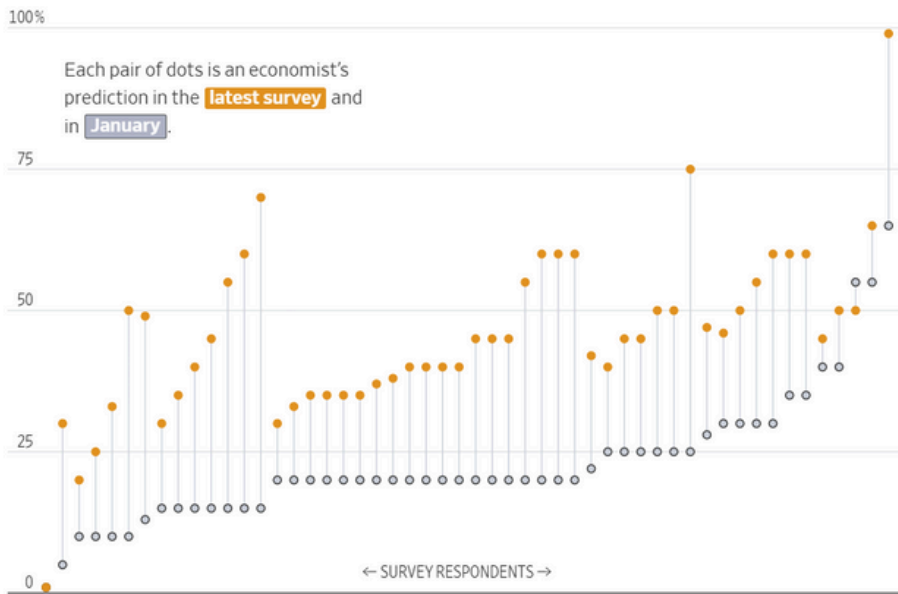
Note: Limited to respondents who provided recession forecasts in both January and April.
Source: Wall Street Journal survey of economists

The global economy is looking at the U.S. economy, which weathered false recession alarms in 2023 and 2024, is entering another uncomfortable summer.

Job growth held steady in May, with the economy adding 139,000 jobs. The unemployment rate has stayed in a tight range, between 4% and 4.2%, over the past year.

But there are cracks beneath the surface. Businesses are warning that constantly shifting trade policies are interfering with their ability to plan for the future, leading to hiring and investment freezes.

Policy uncertainty has unfolded against the backdrop of an economy with slower job growth and a cooling housing market. Compared with last year, the Federal Reserve is more reluctant to cut interest rates because officials are worried about new inflation risks. (source WSJ)
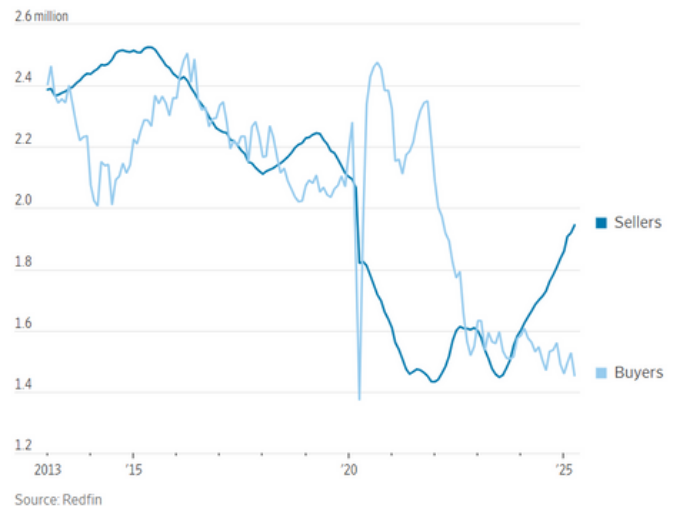
Ratio of job openings to unemployed workers

Source: Labor Department

Home sellers outnumber buyers by nearly 500,000

Source: Redfin

Borrowing rates

Sources: Freddie Mac, Treasury Department, Federal Reserve, Macrobond

05

AI VS POLITICAL TOP PRIORITIES

From billions invested in AI FACTORIES by EU to the billions in failed programs to finance tech companies, European Union is forgetting that all big TECH companies (US) were startups strategically financed and fiercely protected and supported by US Government in the last 20 years.
There were times when strategies failed but new wave of USA TECH companies raised due to strong support and available financing programs (also supported and encouraged).

Europe protected some big and slow to innovate companies (with powerful lobby), but supported by different countries, wasted billions on inefficient education programs for entrepreneurs. Now there is a chance to redirect all the big and inefficient programs, and fragmented in many ways to promote a EU STRATEGY across all countries, not only some with strong lobby power, but a very competition to promote companies equally from ROMANIA or HOLLAND or FRANCE. There are many projects waiting to grow, bat they need to be financed with responsibility, protected from corruption and discrimination.

POLITICO: As the U.S. continues to **up the ante** in questioning transatlantic ties, **calls are growing in Europe** to reduce the continent's reliance on U.S. technology in critical areas such as cloud services, artificial intelligence and microchips, and to opt for European alternatives instead.

In a new International Digital Strategy the EU will instead promote collaboration with the U.S., according to a draft seen by POLITICO, as well as with other tech players including China, Japan, India and South Korea. "Decoupling is unrealistic and cooperation will remain significant across the technological value chain," the draft reads.

There's wide agreement on the problem: U.S. cloud giants capture over two-thirds of the European market, the U.S. outpaces the EU in nurturing companies for artificial intelligence, and Europe's stake in the global microchips market has crumbled to around 10 percent. Thursday's strategy will acknowledge the U.S.'s "superior ability to innovate" and "Europe's failure to capitalise on the digital revolution."
What's missing are viable solutions to the complex problem of unwinding deep-rooted dependencies.

AI ACT: The world-first rules to tackle artificial intelligence risks were agreed in late 2023 and will gradually come into effect over the next year and a half. As well as banning the use of AI in certain scenarios, they set many requirements designed to minimize harmful effects. The first restrictions entered into force in February, with the next key dates in August 2025 and 2026.

While providers of the most complex AI models will be required to comply with new obligations starting August 2, a key guide in the form of a code of practice is not yet ready. It comes as the EU looks at various ways to roll back requirements on businesses through a so-called simplification effort.

THE TOP AI SPENDERS

It may seem like artificial intelligence fatigue is burning out professionals across the banking space, but new data from American Banker finds that executives are as eager as ever to delve deeper into the technology. The survey polled 694 experts across the accounting, wealth management, banking and payments, insurance and mortgage fields to learn more about how each sector sees AI adoption progressing between now and the next 12-18 months.

- 70% that said they have at least moderate knowledge or involvement in their organization's AI initiatives.
- 70% of banking and payments organizations report actively exploring or using AI tools to some degree.
- 9% of banks and payments companies are aggressively rolling out AI campaigns company-wide,
- 30% are focusing on small-scale implementations for specific use cases
- 31% are taking an incremental approach to AI adoption.

Recent examples of AI campaigns include JPMorganChase's $10 million investment in FairPlay, BNY's ChatGPT Enterprise integration into its large language model Eliza and Palantir's AI cybersecurity play for banks.

Usage has gone up, and so have costs. Roughly 63% said cloud-provider costs have increased between 10% and 24%, 54% reported similar increases from AI model providers and 33% said AI application vendors have raised prices between 25% and 49%, all in the last two years. These costs can be a greater barrier for growth than many think, as almost half of bank and payments respondents said the financial burden for updating core information technology was the main hurdle to realizing some degree of positive ROI for AI investments.
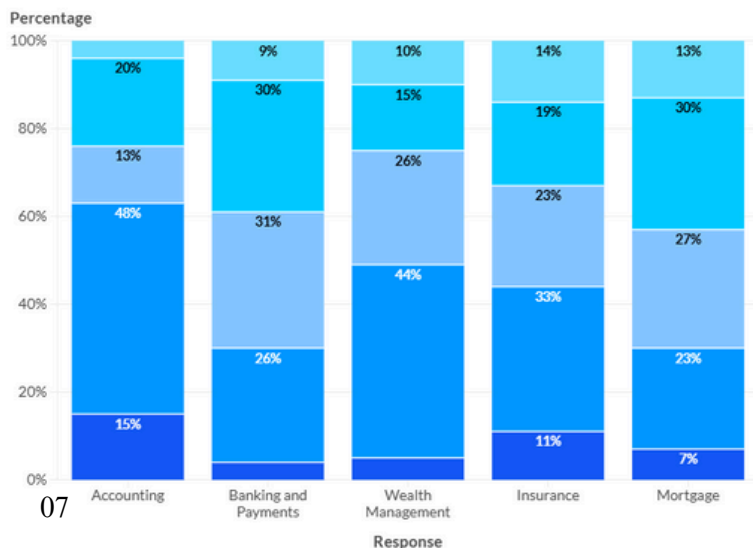
Vik Sohoni, senior partner and global leader of McKinsey's banking digital analytics practice, told American Banker that AI use cases in identifying fraud and helping call center agents has "certainly [generated] some returns on investments," but the impact of these tools on a bank's bottom line is much harder to visualize. "Are these [returns] quantifiable, tangible and visible in the bottom line or are they ephemeral and a few minutes here and there? So far it's more the latter, with some exceptions like call centers," Sohoni said.

These increases aren't stopping banks and payment companies from doubling down on AI. Roughly 80% said their organizations were increasing tech spend on AI from less than 10% to more than 25% across the next 12 months.

Banking on AI

Banking and payment organizations, as well as mortgage firms, are or plan to be the most active users of artificial intelligence over the next 12-18 months.

Legend:
- No plans to use AI
- Still learning and collecting information about AI; no adoption
- Taking an incremental approach to AI adoption; small pilot projects
- Focusing on small-scale AI implementations; specific tasks or functions
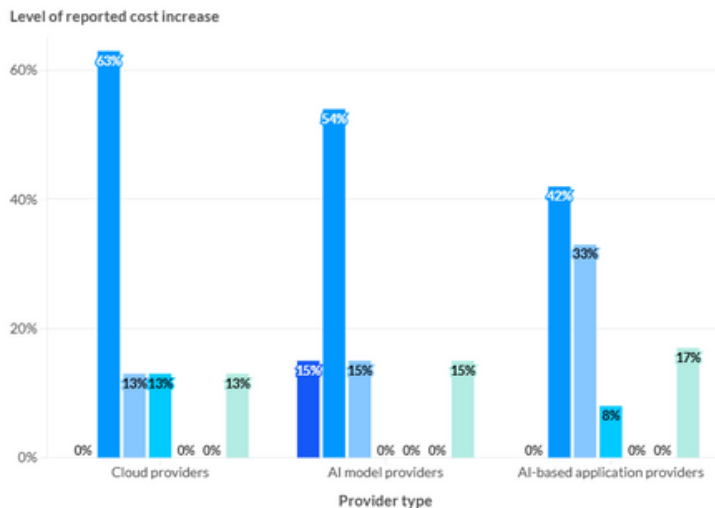- Aggressively moving forward with AI initiatives; cross- enterprise

Percentage

Response	Aggressively moving forward	Focusing on small-scale	Taking incremental approach	Still learning	No plans to use AI
Accounting	20%	13%	48%	26%	15%
Banking and Payments	9%	30%	31%	26%	—
Wealth Management	10%	15%	26%	44%	11%
Insurance	14%	19%	23%	33%	11%
Mortgage	13%	30%	27%	23%	7%

Artificial intelligence, genuine costs

Across a variety of technology providers, bank and payment respondents said costs have largely gone up between 10-24% over the last two years.

Legend: Less than 10% | 10-24% | 25-49% | 50-74% | 75-99% | 100% or more | Not sure

Level of reported cost increase

Provider type	Less than 10%	10-24%	25-49%	50-74%	75-99%	100% or more	Not sure
Cloud providers	0%	63%	13%	13%	0%	0%	13%
AI model providers	15%	54%	15%	0%	0%	0%	15%
AI-based application providers	0%	42%	33%	8%	0%	0%	17%

Source: American Banker, Cost of AI survey

AMERICAN BANKER

Source: American Banker, Cost of AI survey

AMERICAN BANKER

AI TYPES: ML VS GENAI

Which Artificial Intelligence Tool Should You Use — and When?

Generative AI/ Large Language Models

Generating content: Answering questions, composing emails, brainstorming ideas, and creating new text.

Working with everyday language and images: LLMs can classify, extract insights, or answer questions using common inputs. No custom model needed.

When resources are limited: Generative AI doesn't require as much expertise to use.

Machine Learning

Making predictions: Generalizing patterns from thousands or millions of examples like sensor logs or transactions.

When you already have a model: Don't rush to replace something that's working.

When deep expertise matters: Technical tasks like medical diagnoses where specialized knowledge is required.

Protecting sensitive data: Use when data shouldn't be exposed to LLMs.

Generative AI and Machine Learning Together

Augmenting machine learning models: Use generative AI to add external context.

Designing a machine learning model: Use generative AI to build and evaluate machine learning models.

Generating synthetic data: Use generative AI to create data for modeling with the same mathematical properties as real-world data sets.

Preparing structured data: Upload data to LLMs to spot anomalies, errors, and missing values before modeling.

Source: Swati Gupta and Rama Ramakrishnan | MIT Sloan School of Management

MIT MANAGEMENT SLOAN SCHOOL

Machine learning and generative AI: Which tool should you use — and when?

When traditional machine learning is the better option:
- When you're using highly specific domain knowledge. LLMs are trained on widely available data and suited to deal with everyday information. But they may not be as accurate for highly technical or niche tasks, like medical diagnoses based on MRI images.
- When you have privacy concerns: while it is possible to build your own private models, that requires specialist technical skills that may not be easily available in your organization. In these situations you must exercise caution with confidential information into LLMs.
- When you already have a machine learning model. Organizations have put a lot of effort into building machine learning programs for specific applications, like identifying potential fraud in credit card transactions, payment behavior, or risk at acqusition.

What are large language models (LLMs)? are a category of foundation models trained on immense amounts of data making them capable of understanding and generating natural language and other types of content to perform a wide range of tasks.

Best use cases for generative AI: In addition to its main function, which is generating new content, generative AI is taking over tasks that traditional machine learning has historically performed. These situations include: When you're dealing with everyday language or common images. LLMs have been trained on a large amount of text or images and can be used "off the shelf" to classify and detect things.

For example, a company might want to analyze online product reviews to identify user reports of product defects. This once meant building a machine learning model trained to identify such reviews — a process that takes effort, time, and money. Today a company can input product reviews into a LLM and ask it whether the dataset contains any product improvement insights.

AI TOP PROJECTS

Bank of America

Most of Bank of America's 213,000 employees are using artificial intelligence, be it the bank's virtual assistant Erica for Employees or other AI tools. This widespread adoption has executives hopeful as the company dives deeper into the technology.

Bank of America leaders said that roughly 90% of the bank's workforce uses Erica, which purportedly has cut down on IT help desk calls by more than half. Generative AI adoption has also grown among those working at Merrill Lynch and BofA's private banking and call center departments.

"When we think about build versus buy, we don't want to be building things that are increasingly foundational and are available as a commodity," Hari Gopalkrishnan, head of consumer, business and wealth management technology, told American Banker. "We want to leverage the heck out of innovation happening in the industry [and] we want to leverage the heck out of partnerships we have that are investing tons of money in the space that said they have to eventually fit in with our framework."

Lloyds Bank's

The London-based Lloyds Banking Group is using Google Cloud to develop generative and agentic AI models to help Chief Data and Analytics Officer Ranil Boteju's plan to "enable the whole bank with AI."

Lloyds' on-premise, legacy machine learning and data science stack was roughly 10 years old when executives began working with Google's Vertex AI platform to build new models a few years ago. Since then, the bank has successfully transferred 15 modeling programs to the Vertex AI platform hosted on Google Cloud, allegedly shaving 27 tons off the estimated lifetime carbon footprint of the machine learning platform.

Being able to use a variety of models through Vertex was a selling point for Boteju when planning the bank's foray into generative AI.

"We can use Gemini when we want, but also the fact that we can bring in open source models, or any number of different models, that is incredibly useful and powerful for us," he said. "It means that we can select the right element for the right task."

Mastercard implementing agentic AI

Mastercard is upping its agentic AI presence through the launch of Mastercard Agent Pay, which aims to help merchants, consumers and issuers alike address needs from purchase opportunities to supply chain management.

Through the new platform, Mastercard uses its data to help generate a host of purchase ideas for consumers managing events, assist merchants with supply chain duties and guide merchants through developing a marketing or sales framework. Technology partners include Microsoft for scaling, IBM for B2B technology and both PayPal and Checkout.com for security.

"Mastercard is transforming the way the world pays for the better by anticipating consumer needs on the horizon," Jorn Lambert, chief product officer at Mastercard, said in a press release. "The launch of Mastercard Agent Pay marks our initial steps in redefining commerce in the AI era, including new merchant interfaces to distinguish trusted agents from bad actors using agentic technology."

IBM debuts quantum encryption, AI accelerators in new mainframe

Last month, IBM unveiled its new z17 mainframe capable of running artificial intelligence models at high speeds while also securing transactions and other data with quantum-grade encryption.

Officials say the IBM z17 is capable of processing roughly 35 billion transactions per day through its Telum II chip, made possible by what the company's higher ups say are AI accelerators and 40% more on-chip capacity when compared to the chip in the prior z16 model.

"We know fraud has so many forms and you need a model that's an expert in each one of those forms, and now you can run them all in a single transaction," Tina Tarquinio, chief product officer for IBM Z, told American Banker. "The system really needs to be able to detect the difference between fraud and a valid transaction, so you spend more time on the things you should and less time on the things you shouldn't."

IBM Box

Box, a cloud storage company, is working with IBM to strengthen its push into the enterprise AI markets.

The effort combines Box AI, an agentic AI tool that allows businesses to develop and tailor their own closed-system AI models, with IBM's watsonx.ai. Box AI users now have access to a wider variety of models through watsonx, and IBM employees get access to Box AI tools through watsonx in exchange."Financial services firms can accelerate fraud detection and risk analysis by extracting patterns from large volumes of transaction data, enabling real-time anomaly detection and reducing remediation time, all while ensuring compliance and auditability," Dawn Lauter, senior team manager of product marketing at Box, said in a statement.

SMALL BUSINESS: THE FUNDING EVOLUTION

Pipe & Priority:
Pioneering a
new frontier in
business funding

PIPE BLOG   CASE STUDIES
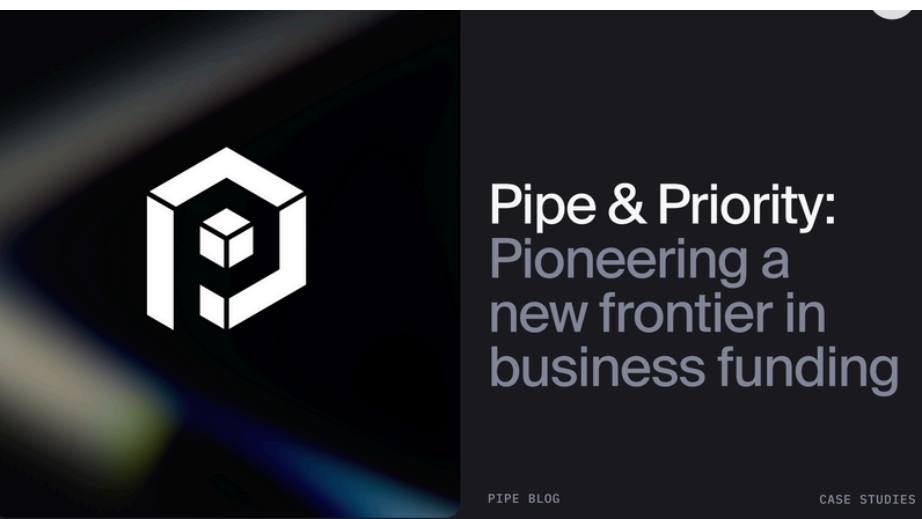
Current situation USA: If you're a local entrepreneur today you are part of a group of people that largely don't exist in the eyes of large financial institutions. Small businesses contribute more than 40% of America's annual GDP. Banks with more than $10 billion in assets, however, held only 3.6% of their assets in small-business loans. To put that in perspective, Square lends more capital to small businesses than JPMorgan (American Banker).

Current situation EU: far behind USA funding system for SME's, is also far from identifying that under serving SME's and under financing up to 50% from GDP is one of the cause of low growth and low tech adoption in the fastest technologic changes era.

The funding evolution

The evolution of funding for small and medium-sized businesses (SMBs): traditionally, securing funding required businesses to present two years of audited financial statements and tax returns to banks, a process that was lengthy and required a proven history of consistent performance. This method, exemplified by SBA loans, made it difficult for newer or smaller businesses to access necessary capital, something he's very passionate about, given his heritage.

We've seen numerous evolutions in funding since those days and more recently, companies like **Square Capital, Stripe Capital,** and **PayPal Working Capital**, have focused on single cash flow streams. By simplifying the problem to a narrow set of financial data, these companies could provide more streamlined and accessible funding solutions. A new funding model: **Pipe** builds on past evolution by allowing any SaaS business to offer similar financial services to their customers, thereby democratizing access to capital.

The changing business landscape

A broader shift in how SMBs operate, noting that business owners no longer visit banks regularly. Instead many rely on specialized vertical software that addresses specific industry needs comprehensively. Examples include *Slice* for pizza shops and **Boulevard** for nail and hair salons, which offer end-to-end solutions tailored to their respective industries.

Pipe has capitalised on this shift by embedding financial services within these vertical software solutions. It's designed to keep the balance sheet light, offloading risk by selling whole loans to capital markets. Voiles says this approach enables unlimited scaling potential.

Pipe's multi-draw line of credit is particularly attractive to SMBs, offering a security blanket that meets their needs without the onerous terms often found in traditional financing products. In addition to its capital products, they're developing a card product for micro-merchants, which will be a 30-day charge card powered by Pipe's risk engine. This product aims to fill a gap in the market, as existing solutions like those from **Capital One** and **Amex** do not cater to micro-merchants due to the high perceived risk.

Pipe's approach leverages cash flow data from POS terminals, enabling it to extend credit without personal guarantees or FICO-based underwriting. These additions will streamline expense management for SMBs, allowing them to focus more on their core operations. Of course AI gets a mention, as it often does these days, which would automate business tasks and decision-making based on verticalized data sets.

It's a really interesting profile piece of a passionate fintech leader who is behind a product that could revolutionize the capital space and have a genuinely positive impact on small businesses.

WHITE PAPER: EVALUATE THE POTENTIAL OF DATA IN SB LENDING

Nonbank lenders have gained market share in the SBL market globally. Among nonbanks, <u>fintech</u> lenders , especially in USA, have become particularly active, leveraging alternative data and complex modeling for their own internal credit scoring.

Some examples of fintech business models (fast digital decision-making):
- OnDeck, Kabbage (SBL)
- Tradeshift (supply-chain financing)
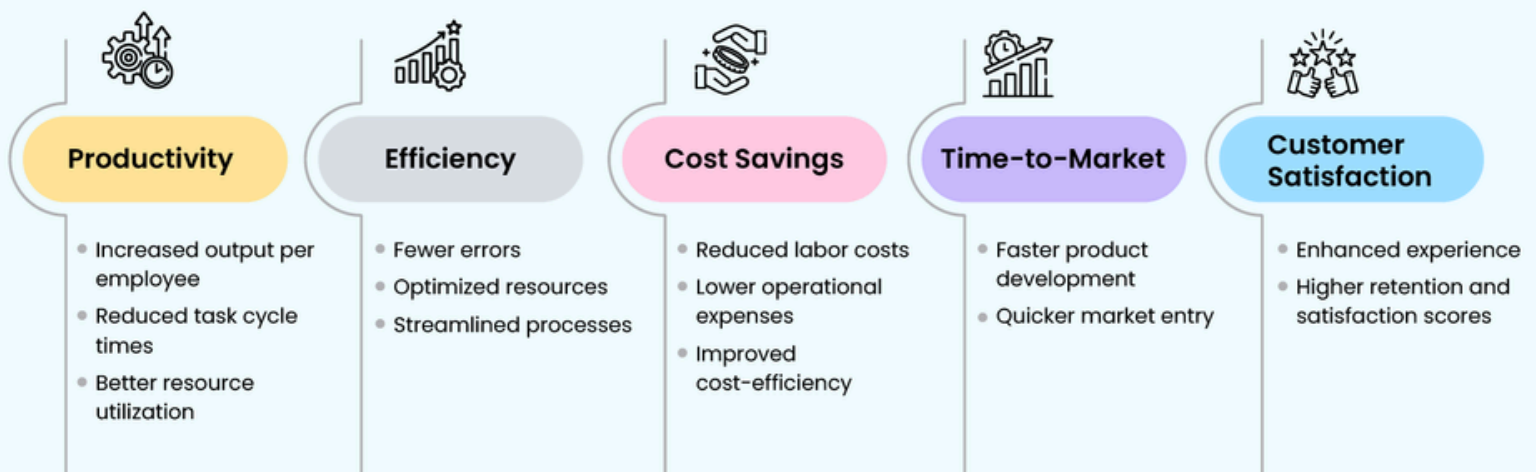- BlueVine and Fundbox (digital-first factoring companies).

Some scientific papers using proprietary loan-level data from two <u>fintech</u> SBL platforms were explored the characteristics of loans originated (https://www.sciencedirect.com/science/article/abs/pii/S1572308924000755). Results show that these fintech SBL platforms lent relatively more in zip codes with higher unemployment rates and higher business **bankruptcy** filings.

- **Fintech platforms' internal credit scores were able to predict future loan performance more accurately than traditional credit scores, particularly in areas with high unemployment**. Overall, while not all fintech firms follow the same approach, find that fintech lenders could help close the credit gap, allowing small businesses that were less likely to receive credit through traditional lenders to access credit and potentially at lower cost.

- How they did it? Using **data driven strategy** they build models to predict whether a borrower will repay or, ultimately, default on the obligation. Some have business models that rely on untraditional external data sources, fintech company <u>Kabbage,</u> which uses data from social media, sales, shipping records, and more to help determine the creditworthiness of small businesses.

The fundamentals of predictive analytics became part of core business model: understanding the data, data preparation, balanced and unbalanced data sets, constructing training-validation-holdout sets, cross-validation, predictions and target leakage. Technical solutions used by fintech platforms include:
(1) Decision trees as a modelling technique, overfitting and induction bias, model validation;
(2) Random forest as an ensemble-style modelling technique, bootstrapping, random feature selection;
(3) Log loss as a metric for evaluating and comparing models, feature impact.

Key Metrics to Measure ROI in AI and Automation

Productivity	Efficiency	Cost Savings	Time-to-Market	Customer Satisfaction
• Increased output per employee • Reduced task cycle times • Better resource utilization	• Fewer errors • Optimized resources • Streamlined processes	• Reduced labor costs • Lower operational expenses • Improved cost-efficiency	• Faster product development • Quicker market entry	• Enhanced experience • Higher retention and satisfaction scores

White paper: Decisions when to invest in new technology

For years, the option was to develop new technology in-house, at expense and expenditure of resources. But today, banks and other organisations have a better option: the ability to buy technology and implement it quickly, cost effectively and more efficiently than they could on their own.

Standard capital investment analysis and the standard use of the return-on-investment (ROI) project decision tool assume that the technological frontier is fixed. Technology is, in essence, a known quantity. By contrast, in the case where decisions are being made on the purchase and implementation of technologies that are new to the company and often new to the world, the purpose of investment is often different and the knowledge framework of the investing company is distinctly different.

To improve debt collections, businesses need smart strategies that can change based on how borrowers behave and what's happening in the market.

Using scorecards and models, whether traditional or based on machine learning (ML), can help improve collection rates and make the process more efficient.

Impact on Collections Efficiency using scorecard-based and ML-driven strategies:
- Proactive Interventions: Data models help identify risks early, leading to quicker action.
- Better Borrower Segmentation: Scorecards provide initial grouping, and ML models adjust this over time, improving how lenders target borrowers.
- Personalized Recovery Plans: Both scorecards and ML models allow for repayment plans that are more tailored to each borrower, improving results.
- Higher Efficiency: Predictive models help prioritize cases, reducing costs and making collections more efficient.

Case Example: Improving Collections for Unsecured Loans
A provider of unsecured loans used a mix of traditional scorecards and machine learning models, resulting in a 20% improvement in collections. The combination of early-stage borrower segmentation (using scorecards) and real-time analysis of borrower behavior (using ML models) helped target the right borrowers at the right time, improving recovery rates while cutting costs.
By combining traditional scorecards with machine learning models, financial institutions can create effective collections strategies tailored to each type of loan. This helps increase recovery rates, improve efficiency, and ensure better outcomes for both lenders and borrowers.

Businesses are increasingly interested in how big data, artificial intelligence, machine learning, and predictive analytics can be used to increase revenue, lower costs, and improve their business processes. Precisely speaking, we create a framework for the data-driven scheduling of outbound calls made by debt collectors. These phone calls are used to persuade debtors to settle their debt, or to negotiate payment arrangements in case debtors are willing, but unable to repay. To determine daily which debtors should be called to maximize the amount of delinquent debt recovered in the long term, under the constraint that only a limited number of phone calls can be made each day.
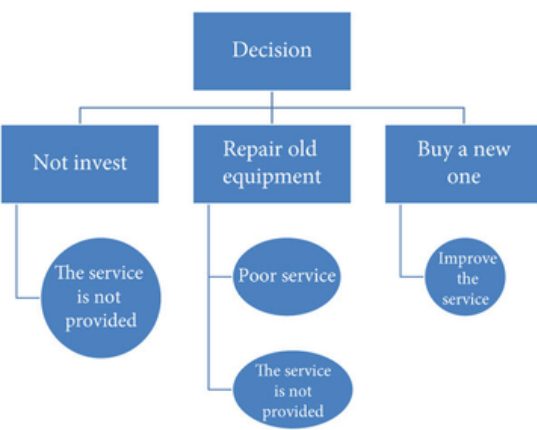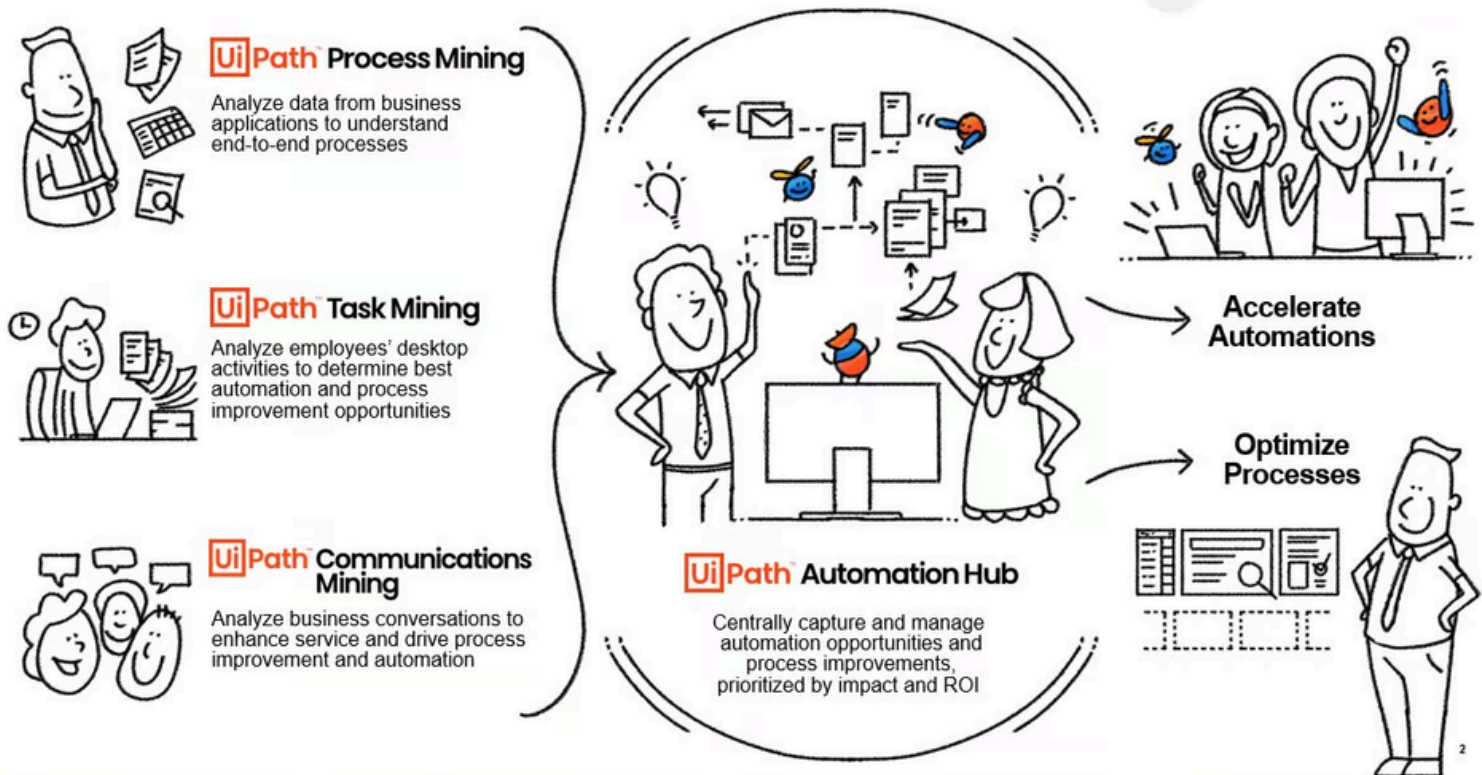

Invest in technology
- Use technology to automate
- Use technology to improve communication
- Use technology to make better decisions
- Use technology to stay competitive
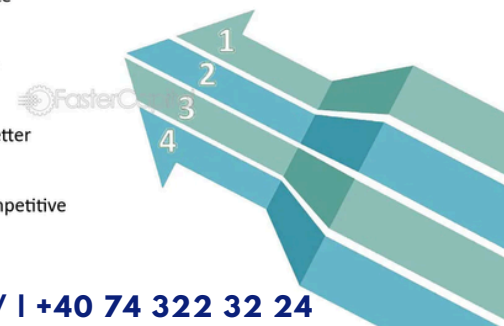
WHITE PAPERS: AI/ML IN DEBT COLLECTIONS

The collection department sometimes remains a bastion for critical process that needs ever-evolving. The ability to collect efficiently is not just about persistence, it is also about good customer intelligence. With the adoption of analytics in the collection process, the bank can effectively transform the collection department from a cost center to a value driver.

The fundamentals of predictive analytics became part of core business model: understanding the data, data preparation, balanced and unbalanced data sets, constructing training-validation-holdout sets, cross-validation, predictions and target leakage. Technical solutions used by fintech platforms as a base for business model.

Significant in every project involving AI solutions is to validate evaluate bias decisions', built control tools, and implement specific AI regulation. Two examples for investigating AI/ML models:

- Bias investigation performed on potential biases related to using AI/ML models for default predictions or credit scoring, choosing gender (female) as protective attribute. Using Deep Learning Networks. Specifically, he investigated the probability of AI/ML models generating Type I errors (false positives) depending on the borrowers' risk levels. Using a database containing all consumer and mortgage loans with value higher than EUR 4000 (nearly 900,000 debtors) granted by a European Union banking sector. The results showed that proper use of ML model feeded with unbias dataset do not generate bias in outcome. (Phd. Alexie Alupoaiei)
- A second investigation: In some scientific paper (PHD Andreea Bozagiu) it was tested and evaluated these models baseline methods (logistic regression), deep learning (Gradient Boosting Machine and Neural Networks), and LLM-based models for feature extraction and prediction looking at performance in areas like accuracy, precision, and recall. The results show that deep learning and LLM-based models perform better with complex data, while traditional models still work well with lower computational demands. (Phd. Andreea Bozagiu)

DATA-DRIVEN DECISION MAKING

STEP 1
Determine Business Questions or Issues

STEP 2
Strategize and Identify Goals

STEP 3
Target Data

STEP 4
Collect and Analyze Data

STEP 5
Make Decisions Regarding Findings

Karma

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General facts

Karma is a Rule Based Decision Management System

Karma executes automatic decision models like scorecards and decision trees

It is a software that has a major positive impact if used across all areas

Results

Better resource usage

Time to decision on acquisitions reduced from 2 days to seconds

Resources used on acquisitons decreased by 20-40%

Collection resources decreased by 20-30%

Delinquency and debt improved

Delinquency decreased by 10-15%

Bad debt decreased by 10-15%

Collections improved

Collection rate increased by 15-30%

Revenue growth

Revenue increased by 5%

Market share & loyalty

Customer base increased by 5%

Features

Account or customer level

Decisions are made even at account, even at customer level

Multiple decisional areas

Works with multiple decisional areas, like Acquisitions, Credit limits, Overlimits, Collections, Sales, Retention, etc.

Black and white listing

Multiple black / grey / white lists for accurate exceptions handling (e.g. VIPs, Fraudsters.)

Testing environment

Karma has a built-in testing environment, where analyst can simulate strategies' outcome before implementing i into production

Champion - Challenger

Multiple Champion-challenger strategies can run at the same time

Easily replicates any decision strategy

Versatile nodes:

- Filter: the basic node of the decisional tree, filters accounts that reached the filter node
- Assign: All accounts that reached this node will receive the decision (e.g. Timeline="Soft", or Score = 80, etc.)
- Check in list: Accounts that reached this node will be checked against a list specified by user; found will continue to a branch; if not found, wil continue to a different branch
- Top N: Will filter first N accounts after sorting them ascending or descending, based on a criteria specified by user; can also randomly choose N accounts or percent of accounts

Valuable Technology Joint Venture

VT RISK

Arm yourself with the know how, analysis, AI/ML tools, and data you'll need to automate processes and achieve your goals in any industry

AI/ML & Data Science Solutions
https://vtrisk.tech/

CASE STUDY: TECHNOLOGY COMPANIES IN ACTION

Overview: Discover how a Product Centric approach, based on the principles of Agile and Lean, can help you develop and manage a custom solution product from scratch. This case study closely highlights our "One Team Manifesto" approach to custom software development projects and how it delivers what it promises.

- Cost optimization, risk mitigation, time efficiency, and flexibility to meet clients' needs.

About the Client: ELITE, launched by Borsa Italiana in 2012 is a subsidiary of Euronext. Euronext, short for European New Exchange Technology, is the leading pan-European market infrastructure, connecting European economies to global capital markets, to accelerate innovation and sustainable growth. It operates regulated exchanges in Belgium, France, Ireland, Italy, the Netherlands, Norway and Portugal. With nearly 1,900 listed issuers and around €6.3 trillion in market capitalisation as 2024. Elite is the entity that assists small and medium-sized enterprises to grow and access private and public capital markets. For more on the client www.elite-network.com

The Challenge

ELITE was looking to digitize all its operations and processes to support growth, expansion, and provide better customer service to stakeholders. The client was exploring the development of a custom software solution— a complete digital platform— to manage all the complex activities involved in the fundraising process between investors and organizations or projects seeking funding. The goal was to support interactions and promote the engagement of the ELITE community of companies and partners. To offer a community engagement channel, allowing each participant to find and interact with each of

SORINTians Tackling the Challenge

After a comprehensive "Discovery" phase to analysis the requirements and to understand the solutions market availability, we realized that there was nothing capable of responding to ELITE's needs in an adequate way, which guaranteed a high level of customization, compatible with the network's development prospects. The need therefore emerged to design and develop a dedicated digital platform. A customized solution capable of generating value in the long term and guaranteeing the necessary support over time. A flexible product, but at the same time

SORINTians' Perspective

Various factors need to be effectively addressed to exceed expectations. SORINTians are well-versed in this expertise. From the kickoff, we allocate a Senior Scrum Master to manage project planning activities, set the most appropriate, fitting, and latest methodologies, and establish an effective communication workflow with all stakeholders. Selection of existing tools, functions, modules, and libraries from our pool of reusable frameworks to leverage predefined functions. We also form a team with all the necessary skills and specializations for the initial project phases, following the guidelines of our 'One Team

Key Results

More details on: https://www.sorint.com/en/case-study/case-study-elite/

A streamlined product-centric solution facilitating the capital raising for over 1K corporate finance operations valued at approximately €13 billion euros

A flexible contract model able to match client's needs while mitigating risks, cost, and time challenges

A solid agile framework able to deliver, track, and continuously align with the required IT specializations

A satisfied client who's able to focus on core business, with no software development hassles

Wealth Taxes in Europe

Net Wealth Taxes and Wealth Taxes on Selected Assets in EU Member States and European OECD Countries, 2025

■ Net Wealth Tax ■ Wealth Tax on Certain Assets

Note: While net wealth taxes are levied on all wealth an individual owns (net of debt), wealth taxes on selected assets cover only part of an individual's wealth (e.g., financial assets).
Source: EY, "Worldwide Estate and Inheritance Tax Guide 2024"; and PwC, "Worldwide Tax Summaries."

Tax Foundation
Europe

TAX RATES OF THE US AND 8 TECH HUBS IN EUROPE -

WHAT TO EXPECT IN THE FUTURE?

Wealth Taxes in Europe

As today's map shows, only three European countries covered levy a net wealth tax—Norway, Spain, and Switzerland. France, Italy, Belgium, and the Netherlands levy wealth taxes on selected assets but not on an individual's net wealth per se

ressivity of the income tax system for the ultra-rich but also reduces overlapping inequalities and ensures that those who have contributed the most to the re

Wealth Taxes in Europe

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A study on 172 countries on the revenue potential from implementing a moderate, progressive tax on net wealth. From the example of Spain's "solidarity surcharge," a model that has proven politically feasible, and use data from the World Inequality Database to project the revenues of adopting similar tax measures around the world. Analysis indicates that such a tax could lead to an average increase in national budgets of 7 per cent each year. https://taxjustice.net/reports/taxing-extreme-wealth-what-countries-around-the-world-could-gain-from-progressive-wealth-taxes/
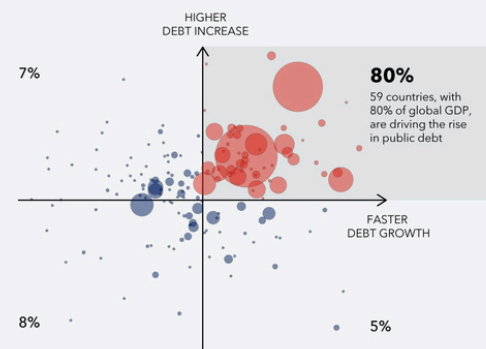
A moderate, progressive tax on net wealth is a tool to generate this revenue. Taxing extreme wealth not only addresses the problem of the regressivity of the income tax system for the ultra-rich but also reduces overlapping inequalities and ensures that those who have contributed the most to resources consumption.

People want political and economic reform? Two in three people across G20 countries surveyed (68%) agree that the way the economy works should prioritise the health and wellbeing of people and nature rather than focusing solely on profit and increasing wealth.

A survey of adult citizens in 18 of the world's largest economies has revealed majority support for tax reforms and broader political and economic reform. (Not all questions were asked in China, as indicated when findings reference 17 G20 countries.)

Support for a wealth tax on wealthy people is highest in Indonesia (86%), Turkey (78%), the UK (77%) and India (74%). Support is lowest in Saudi Arabia (54%), and Argentina (54%), but still over half the respondents surveyed. In the United States, France and Germany around two in three of those surveyed support a wealth tax on wealthy people (67%, 67% and 68% respectively)**.**

Public debt is higher and growing faster than before the pandemic, propelled by the largest economies

HIGHER DEBT INCREASE

7%

80%
59 countries, with 80% of global GDP, are driving the rise in public debt

FASTER DEBT GROWTH

8%   5%

Sources: IMF staff calculations; and IMF, World Economic Outlook. Note: Y-axis shows change in debt to GDP between 2019 and 2025. X-axis shows the projected growth in debt to GDP from 2014-19 to 2024-29. Bubble size = 2024 share of world GDP .
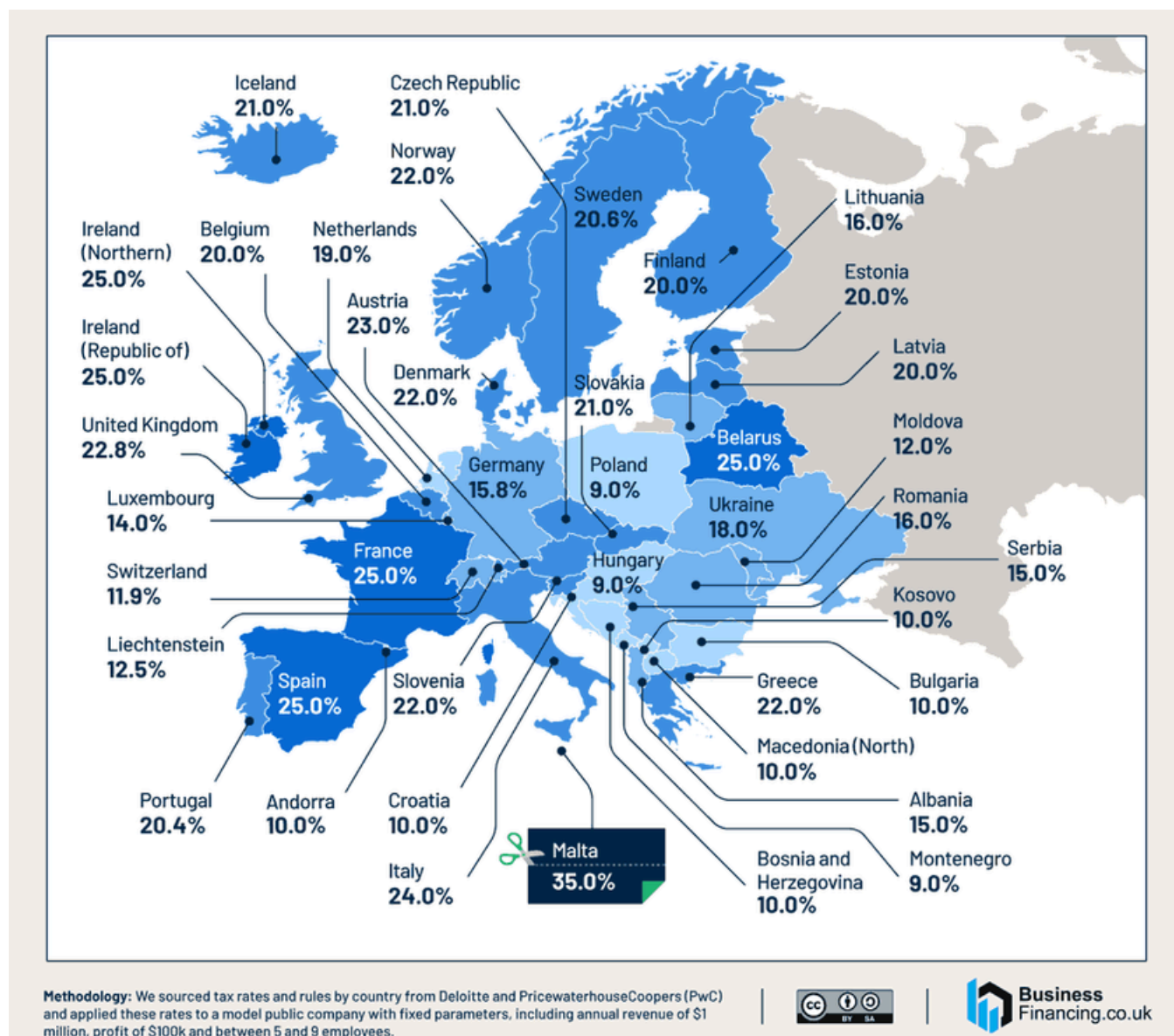
IMF

TAX RATES OF THE US AND 8 TECH HUBS IN EUROPE

A hot topic for today and years to come TAX rates are a lot discussed but almost no comparable data form different countries. Election year campaigns give candidates the opportunity to present tax policy changes. But wondering for some time why not use real data significant studies, and waste so much time for some words that may sound good or touch some pay per click targets.

Tax rates tend to differ from one country to another, which means that Europeans and Americans are subject to very different fiscal regimes. One side of the situation is which country is more cost-effective when it comes to setting up your own business and recruiting employees. When it comes to the tax rate in Europe vs US, the first one usually has lower costs when compared to the United States. However, the financial benefits should be weighed carefully against a few aspects, such as income levels, location, and economic and monetary conditions.

Just a fast review on the charts bellow and details on the next pages:

Iceland **21.0%**
Czech Republic **21.0%**
Norway **22.0%**
Sweden **20.6%**
Lithuania **16.0%**
Ireland (Northern) **25.0%**
Belgium **20.0%**
Netherlands **19.0%**
Finland **20.0%**
Estonia **20.0%**
Austria **23.0%**
Latvia **20.0%**
Ireland (Republic of) **25.0%**
Denmark **22.0%**
Slovakia **21.0%**
Moldova **12.0%**
United Kingdom **22.8%**
Belarus **25.0%**
Germany **15.8%**
Poland **9.0%**
Romania **16.0%**
Luxembourg **14.0%**
Ukraine **18.0%**
Serbia **15.0%**
Switzerland **11.9%**
France **25.0%**
Hungary **9.0%**
Kosovo **10.0%**
Liechtenstein **12.5%**
Greece **22.0%**
Bulgaria **10.0%**
Spain **25.0%**
Slovenia **22.0%**
Macedonia (North) **10.0%**
Portugal **20.4%**
Andorra **10.0%**
Croatia **10.0%**
Albania **15.0%**
Italy **24.0%**
Malta **35.0%**
Bosnia and Herzegovina **10.0%**
Montenegro **9.0%**

Methodology: We sourced tax rates and rules by country from Deloitte and PricewaterhouseCoopers (PwC) and applied these rates to a model public company with fixed parameters, including annual revenue of $1 million, profit of $100k and between 5 and 9 employees.

Business Financing.co.uk

Country	Corporate Tax, %	Personal Income Tax, %	Social Security Tax, %
USA	21-33% (including both federal and state taxes)	10-50.3% (including both federal and state taxes)	15.3% (employer's share — 7.65%)
Denmark	22%	Up to 55.9%	Employer pays approx. $2,000-2,425 per year per employee, and employee — approx. $13.5 monthly
France	25%	Up to 45% (with no tax under a certain threshold, 3% surtax on the portion of income that exceeds €250,000, and 4% for income that exceeds €500,000)	65-68% (employer's share — 45%)
Germany	15.825% (plus municipal trade tax of 7-17%, depending on the location)	Up to 45% (with no tax under a certain threshold, and 5,5% solidarity surcharge applying on top of income tax)	40.45% (employer's share — 20.225%), may vary depending on the location
UK	19% (25% — from financial year starting April 1, 2023)	20-45% (with no tax under a certain threshold)	Employee pays 12% of weekly earnings between GBP 242 and GBP 967 and 2% of weekly earnings above GBP 967; additionally employer pays 13.8% on employee's weekly earnings above GBP 175
Poland	19% (reduced rate of 9% is also available for small taxpayers, with certain exceptions)	12% for income not over PLN 120,000, and 32% applying on the portion of income that exceeds PLN 120,000 (as well, 4% an additional solidarity surcharge applies to the portion of income that exceeds PLN 1 million)	34.19-35.85% (employer's share — 20.48-22.14%); employees also are required to make a 9% healthcare contribution
Bulgaria	10%	10%	32.7-33.4% (employer's share — 18.92-19.62%)
Romania	16%	10%	37.25% (employer's share — 2.25%)
Hungary	9%	15%	31.5% (employer's share — 13%)

Sources: Trading Economics, Orbitax, PwC

On the left a table chart with tax rates of the US and 8 tech hubs in Europe to give you the big picture.

Comparison of US and European Tax Rates

US TAX: First and foremost, any corporation will pay: 21% of federal corporate tax, and from 1% to 12% of state income tax (depending on a state and tax bracket, if applicable), with some states imposing no tax under a certain threshold (or at all); in addition, some localities may also impose their own taxes. Since 2023, the annual income of corporations that meet certain criteria may also be subject to a minimum 15% tax depending on the annual income posted in their financial statement, rather than taxable income. The average combined US tax rate compared to other countries is not high, staying at the level of 25.81%.

Then, there's an equivalent to the personal income tax in the US, which is levied on a federal, state and, in some cases, local level, making up the bulk of respective budgets. Typically, the federal tax is withheld from an employee's wages: this federal tax rate ranges from 10% to 37% with different tax brackets, and states' — from 0.25% to 13.3% (depending on a state and tax bracket, if applicable), with some states imposing no tax under a certain threshold (or at all). Most employers also pay the federal unemployment tax (FUTA), which is 6% of the first $7,000 paid to the employee as wages during the year, as well as state unemployment taxes (SUTA) and applicable local taxes, if provided by regulations.

EUROPEAN TAX: Unfortunately, no-tax is a myth. For example, Monaco has a zero personal income tax rate, but the corporate tax is 25%. On average, the Tax Foundation reports that the corporate tax rate in OECD countries is 21.5%.

Apart from varying from country to country, personal income tax rates usually differ depending on the tax brackets. However, top tax rates in European countries vs. the US turn out to be higher in many cases. When we consider the personal tax rate in Denmark vs. the USA, it is approx. 55.9% against 37-50,3%, depending on the state. As for the Germany's tax rate vs. the US, the result is 45% (plus a 5.5% solidarity surcharge on top of income tax). On the other hand, when US taxes are compared to other countries, mostly Eastern European ones, the former are clearly higher. For instance, Czech Republic has a personal income tax rate of 23%, and it's not at the top of the list of countries with low income tax.

American taxes in the future, the EU sets out to achieve tax fairness, i.e. to bring the corporate tax to 15% for all countries, so that the tendency to lower this rate to attract more multinational companies dies down. At the moment, the countries with the CIT below this level oppose such a decision, so it is still a work in progress
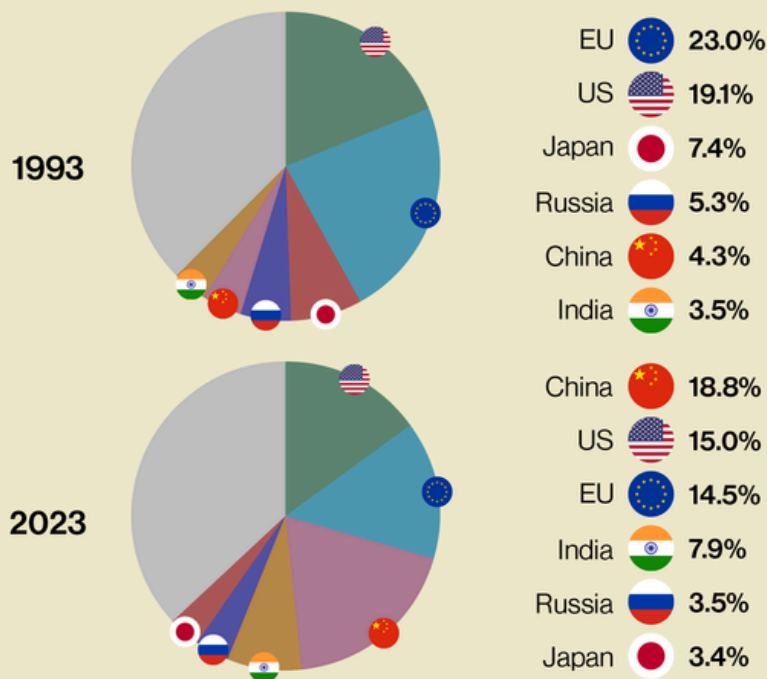
CEL

Shifting distribution of power
China and India emerge as major powers, while EU+US share falls

Share of global economic output as GDP at purchasing power parity

1993

EU	🇪🇺	23.0%
US	🇺🇸	19.1%
Japan	🇯🇵	7.4%
Russia	🇷🇺	5.3%
China	🇨🇳	4.3%
India	🇮🇳	3.5%

2023

China	🇨🇳	18.8%
US	🇺🇸	15.0%
EU	🇪🇺	14.5%
India	🇮🇳	7.9%
Russia	🇷🇺	3.5%
Japan	🇯🇵	3.4%

Sources: World Bank Data, Post factum

Post factum 🌐

POWER SHIFT: GLOBAL VIEW

Academics have tried measuring polarity with various statistics and indicators. By these measures, one country holding over 50% of global "power" means unipolarity:

- Diplomacy: political influence and leverage can be hard to measure or hidden.
- Technology: the true capabilities of a military are often secret or unclear.
- Demographics: populations vary widely by their skill level, education, training, ideologies and other factors.
- Flexibility: countries make different decisions on how much army they maintain and how quickly it can be increased.

Therefore, assessing the world system involves analyzing multiple indicators and making a subjective judgement.

How to evaluate or include in world view: (1) anti-natalist policies (post WW2 ..77 years) and (2) multinational corporations as new colonization agents?

Top executives view

Interviews with several top executives in wealth management suggest that unlike the crashes in 2020 or 2008, high-net-worth investors were feeling less pressure to sell over the past week. Some started buying Friday afternoon. And many used the lower prices as an opportunity to do some tax-loss harvesting and estate planning.

How Wealthy Are Positioning Themselves During the 2025

President Trump's sweeping tariff plans, their sudden pause and his escalating trade war with China have turned the market into a rollercoaster. A steep selloff of long-term Treasury's especially alarmed analysts and investors, because the government bonds have traditionally provided an investing haven in times of upheaval.

According to The Wall Street Journal (WSJ), the tariff-induced market selloff may indeed be different from garden-variety corrections in the past, rattling the nerves of wealthy investors and forcing them into playing defense. Some are concerned that the U.S. is no longer the best place to be investing, while others are content to simply wait out the ups and downs of the market until the tariff policy, for better or worse, is more clearly articulated.

If you're concerned about the market and looking for some *different ways to ride out the recent volatility*, check out where some of the richest investors are putting their money in 2025.

Japan and Europe

There's a real fear among the wealthy that the U.S. is losing its famed exceptionalism. Economists from both sides of the political aisle have been sounding the alarm that **tariffs effectively act as taxes** on American companies and consumers, and other countries stand to gain.

Monica DiCenso, head of the global investment opportunities group at JPMorgan's private bank, told WSJ that many of her firm's wealthy investors worry that the U.S. will lose ground to companies in Japan and Europe, and they are worried about their exposure to U.S. stocks. Those economies have trailed the U.S. for decades, but they are rapidly making up ground, and their stock markets are beginning to reflect that.

EUROPEAN UNION in NUMBERS:

POPULATION 449.3 million

AREA 4 225 104 km²

GDP € 39 680 per capita

IMPORTS OF GOODS 62% / 38%

EXPORTS OF GOODS 61% / 39%

▶ Inside EU
▶ Outside EU

INTERNET USAGE 93%

RENEWABLE ENERGY IN TOTAL CONSUMPTION 25%

MUNICIPAL WASTE RECYCLING 48%

Demography of Europe
2025 interactive publication

Minimum wages in the EU, January 2025
(in € per month)

€ per month
- ≥ 1 500
- 1 000 – < 1 500
- < 1 000
- No minimum wage

Malta 961

886
740
1 038
2 202
2 193
2 070
2 161
1 091
2 638
826
816
1 802
707
814
1 278
970
551
1 016
1 381
968
961
1 000

eurostat
Source dataset: earn_mw_cur
Administrative boundaries: © EuroGeographics © OpenStreetMap
Cartography: Eurostat – IMAGE, 04/2025

EU ECONOMIC OUTLOOK

By Christine Lagarde, President of the European Central Bank

History teaches us that regimes seem enduring — until they no longer are.
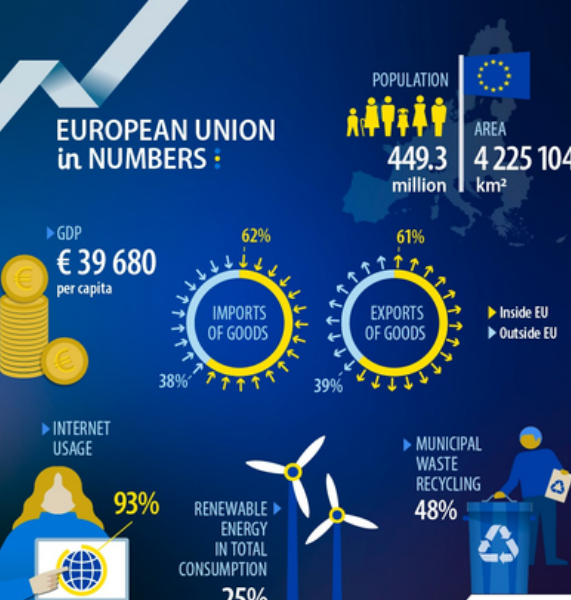
We are witnessing a profound shift in the global order: Europe faces structural challenges. Its growth remains persistently low, its capital markets are still fragmented and — despite a strong aggregate fiscal position, with a debt-to-GDP ratio of 89% compared with 124% in the US — the supply of high-quality safe assets is lagging behind.

Recent estimates suggest outstanding sovereign bonds with at least a AA rating amount to just under 50% of GDP in the EU, versus over 100% in the US. Shifts in global currency dominance have happened before. This moment of change is an opportunity for Europe: it is a "global euro" moment.

First, the euro's global standing rests on Europe's role in trade. The EU is the world's largest trader — it is the number one partner for 72 countries, representing almost 40% of global GDP. This is reflected in the share of the euro as an invoicing currency, which stands at around 40%. The EU must use this position to its advantage by forging new trade agreements.

The number of company bankruptcies and closures in Germany and the US is at its highest level since the 2008-2009 financial crisis, exceeding the previous peak in 2011, according to news reports and economic analyses. This is despite the general economic recovery that started in 2011 following the 2007-2011 financial crisis.
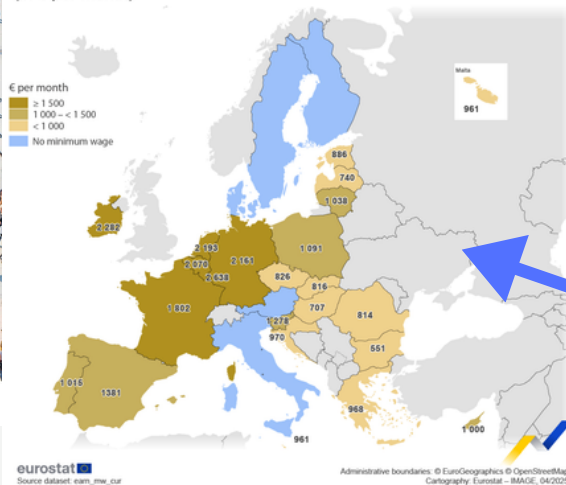
Europe must take decisive steps by completing the single market, reducing regulatory burdens and building a robust capital markets union. Strategic industries, such as green technologies and defence, should be supported through co-ordinated EU-wide policies. Joint financing of public goods, like defence, could create more safe assets.
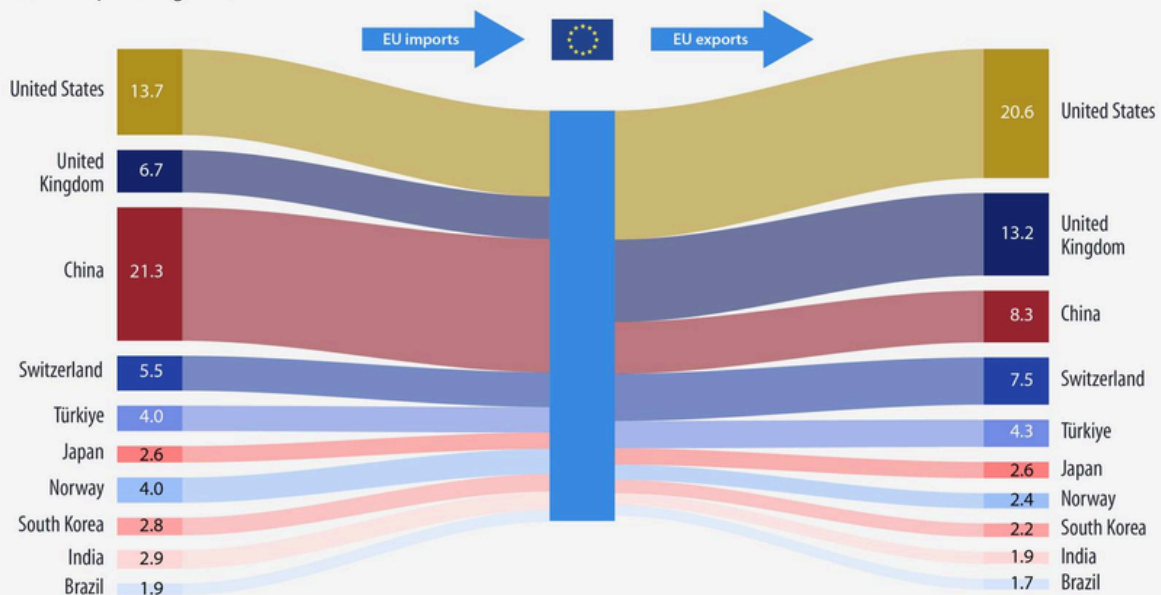
EU trade in goods, 2024
(% of EU exports and imports of goods)

EU imports → 🇪🇺 → EU exports

Country	EU imports	EU exports
United States	13.7	20.6
United Kingdom	6.7	13.2
China	21.3	8.3
Switzerland	5.5	7.5
Türkiye	4.0	4.3
Japan	2.6	2.6
Norway	4.0	2.4
South Korea	2.8	2.2
India	2.9	1.9
Brazil	1.9	1.7

Ranked by exports.
Data are presented for the 10 countries with the largest value of trade (exports and imports combined) in goods with the EU.

eurostat

GET YOUR SUBSCRIPTION TODAY

The **Valuable Technology RISK** magazine (VT RISK) has been launched on 26th Sep to publish articles that present cutting-edge thinking on essential technology, business and management topics. With the challenges of the new technology and first steps of AI, we face rapid changing decisions that require to draw on all available knowledge bases.

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