PFI Monthly

Delivering Knowledge That Matters.

8 January 2025

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Financial markets monthly dashboard

Source: Bloomberg; Michal Stupavský, CFA

	December	2024	Last value
Dollar index DXY	2.6%	7.1%	108.49
EUR/USD	-2.1%	-6.2%	1.035
EUR/CZK	-0.3%	1.9%	25.19
USD/CZK	1.3%	8.3%	24.24
Global stock markets (MSCI All Country World)	-2.5%	15.7%	
Developed stock markets (MSCI World)	-2.7%	17.0%	
Emerging stock markets (MSCI Emerging Markets)	-0.3%	5.1%	
Frontier markets (MSCI Frontier Markets)	-0.8%	2.4%	
Global stock markets - Value (MSCI All Country World Value)	-5.4%	8.2%	
Global stock markets - Growth (MSCI All Country World Growth)	0.4%	23.3%	
Global stock markets - Large Cap (MSCI All Country World Large Cap)	-2.0%	17.3%	
Global stock markets - Mid Cap (MSCI All Country World Mid Cap)	-5.1%	7.6%	
Global stock markets - Small Cap (MSCI All Country World Small Cap)	-5.4%	5.9%	
US (S&P 500)	-2.5%	23.3%	5882
US (Magnificent 7)	6.3%	66.9%	
US (S&P 500 Equal Weighted)	-6.4%	10.9%	
US (NASDAQ)	0.5%	28.6%	
Non-US stocks (MSCI All Country World ex-US)	-2.0%	2.9%	
Europe (STOXX Europe 600)	-0.5%	6.0%	
Japan (MSCI Japan)	4.2%	18.5%	
Emerging Asia (MSCI Asia ex-Japan)	0.1%	9.7%	
China (MSCI China)	2.5%	15.7%	
India (MSCI India)	-1.6%	14.3%	
Latin America (MSCI Latin America)	-7.3%	-30.4%	
Central Europe (CECEEUR)	3.6%	8.9%	
Czech Republic (PX)	4.6%	24.5%	1760
Global bond markets (Bloomberg Global-Aggregate)	-2.1%	-1.7%	
Global government bonds (ICE BofA Global Government index)	-2.9%	-4.2%	
US Treasuries (Bloomberg US Treasury index)	-1.5%	0.6%	
US Treasuries with maturity over 20 years (Bloomberg US Treasury 20+ Year index)	-6.0%	-8.0%	
Global investment grade corporate bonds	-2.0%	1.1%	
Global speculative grade corporate bonds (high-yield)	-0.6%	9.2%	
EUR investment grade corporate bonds	-0.4%	4.7%	
EUR speculative grade corporate bonds (high-yield)	0.6%	8.6%	
Czech government bonds (Bloomberg Czech Govt All > 1 Yr Bond)	-0.9%	2.5%	
Average global bond yield (Bloomberg Global-Aggregate Yield To Worst)	0.16%	0.17%	3.68%
US 10 year government bond yield	0.40%	0.69%	4.57%
US 2 year government bond yield	0.09%	-0.01%	4.24%
Germany 10 year government bond yield	0.28%	0.34%	2.37%
Germany 2 year government bond yield	0.13%	-0.32%	2.08%
Czech Republic 10 year government bond yield	0.23%	0.39%	4.22%
Czech Republic 2 year government bond yield	0.05%	-1.21%	3.45%
Average global investment-grade credit spread	0.00%	-0.26%	0.89%
Average global high-yield credit spread	0.04%	-0.94%	3.29%
Global commodity markets (Bloomberg Commodity Total Return)	1.0%	5.4%	
Crude oil Brent	2.3%	-3.1%	75
Copper	-2.7%	2.2%	8673
Gold	-0.6%	27.5%	2641
Silver	-4.7%	21.4%	29.2

Interview

Vojtěch Šikl, PFI Research Analyst & Scholarship Holder

You are the first scholarship holder of the Prague Finance Institute which has enabled you to study a Master's program Econometrics and Mathematical Economics (EME) at The London School of Economics and Political Science (LSE). Could you please elaborate on your experience at LSE in general and the courses which you took in particular?

I arrived in London in late August and am very pleased with both my overall experience at LSE and my decision to pursue the EME program. Although it's quite challenging, it remains very interesting. The LSE campus and my student residence are conveniently located right by the Thames River in central London, which makes for a vibrant and engaging environment.

Our coursework covers the classic core fields of economics. Initially, we had a pre-sessional course in Microeconomics, Macroeconomics, and Econometrics to ensure everyone had a solid understanding of key concepts. During the term, we followed up with advanced versions of these same three core subjects. This term's focus includes game and consumer theory (Micro); growth and wealth distribution models (Macro); nonparametric methods, GMM estimation, and general asymptotic theory (Econometrics). The material covered is equivalent to 1st year PhD program in Economics.

Beyond these core courses, we're allowed one elective from a broad range of options from the departments of economics, finance, statistics, and mathematics. I chose Contracts and Organizations, taught by Professors Gilat Levy and Philippe Aghion, which centers around information asymmetry among different agents. In my free time, I also audit Further Topics in Econometrics, a course that focuses on time series econometrics and less restrictive model setting.

How would you compare your studies at the Charles University in Prague and LSE?

I thoroughly enjoyed my studies in Prague. Several great professors and fantastic classmates made my undergraduate experience memorable, so the bar was set high from the start. I also believe that IES prepared me well for the transition to EME, giving me a foundation comparable to students from Oxford, Cambridge, LSE, the University of Toronto, or NYU. Perhaps I had slightly stronger training in mathematics and weaker training in microeconomics and econometrics, but overall, the difference was not significant.

There are two main differences that stand out to me. The first is the mentality of students, particularly when it comes to graduate programs. In the UK, many students choose to enter the industry after completing their undergraduate degrees. Those who remain in academia are often determined to pursue a PhD or explore more technical or niche subfields. In the Czech Republic, however, students are generally expected to obtain a master's degree, and during master's studies, they tend to focus more on securing attractive job opportunities. This approach is understandable and, in many ways, practical. However, for someone like me, who believes academia has much to offer even after undergraduate studies, I feel I might have missed out on the collective motivation to excel academically if I had stayed in Prague. Having taken master's-level core courses at IES during my final undergraduate year, I can say that, on average, the coursework at LSE is more demanding in terms of both the breadth of topics covered and the depth of material (one exception would be Advanced Macroeconomics, this course was of higher quality at IES compared to its counterpart during the autumn term at LSE).

Secondly, I think there is much more emphasis on independence. Every week, we have a lecture, after which a problem set is posted that we should solve, which goes beyond what was covered in the lecture, requiring us to learn a significant amount independently. This is the time when working in groups becomes essential.

Another advantage of studying at LSE is the opportunity to attend guest lectures across various departments. For example, I had the chance to attend a lecture by Prof. Chernozhukov, an econometrician from MIT, who presented his latest research on omitted variable bias in causal machine learning. Throughout the semester, there are numerous events to participate in, whether they are academic or industry-oriented, which are quite interesting.

On the other hand, I think the idea of the program is somehow comparable to the undergraduate program at IES, as both focus on thorough mathematical training. The cohort is also rather small (40 students). At the same time, I think my perception of the two universities is specific to the two respective programs. I believe the experience at the (for instance) department of finance would be much different and perhaps much more industry and less coursework-focused.

What do you like the most about LSE and the life in London?

I like that I am part of a very smart group of students who are interested in quantitative methods that are applied to economic problems. I feel like there is not that much of a change compared to my undergraduate experience at IES. Even though most of my classmates are applying for a PhD (which is in principle a zero-sum game), everyone in the cohort is very cooperative and willing to help. This makes the whole experience much more enjoyable.

One reason why LSE is one of the top universities is the quality of teaching. While, as in every university, there are very good and quite bad teachers, the teaching experience is, on average, better than at IES (but there are, of course, exceptions). I think there are mainly two reasons. One of them is that professors enjoy intensive technical support from the department. All our lectures are automatically recorded, so teachers have less administrative work and can properly focus on teaching. Secondly, all my professors (or lecturers) have studied or taught at the very best universities in the US (Harvard, Chicago, Princeton, Yale...). Although such credentials don't automatically ensure a great teaching experience, they do encourage students to be more attentive during lectures. I must say that the majority of professors sincerely care about our understanding and provide considerable support even outside of the lectures. This kind of environment is highly motivating.

London is a very vibrant city, although frankly, it can get depressing, especially during winter. There are plenty of ways to unwind and avoid becoming overly consumed by academics. In this respect, we've had many departmental socials, be it darts competition, bowling or Christmas party, all of them were enjoyable. That said, the majority of our time is inevitably spent on the 4th floor of the LSE Library. I'm looking forward to exploring and enjoying the city more thoroughly once the summer break begins.

At the same time you have joined the research team of the Prague Finance Institute as the Research Analyst under the mentorship of the Chief Economist Andre Chelhot. Could you please elaborate on this cooperation?

I joined PFI to support the Macro research team. Although I'm more focused on econometrics and game theory—and financial markets aren't exactly my primary interest—I recognize that it's important for any economist to develop a broad understanding of how different parts of the economy interact. For example, noticing unusual changes in inventory balances can hint at upcoming shifts in GDP growth.

Currently, Andre and I are working on monthly country charts that examine several key indicators: we look at overall GDP, the financial health of households, employment expectations, and price developments. By comparing these expectations with actual outcomes, we can see where our forecasts align or diverge from reality. We also evaluate each country's financial conditions and compare them across various regions to get a clearer view of potential risks and opportunities. So far, this collaboration has been enjoyable. Andre constantly provides insights about the current state of the economy while also being very mindful of my university workload.

Under Andre's supervision you have been extensively using the Macrobond database. What do you like the most about this economic database and which research products does it help you produce?

I had never worked with Macrobond before collaborating with Andre, but I've found its comprehensive data-scraping and intuitive user interface to be very useful. I have little experience with other financial macro databases, but I enjoy working with Macrobond as it streamlines the research process: you can quickly pull data, compare different countries or time periods, and easily generate graphs or tables for your analysis. It is much more convenient than having to extract data from various official sources. It consolidates a wide array of economic data sources into one platform. This makes it much simpler to spot any newly released or updated figures. One of my two main responsibilities is to monitor recent data updates and identify notable trends or sudden changes (for example) in price levels or GDP growth. Additionally, I create monthly charts on European countries.

Regarding your future career, which professional path would you like to take after you have finished your studies at LSE?

It is hard not to be influenced by my classmates in EME. Approximately two-thirds of graduates proceed to do a PhD. While I am intrigued by this idea and I've been enjoying the coursework so far, it is a great commitment and at the same time, the competition for top US PhD placements (the US is honestly the best place to study an economics PhD) is quite fierce. Therefore, my short-term plan is to gain research experience during the second part of 2025. At the same time, the prospect to continue study at attractive academic institutions is highly conditional on my performance at the LSE.

The plan is, therefore, to graduate (hopefully in a graceful manner) from the program, obtain relevant research experience to strengthen my potential PhD application, and start working in either strategic consulting or trading in case the PhD applications do not turn out the way I desired.

Global macro insight of the month

The US labor market supply challenges

Andre Chelhot, CFA
Chief Economist

Over the past twelve months, the U.S. labor market has exhibited notable trends, as captured by two primary data sources: the **Establishment Survey** (Current Employment Statistics) and the **Household Survey** (Current Population Survey).

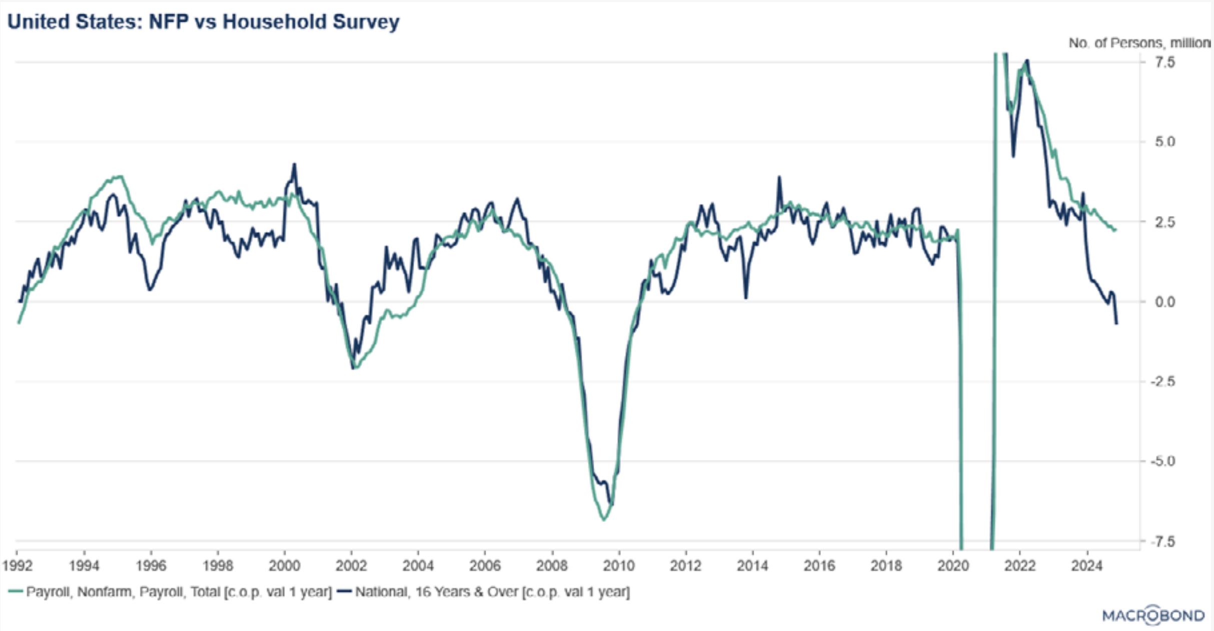
Establishment Survey Insights:

- **Employment Growth**: Total nonfarm payroll employment increased by approximately **2.4 million jobs**, averaging a monthly gain of **200,000**. This reflects a steady, albeit moderating, expansion in employment.

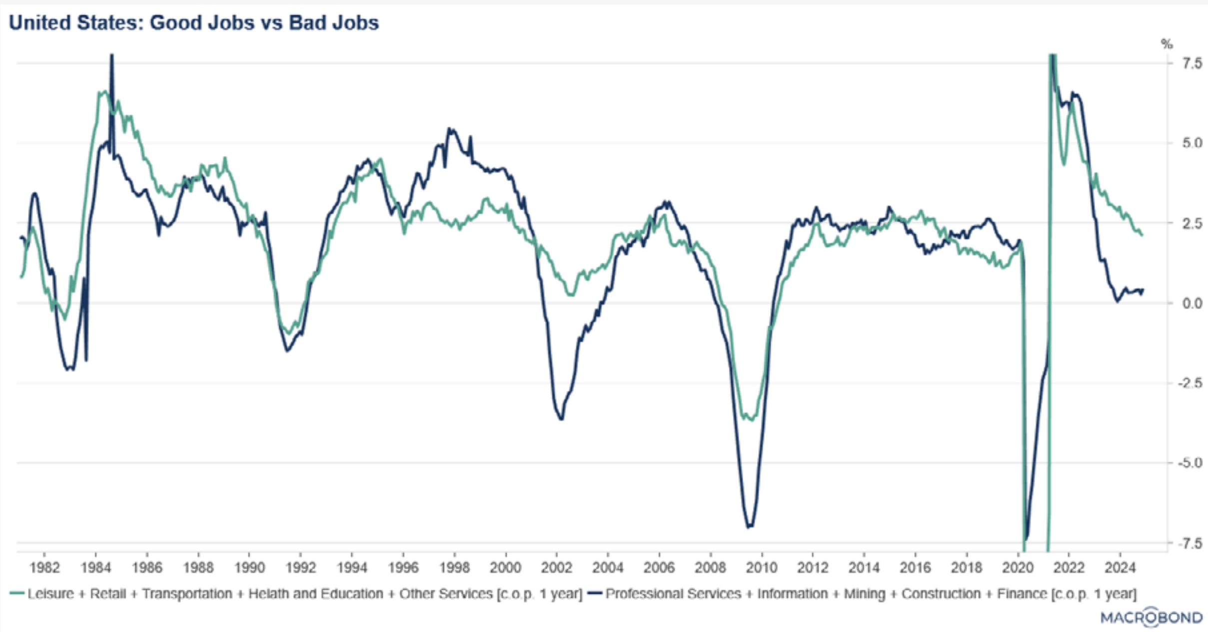
Household Survey Insights:

- **Year-over-Year Employment Change**: The Household Survey reflects a **year-over-year decline** in employment levels. Employment fell from approximately **161.7 million to 160.8 million**, representing a reduction of about **900,000 jobs**.
- **Unemployment Rate**: Rose from **3.4% to 4.3%**, indicating a loosening labor market.
- **Labor Force Participation**: Remained relatively stable at around **62.8%**, suggesting steady engagement in the labor market.
- **Employment-Population Ratio**: Held steady at approximately **60.2%**, indicating consistent employment levels relative to the population.

While both surveys aim to measure employment, they often yield differing results due to methodological differences. Notably, the Household Survey has indicated a more pronounced slowdown, or even contraction, in employment compared to the Establishment Survey. Such contractions normally coincide with the start of a recession. We are waiting for the benchmark revisions of the Establishment survey to be released in February 2025. We should note here that the last benchmark revisions conducted in August 2024 showed an overestimation of jobs gains of the magnitude of 800K jobs.



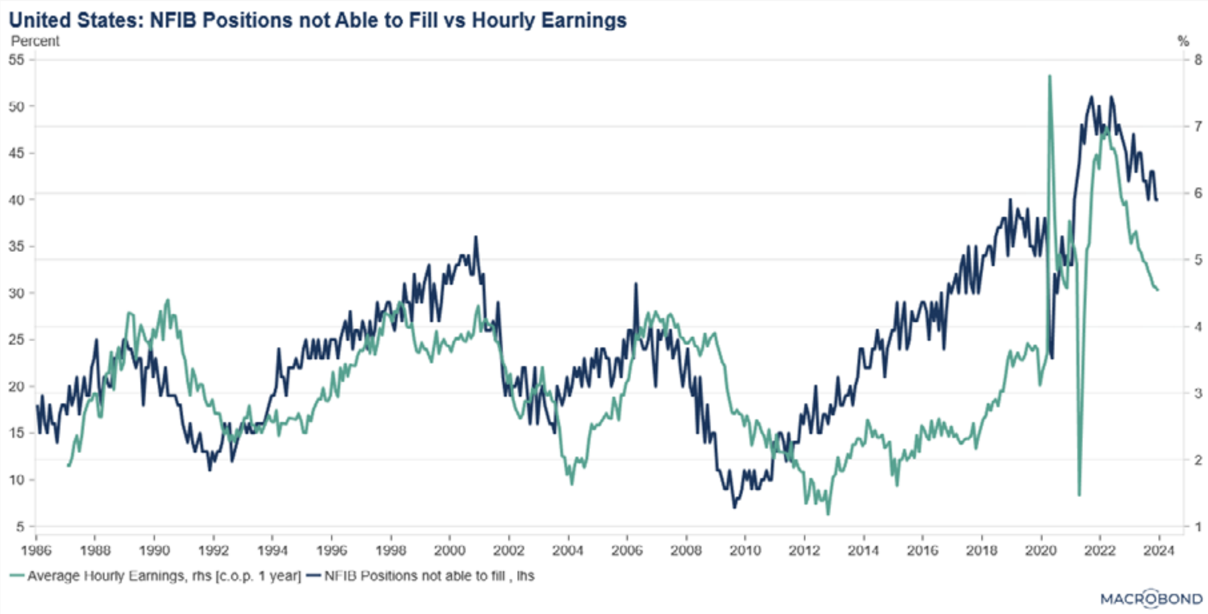
The accompanying chart highlights the divergence between higher-paid sectors (professional services, information, mining, construction, and finance) and lower-paid sectors (leisure, retail, transportation, health and education, and other services). Historically, "good jobs" in higher-paid sectors have shown stronger resilience during economic downturns, while lower-paid jobs experience sharper declines. The growth rate in the higher-paid jobs is barely above 0% compared to a growth rate of 2.5% and above during past expansionary periods.



Recent data shows that overall wage growth in the U.S. is hovering around **4% YoY**, with the manufacturing sector experiencing a faster growth rate of approximately **5.5% YoY**. The service sector is growing at a slower pace, closer to **4% YoY**. Manufacturing wages have consistently outpaced those in the service sector since the post-pandemic recovery, indicating tighter labor conditions in manufacturing. Despite the recent deceleration, wages remain elevated compared to pre-pandemic trends, suggesting continued pressure in labor-intensive industries that demand high skills or training.

Labor Market Tightness and Wage Pressure:

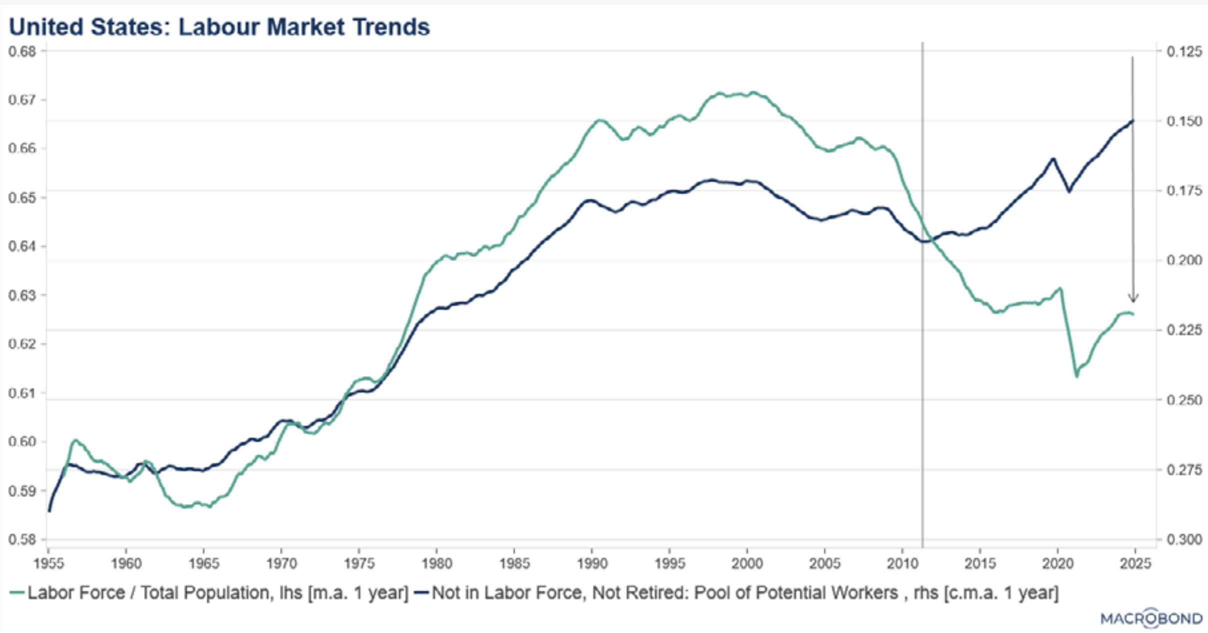
The NFIB chart on unfilled positions versus hourly earnings underscores the persistent tightness in the labor market. Although the number of unfilled positions has declined from its peak, it remains historically elevated. This suggests that while the labor market is loosening, the **supply of jobs is still tight** relative to available labor. Wage growth, while moderating, continues to reflect this dynamic, remaining higher than pre-pandemic levels. The data indicates that employers are still competing for workers, albeit less aggressively than during the immediate post-pandemic period. This ongoing structural tightness could keep wage growth elevated and contribute to **sticky inflation** in labor-intensive sectors.



The below chart illustrates the relationship between labor force participation and the pool of potential workers not in the labor force but not retired. Historically, there was a negative correlation—when labor force participation increased, the pool of non-participating potential workers declined. However, this **correlation began breaking down around 2011**. Since then, labor force participation has continued to decline, while the pool of potential workers **increased**. This divergence suggests deeper structural shifts, including:

- **Discouraged workers** exiting the labor force.
- Mismatches in **skills or geographic location**.

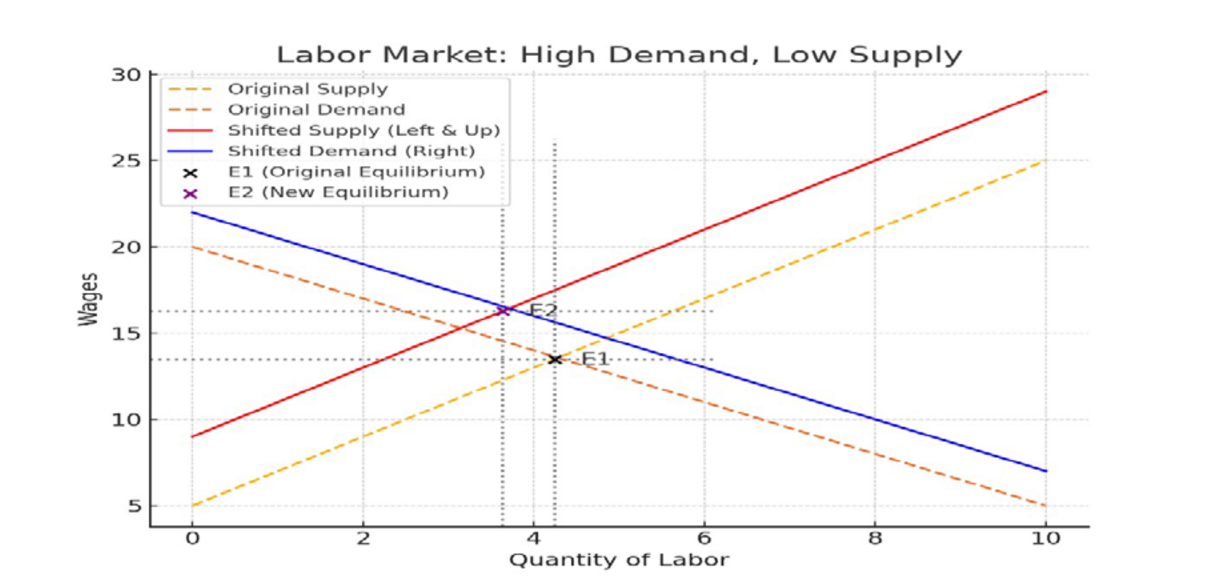
This dynamic reflects a **negative supply shock**, contributing to **higher unemployment and persistent wage inflation** as employers compete for a shrinking pool of available talent.



The accompanying chart visualizes the economic reality of **high demand and low labor supply**:

- The **supply curve shifts left and up**, reflecting a reduced workforce and higher wage expectations.
- The **demand curve shifts right and up**, showing increased demand for labor.
- This results in a new equilibrium (**E2**) characterized by **higher wages** and **lower employment levels** compared to the original equilibrium (**E1**).

The chart illustrates that the combination of constrained labor supply and rising demand creates conditions where wages surge, but employment stagnates—a classic indicator of an economy entering stagflation.



The combination of **low labor supply** is creating an environment where wages continue to rise, but unemployment fails to decline significantly. If these trends persist—especially in light of potential **tariffs, mass deportation, and reshoring efforts**—the U.S. labor market risks entering a period of **stagflation**: elevated wage and price inflation coupled with stagnant or rising unemployment. This scenario could lead to prolonged economic headwinds, exacerbating structural inefficiencies and limiting economic growth potential.

Czech economy insight of the month

Available financial resources for increase of investments

Ilona Švihlíková, PhD

Analyst

The Czech Republic has vast investment needs, even without taking into account the recommendations given by the so-called Draghi report, which foresees huge investments in defence, green energy and technologies, or digital infrastructure. The lack of affordable housing, crippling infrastructure, energetic investments are just a few examples that will also have their political connotation in the election year of 2025.

The Czech Republic, unlike Poland, has not been able to make a good usage of European funds. The absence of clear investment focus and the long-term lack of strategic priorities have caused the European funds to be dispersed in uncoordinated way that does not promise increase in the economic potential.

The state budget deficit is a topic per se, however the continuing deficits together with the rise in the debt service limit the scope of state-led investments, unless a deep reform of public finances has been implemented. In such a situation, it is necessary to "look around" for resources that could be used to boost the potential of Czech economy, especially regarding the overdue model dependent on foreign direct investments and car exports.

One of the possible resources are the massive outflows of dividends from the Czech Republic. The assets in the form of foreign direct investments are the biggest category of non-residents´ assets in the Czech Republic, as the statistics of investment position shows. The foreign direct investments cumulated reach almost up to six trillion CZK. The investments are at the same time highly profitable. This results in high outflows of dividends around 300 billion CZK. The outflow also explains the difference between GDP and GNI, when GDP-based indicators are thus overvalued and do not fully reflect the reality of citizens´ living standard (typically GDP per capita). Moreover, there are not "just" the outflows of profits, but also a phenomenon connected with transfer pricing and with linkages between the foreign mother company and Czech daughters. The frequent misuse of transfer based on consultations, intellectual property, overprices rents, marketing services etc. constitutes another massive outflow. The lowest estimates of these outflows, not visible in traditional statistics, amount to 300 billion CZK.

There is not much political will (or courage) to implement stricter processes in the financial administration to at least lower these outflows. One possible proceeding to retain the value created in the Czech Republic is by increasing wages, which however threatens the whole model of the Czech Republic – being a cheap site in Germany´s neighbourhood.

Analysing the state of public finances, we will come across a rather peculiar feature – whereas the state budget continues to be in red, the budgets of municipalities and regions are in surpluses. Moreover, both have been able to accumulate high surpluses, which had not been invested even in years of rapid inflation, and thus losing value. The peculiarity of such situation lies in the fact that municipalities and regions are by far and large dependent of distribution from the centre – from the state budget and have a minimum of their own resources.

The surplus of municipalities and regions reached almost 80 billion CZK in September 2024. More important are the balances on current accounts. The balances for regions amounted to 132.3 billion CZK, while in the case of municipalities it was 418.9 billion CZK.

In a situation of long-term stagnation of the Czech economy, connected with vast investment needs it is necessary to activate these resources and use them to boost the level of investment and economic potential.

Financial markets insights of the month

Buybacks gone wrong

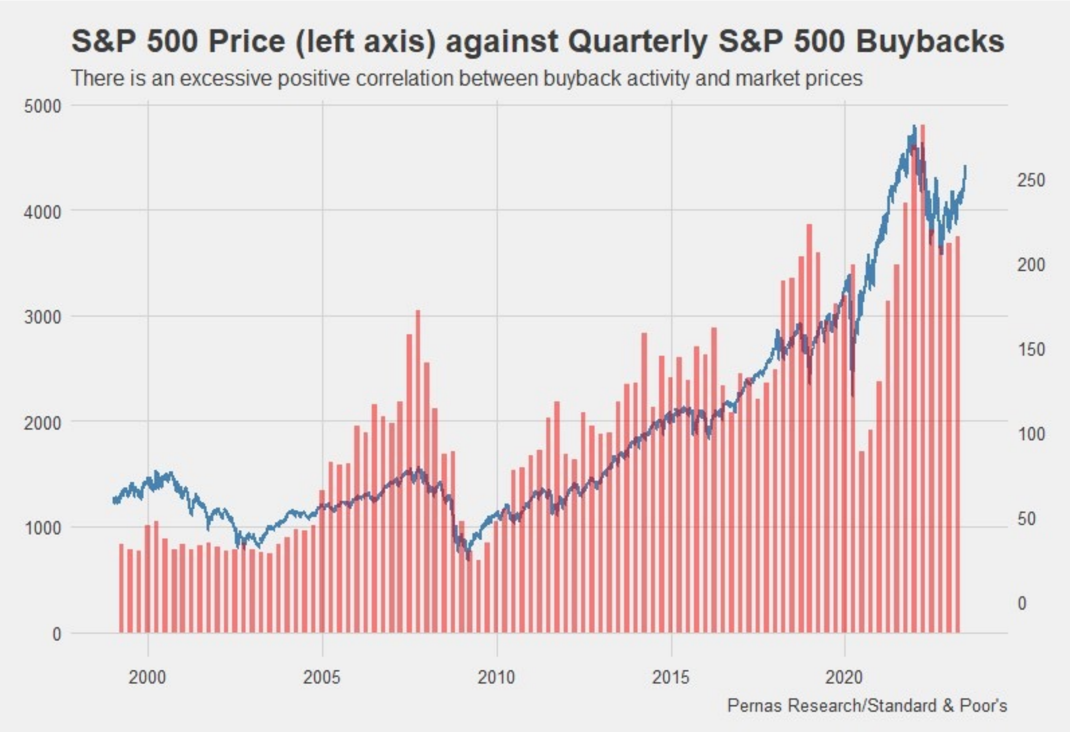
Deiya Pernas, CFA

Guest Contributor

Co-Founder/Analyst, Pernas Research

Since their legalization in 1982 through SEC Rule 10B-18, buybacks have gained immense popularity and have surpassed dividends as the preferred form of corporate payouts. In 2022, U.S. buybacks reached a record-breaking figure of over 1.1 trillion dollars in 2022.[1] Unlike dividends that are more large cap biased, this phenomenon is observed across both large and small-cap companies, with approximately 90% of large caps and 80% of small caps participating in buyback activities in recent years.[2]

It is almost universally accepted that buybacks are a way of "returning value to shareholders." While intelligent buyback strategies do indeed benefit ongoing shareholders, our research indicates that poor buyback strategies are far more common and have the opposite effect. They destroy shareholder value. This predicament arises because most management teams lack a systematic approach to assess the true value of their company's stock. Surveys conducted spanning the last four decades reveal that 55-80 percent of CFOs believe their company's stock is undervalued, while 20-45 percent consider it fairly valued, with only a fraction acknowledging overvaluation.2 Consequently, regardless of how high their company's stock price soars, it is always deemed an appropriate time for a buyback. Ironically, when stock prices experience significant declines and a greater percentage of stocks trade below fair value—a favorable environment for considering buybacks—such initiatives swiftly dwindle. This epitomizes the "buy high, sell low" behavior that characterizes contemporary buyback practices. The below chart illustrates the procyclical nature of buybacks.



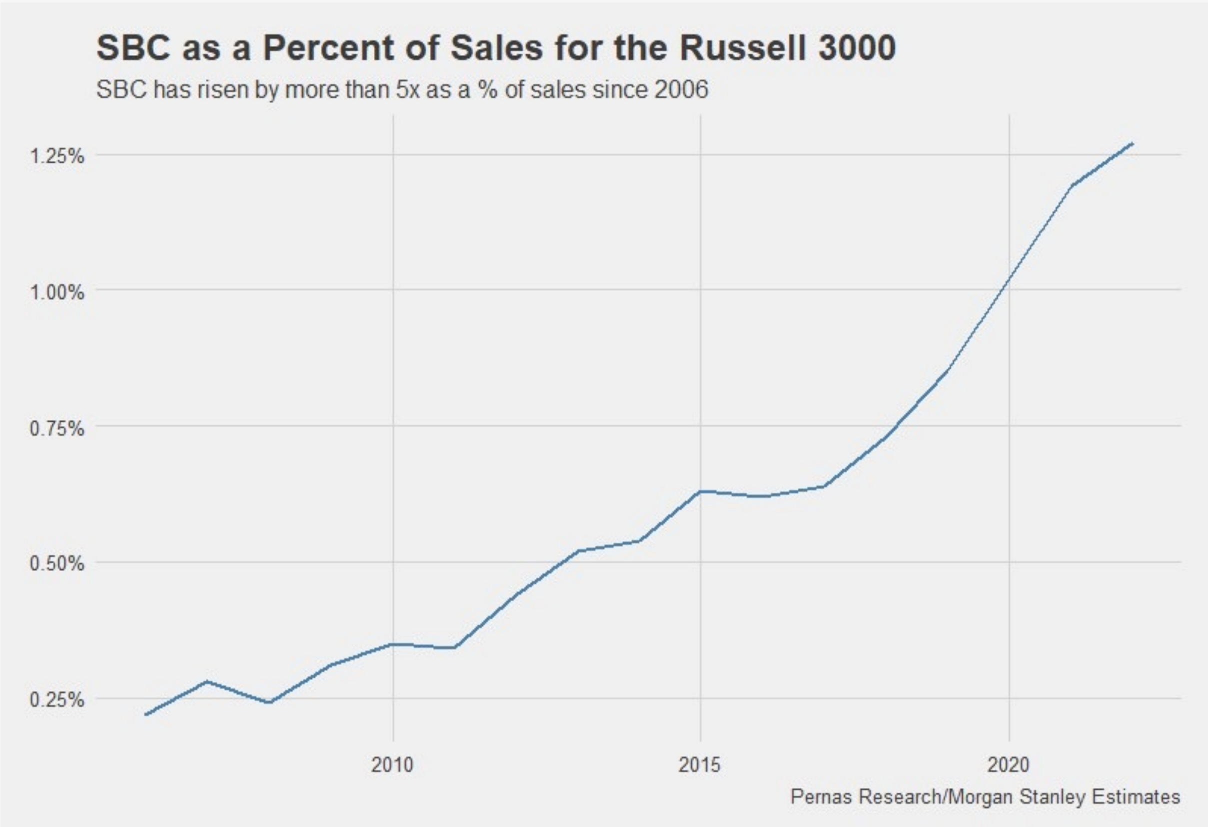
Why buybacks dominate

Reason 1: A flexible approach to satisfy shareholders and mitigate activist scrutiny

Companies with surplus cash often face pressure from shareholders to allocate capital effectively. While dividends have long been considered a reliable method of returning capital, they possess inherent inflexibility. If a company were to reverse its stance and announce a dividend cut, it would be met with a significant stock price decline. Companies experiencing dividend cuts or eliminations face an average stock price drop of approximately 7% upon announcement.[3] Conversely, there is no such market punishment when companies refrain from announcing buybacks or even fail to follow through on previously announced buybacks. Buybacks, in comparison, carry less price risk and afford management greater discretion, making them a flexible approach to appease shareholders and address the issue of excess cash, which could otherwise attract activist attention.

Reason 2: To immunize dilution from Stock Based Compensation (SBC)

More and more Stock-Based Compensation (SBC), which inherently carries dilutive effects, is increasingly recognized as a means to compensate executives and employees. SBC has experienced significant growth as a percentage of revenue over the years, with factors such as the expanding presence of the technology sector and a decline in cash-flowing companies being cited as contributors.[4]



For certain management teams, particularly those in the technology sector where SBC can account for approximately 4-5% of revenue,4 immunizing dilution resulting from SBC issuance may serve as the sole motivation for engaging in buybacks. In other words, management strategically utilizes buybacks not to boost EPS but to ensure that EPS does not decline as a result of SBC.

Reason 3: Herd Mentality

The average tenure of a CEO in a public company is relatively short, with the median tenure observed at approximately five years.[5] Executives have dedicated their entire careers to reach their current positions, and job security understandably ranks high on their list of priorities. Following the herd often appears to be the safest strategy for management teams seeking shareholder approval and job security. With the continuous surge in buyback activity year after year, it becomes challenging to criticize the decision to repurchase shares as a misguided one.

The risks of poorly executed buybacks

Hypothetical Case Study: Stock XYZ

Consider Stock XYZ, which begins the year trading at $15 per share—50% above its fair value of $10. Despite unchanged fundamentals, the stock price corrects to its fair value by year-end. The company, with $45 million in cash, no debt, and a market cap of $150 million, has an intrinsic value of $100 million based on 10 million shares outstanding.

On January 1, 202X, Bob buys 1 share at $15. That same day, XYZ announces an aggressive buyback, using its entire $45 million to repurchase 3 million shares at $15 each, reducing the share count by 30%. This uses 45% of the company's intrinsic value, initially delighting investors with the perceived "return of value."

By December 31, XYZ's market value drops to $55 million aligning with intrinsic value. With 7 million shares outstanding, the stock price aligns with fair value at $7.86, resulting in Bob's total return of -48%. Had the company retained its cash, the stock would have corrected from $15 to $10, leaving Bob with a total return of -33%—15% better than the buyback scenario.

	Starting point	After buybacks	No buybacks
Intrinsic Value			
Value of Operations (mm)	$55	$55	$55
Cash (mm)	$45	$0	$45
Total	**$100**	**$55**	**$100**
Shares Outstanding (mm)	10	7	10
Share Price	$15	$7.86	$10
Fair Value	$10	$7.86	$10
Bob the Investor return ($15 cost basis)		*-48%*	*-33%*

Real-World Example: Big Lots

A recent example that highlights "buybacks gone wrong" is Big Lots (BIG). Between 2019 and 2023, the company spent close to $700 million repurchasing its own stock, claiming they were returning value to shareholders. However, the opposite occurred. The buybacks were conducted at inflated prices, depleting cash reserves critical to the company's long-term sustainability. As a result, long-term shareholders experienced a 80% decline in the stock price, nearly erasing their entire investment over five years (ongoing shareholders through the period would have been marked down 99% if not for dividends paid).

In the end, no value was returned to shareholders; rather, the buybacks accelerated the company's financial decline. What was intended to enhance shareholder wealth became a costly mistake, leaving investors with substantial losses and Big Lots on the brink of financial ruin. Our research confirms this is not an isolated case and is significantly more widespread than market participants may believe.[6]

Solution for disciplined buybacks

Countercyclical Deployment
The optimal use of buybacks would involve countercyclical deployment. Companies could utilize buybacks as a means to address SBC dilution during market upswings and as a way to return value to shareholders during market downturns. By aligning buybacks with market cycles in this manner, companies can maximize the benefits for ongoing shareholders and avoid the pitfalls of purchasing overvalued shares.

Large Special Dividends: An underused capital allocation tool
Special dividends, despite being utilized only by a handful of firms, present an effective means of guaranteeing a return of capital to shareholders during business cycle upswings, without binding the company to future regular dividend commitments. Special dividends may be viewed unfavorably compared to buybacks, as the latter can be implemented gradually over an extended period, whereas special dividends are typically paid out only once a year. However, this need not be an obstacle. For instance, a company that has reduced its shares outstanding by 15% over two years could have instead considered two substantial special dividend payments. To us, special dividends indicate a more shareholder-focused management team willing to stand out from the crowd.

Valuation-Centric Decisions
In our discussions with dozens of CFOs, we have observed that the more thoughtful ones use clear price or valuation metrics when coordinating 10b5-1 schedules with brokers. These CFOs typically have a good sense of where their company is in its business cycle and rely on reasonable multiples—such as price-to-earnings (P/E), price-to-book (P/B), or price-to-sales (P/S)—to guide their decisions. For example, they might instruct brokers to initiate buybacks only when the stock trades below a certain threshold, such as 10x P/E. This approach ensures that buybacks are executed at times when the stock price is relatively undervalued, helping to create long-term value for shareholders. In contrast, many CFOs do not implement such disciplined metrics, leading to poorly timed buybacks that can destroy shareholder value rather than enhance it.

Conclusion

Poorly executed buybacks are widely prevalent and destroy ongoing shareholder value, driven by a lack of consideration for intrinsic value and market cycles. Management teams must abandon the "herd mentality" and adopt disciplined strategies, focusing on long-term goals and aligning buyback decisions with rational valuation metrics. Similarly, investors should reevaluate their perception of buybacks, resisting the urge to celebrate them indiscriminately. By prioritizing thoughtful execution, companies and investors can ensure buybacks are used as a tool for sustainable growth and value creation.

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Financial markets insights of the month

Volatility isn’t the enemy, poor diversification is

Miloš Labaj

Guest Contributor

Founder, Convexify

For years, the classic approach to portfolio management was Markowitz's Modern Portfolio Theory (MPT). This method allocates resources among assets to maximize returns for a given level of risk. However, this diversification relies heavily on historical correlations between assets. It assumes that past correlations will remain unchanged in the future.

The reality of financial markets is quite different. Take 2022 as an example: stocks and bonds—traditionally uncorrelated asset classes—experienced simultaneous declines. Bonds, which were supposed to mitigate portfolio risk through diversification, failed in this role.

In times of crisis, assets that previously showed no correlation often start behaving in a positively correlated manner. If portfolio correlations cannot be relied upon to remain stable, the question arises: what role do these auxiliary assets serve? Wouldn’t it be better to replace them with others whose correlations are more reliably predictable?

Back in the 1960s, Claude Shannon, the father of information theory, introduced an intriguing concept. He demonstrated that even two assets with individually negative expected returns could produce a positive compounded return through regular rebalancing. The key to this effect lies in the stable non-correlation of these assets.

It’s sufficient if one asset exhibits enough volatility. The other can even be cash with zero return, as it is predictably uncorrelated with the returns of any other asset, even in the future.

If we shift this predictable non-correlation into mutual negative correlation, the effect becomes even more pronounced.

Rebalancing between predictably negatively correlated assets can generate value during periods of high volatility by better exploiting the power of compounding.

Instead of the traditional 60/40 stock-and-bond portfolio, it is more effective to diversify into strategies that are guaranteed to be negatively correlated, such as put options on underlying assets or long volatility strategies (futures and options).

In times of market stress and increased volatility, these risk diversifiers with convex payoffs can protect the portfolio in a more predictable way. Furthermore, the compounding from distressed levels provides another boost for portfolio returns.

To implement this approach effectively:

- Identify assets or strategies with structural negative correlation to your core holdings (e.g., long volatility or tail hedges).
- Allocate a small, disciplined portion of the portfolio to these strategies, focusing on instruments with asymmetric payoffs like options or volatility futures.
- Regularly rebalance between core and hedging components to capture the compounding benefit.

The goal isn’t to replace traditional assets but to augment them with tools that thrive in chaos, creating a portfolio built for all seasons. Instead of hoping correlations hold, you take control of them. This is how you turn volatility from a risk into an opportunity.

Financial markets insights of the month

Alternative monetary view on global equity valuations

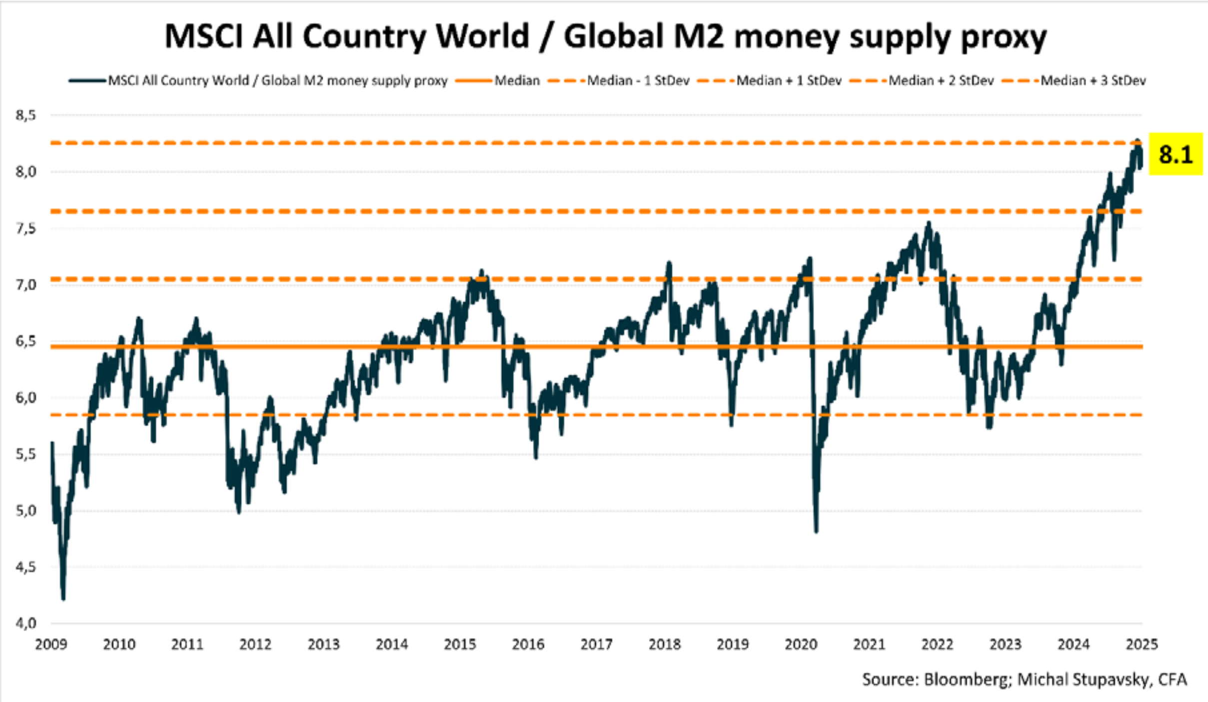
Michal Stupavský, CFA

Head of Research

Some investors have argued that the standard measures of equity valuations, such as (cyclically-adjusted) P/E ratio or Buffett valuation indicator, have become somehow obsolete, especially due to the ongoing structural shifts in the global economy and the corresponding much higher profit margins trend of the market leaders from the information technology sector (permanent or just transitory cyclical upswing?). With profit margins at or close to all-time highs they believe that the standard measures of equity valuations currently at or close to all-time high levels – US large-caps and information technology sector in particular – are justified, rendering the valuations comparison with long-term averages meaningless at least to some extent.

Some of these investors have also argued that investors should instead focus on the global liquidity conditions and the global money supply dynamics, because these factors seem to have had quite a significant impact on the global stock markets' price action since the global financial crisis. That said, the chart below depicts the ratio of the broadest global stock markets index MSCI All Country World and the global M2 money supply proxy. Investors could indeed argue that the lower the global stock markets index value relatively to the global money supply, the more attractively priced the global stock markets are, and vice versa, the higher the global stock markets index value relatively to the global money supply, the less attractively priced the global stock markets are.

At the moment, this ratio is close to the level of the median plus three standard deviations based on the data since 2009 and so this "monetary valuation" of the global stock markets is at the highest level on this time frame (we have been in a new global macro regime of quantitative easing and zero interest rates policies since 2009, despite some monetary policies' normalization since 2022). That said, the global stock markets as a whole seem to be overvalued at the moment, even when the all-time high global money supply of USD 105 trillion is taken into account. On the other hand, of course, it is also true that equity valuations usually indicate almost nothing at all as regards the expected short-term market development in the next 12 months. Nevertheless, after two years of exceptional global stock markets returns, with the MSCI All Country World index increasing by 20% in 2023 and 16% in 2024, at least some caution is warranted as regards the investment outlook for 2025 in my opinion.


MSCI All Country World / Global M2 money supply proxy
MSCI All Country World / Global M2 money supply proxy
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Source: Bloomberg; Michal Stupavsky, CFA

Financial markets insights of the month

2025 will be a reality check for the markets. Brace yourself for more volatility.

Tomáš Pfeiler, CFA

Analyst

For stock market investors, 2024 was, by all means, spectacular. S&P 500 surged more than 23 % with Magnificent seven stocks delivering outsized gains. Pervasive euphoria around artificial intelligence coupled with a gravity-defying US economic growth are principal factors behind such a bullish outcome. Central banks also embarked on their rate cutting cycles. There is, however, a strong reason to believe that things are getting more complicated from here. Expectations are high, and thus 2025 is going to be a kind of reality check.

Let's start with the AI. While the current boom is almost certainly not going to stop, portfolio managers will become more cost aware. Capex for the largest hyperscalers hit $200bn in 2024 and this amount will soar to around $240bn in 2025. Nevertheless, investors will scrutinise efficacy of these exorbitant capital expenditures. Return on invested capital is becoming increasingly relevant indicator. Given the magnitude of the big tech capex any EPS below estimates could mean severe punishment for shareholders. Each earnings season will be a critical moment. Violent post-earnings moves are possible.

There is no reason to deny, that the US economy proved surprisingly resilient. The growth engine shows no signs of slowdown. Donald Trump's decisive victory reinforced the belief in the US exceptionalism. Asset managers pinned their hopes to the pro-growth policies. But we cannot ignore side effects of the economy being too hot. Rapid GDP growth could entrench inflation at current elevated levels. Add the risk of tariffs and the second inflation wave – while not the base case – is definitely not beyond the realm of possibility.

Department of Government Efficiency might succeed in fiscal consolidation. Nonetheless, the more realistic scenario is that the administration's emphasis on the low taxes will keep budget deficit soaring. Such an outlook naturally limits the Fed's capacity to deliver significant cuts. The cutting cycle will go on, but with only two cuts expected in 2025, it will be rather symbolic than substantial. There is a reason to believe that If we see inflation going up, the US central bank might completely jettison the idea of further rate cuts.

The combination of restrictive monetary and loose fiscal policy will pronounce into only a modest decline in the longer-term UST yields – no decline in yields at all is also quite plausible. Higher yields leave little room for valuation expansion and therefore, rapid EPS growth is a necessary pre-condition for the US stocks bull run to sustain.

There are sectors or investment styles, such as energy or small caps, which will undoubtedly profit from Trump's signature policies. All possible benefits are still not completely baked into their prices. On the other hand, there are pockets of the market where the Trump trade has gone too far. US banks will thrive well on deregulation, pro-growth measures and lower tax regime. But look at the post-election performance of financial behemoths such as JP Morgan and you can conclude that most of these prospective benefits have already been priced in. At the current level, the upside potential is virtually non-existent.

Lower growth outlook for Europe will be translated into ECB's looser monetary policy stance. Rates can drop to 1,5 % or below the neutral level. Monetary divergence will therefore become the topic of du jour in 2025. Harsh trade policy of new US administration might amplify this decoupling. The euro will probably depreciate below the parity against the dollar. US stocks are likely going to eclipse its European counterparts. However, there are deeper structural factors in play, not just cyclical weakness of the European economy.

While the year 2025 will be challenging, the cataclysm is not inevitable. Theoretically, positive outcomes could occur in all dimensions (AI, growth, inflation, Trump's policies). Nonetheless, there is a fair amount of complacency in risky asset prices. Equities close to all-time highs contrast with a plethora of risks on the horizon. Brace yourself for more turbulent markets in 2025.

Global M&A insight of the month

Omnicom and Interpublic to merge, forming world's largest advertising agency

Martin Bosák

Analyst

The global advertising industry is poised for a major transformation as Omnicom Group announced plans to acquire Interpublic Group in an all-stock transaction. This merger would create the largest advertising agency in the world, boasting around $25 billion in annual revenue and a workforce of more than 100,000 employees.

A Changing Advertising Landscape

The merger comes amid profound changes in the advertising world. Digital platforms, led by tech giants like Meta and Alphabet, have steadily encroached on traditional ad agencies' territory, offering both advertising tools and marketplaces for buying and selling ad space. Meanwhile, consulting firms such as Accenture have aggressively expanded into the creative space, acquiring studios and related businesses.

In response to these challenges, the "Big Four" advertising agencies—Omnicom (New York-based), Interpublic (New York-based), WPP (London-based), and Publicis (Paris-based)—have undergone significant transformations. These agencies have embraced digital technologies and frequently pursued strategic acquisitions to maintain relevance in a fast-evolving market.

Deal Structure and Strategic Goals

Under the agreement, Omnicom shareholders will own 60% of the combined entity, while Interpublic shareholders will hold the remaining 40%. Shareholders of Interpublic will receive 0.344 Omnicom shares for each share of Interpublic stock. The combined company will retain the Omnicom name, with executives estimating $750 million in annual cost savings. The deal is expected to close in the second half of 2025, pending regulatory approval.

Omnicom's leadership emphasized that the merger is driven by strategic growth opportunities rather than cost synergies alone. Management highlighted several priorities, including better integration of transactional data, improved monetization capabilities, enhanced investments in generative AI, and achieving greater scale in high-growth areas such as healthcare. The merger is also expected to create the largest pool of talent in the industry.

Legacy and Challenges

Both companies bring storied histories to the merger. Interpublic, founded in 1930 through the merger of McCann and Erickson, was once the world's largest advertising agency. Its current clients include Johnson & Johnson, Levi Strauss, and Mattel. Omnicom, formed in 1986 through a three-way merger, serves major clients like Apple, Chanel, Disney, and Volkswagen.

However, Interpublic has faced significant challenges in recent years. The company lost key clients such as Verizon and BMW, while its revenue remained stagnant in 2023. A modest 1% growth is forecast for 2024. Interpublic has also sold underperforming assets, including Huge and R/GA, two of its prominent digital agencies, in an effort to streamline its operations.

Regulatory and Market Concerns

The deal is not without potential obstacles. Omnicom's previous attempt to merge with Publicis in 2013 collapsed due to complexities in aligning two large organizations. This time, Omnicom executives are confident that lessons from the past will guide a smoother integration process.

Regulatory scrutiny may also pose challenges, especially given the uncertain antitrust climate under the incoming administration. While management has expressed optimism about the regulatory environment, the merger's scale could attract significant oversight.

Market Reaction

Since the announcement, Omnicom's shares have declined by 17% while Interpublic's stock has seen only a slight decrease. As of now, Omnicom's enterprise value is $21.3 billion, with a market capitalization of $16.9 billion and EBITDA of $2.6 billion. Interpublic's enterprise value stands at $12.0 billion, with a market capitalization of $10.5 billion and EBITDA of $1.7 billion.

Looking Ahead

The merger marks a pivotal moment for the advertising industry. By combining resources, expertise, and talent, Omnicom and Interpublic aim to navigate the challenges of a shifting market landscape while positioning themselves as leaders in the digital age. However, with integration risks, regulatory hurdles, and competitive pressures looming, the path to realizing the merger's full potential remains complex and uncertain.

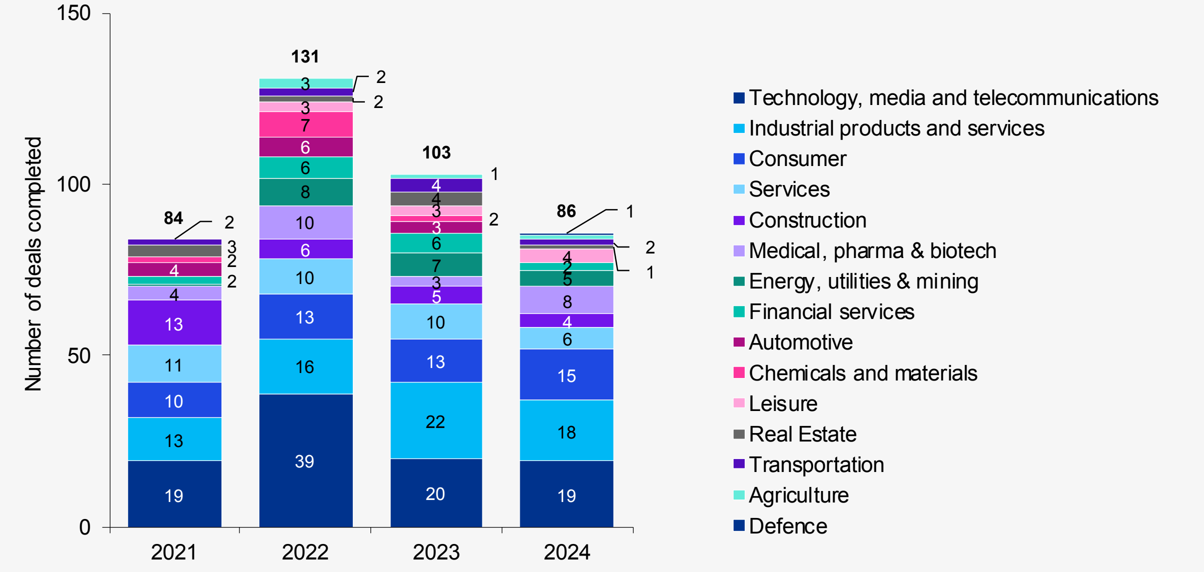
Czech M&A market insight of the month

Navigating Czech deal trends

Tamara Lorencová

Analyst

The Czech M&A market has experienced a dynamic evolution in recent years, driven by global economic shifts and domestic trends. The period was characterised by a post-pandemic surge, followed by economic challenges in 2023 and 2024, with signs of stabilisation and strategic growth expected to emerge as of 2025.

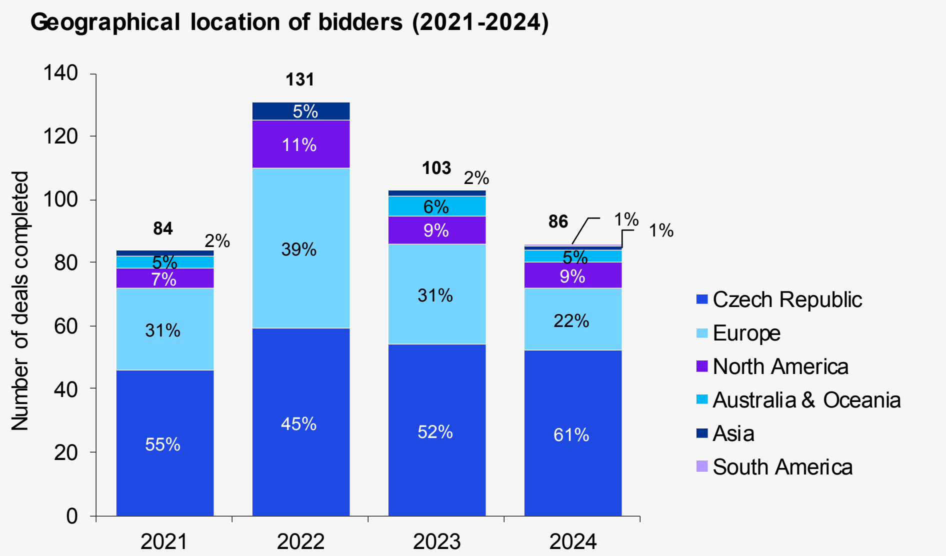


Source: Mergermarket.

After the pandemic, the Czech M&A market experienced a remarkable upswing, driven by low interest rates, pent-up demand and the push for digital transformation. In 2022, the market saw an above-average number of deals as deferred transactions from the COVID-19 period were completed. The technology sector stood out, supported by the Czech Republic's strong reputation as a tech hub and growing demand for IT services. Technology, media and telecommunications deals jumped from 19 in 2021 to 39 in 2022, consolidating its position as the dominant sector. Industrial products and services followed, driven by strong domestic demand and international appeal. The consumer sector also saw increased activity, reflecting post-pandemic consumption trends.

In 2023, the Czech M&A market returned to an average level of deal activity, a solid outcome given the prevailing economic uncertainty. Rising inflation, geopolitical tensions, tighter financial conditions and disruptions in supplier-customer relationships dampened market confidence. The total number of deals fell from 131 in 2022 to 103 in 2023, with most sectors feeling the impact. Despite this, the industrial products and services sector remained a bright spot, with 22 transactions, the strongest performance over the period, highlighting its resilience.

By 2024, the market had stabilised, with deal activity continuing at the average level seen in 2023. Despite ongoing economic challenges, this steady activity reflects a more balanced market. The focus has shifted to selective growth in key sectors. Energy, driven by global demand for sustainability and renewable energy solutions, has become an area of interest. The medical, pharmaceutical and biotechnology sector rebounded strongly from a quieter 2023, with 8 deals in 2024, demonstrating continued interest in healthcare innovation. The industrials and TMT sectors maintained a strong presence, continuing to anchor the market.



Source: Mergermarket.

Local investors dominate Czech M&A, driven by their familiarity with the market, focus on domestic consolidation and resilience in uncertain times. European bidders also play a key role, benefiting from geographic proximity and EU integration, with activity peaking in 2022 due to the post-COVID recovery, before declining amid economic and geopolitical challenges. Czech strategic and financial investors are almost equally represented, with strategic investors having a slight edge. They focus on long-term growth, synergies and market consolidation, peaking in 2022 and 2024. Financial investors steadily increased their activity in 2021-2023, reflecting growing interest in profitable opportunities even in difficult times. The slight dip in 2024 could be attributed to tighter financial conditions, rising interest rates and increased caution among private equity funds and other financial investors.

In summary, the Czech M&A market experienced strong activity following the pandemic, followed by a return to average levels in 2023 due to economic uncertainty. By 2024, the market stabilised, with key sectors such as energy, healthcare and technology attracting more interest than in previous years. Local and European investors continue to dominate, with strategic investors leading market consolidation. Looking ahead to 2025, the market is expected to see steady growth, driven by a mix of improved confidence and strategic realignment in key sectors.

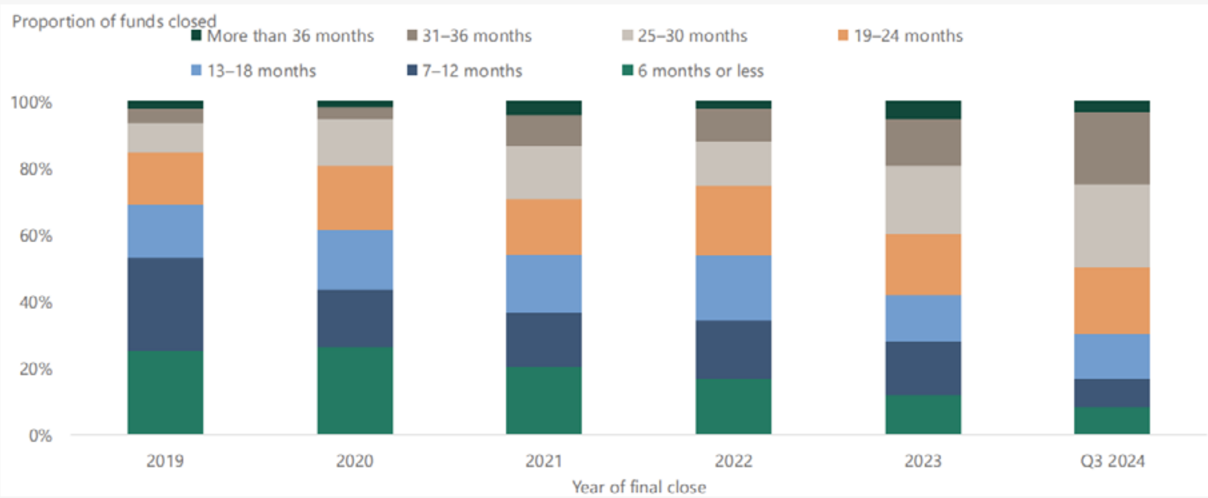
Private equity insights of the month

2024 private equity trends wrap-up

Diana Hricišáková
Analyst

As we conclude 2024, several key trends have shaped the private equity (PE) landscape, with implications for the coming year.

The PE industry has faced a slowdown in fundraising, with many firms struggling to meet their targets. The graph below shows the proportion of private equity funds closed based on the time spent in the market. Over time, there has been a noticeable shift toward longer fundraising durations, with around half of the funds now requiring more than two years to close, compared to just 15% in 2019. A significant decline is also observed in the proportion of funds closing within one year—over 50% in 2019, compared to less than 20% recently.



Source: Prequin, Apollo

Despite this, the accumulation of uninvested capital, known as dry powder, remains high. This paradox highlights a cautious approach among limited partners (LPs), who are becoming more selective in their commitments, favouring established managers with proven track records, often raising mega-funds that may take longer to deploy.

Elevated interest rates have introduced complexities in deal structuring and valuations. The increased cost of debt has led to more conservative capital structures, affecting leveraged buyouts and reviews of investment strategies. Firms are now prioritizing operational improvements and value creation within portfolio companies to achieve desired returns.

The exit environment has been subdued, with declines in both M&A and IPOs. In response, general partners (GPs) are increasingly utilizing continuation vehicles to extend their hold periods on high-performing assets. This strategy provides additional time to enhance value but also raises concerns regarding liquidity and valuation transparency for LPs.

2024 has been a year of recalibration for private equity, marked by cautious capital deployment, strategic adaptations to higher interest rates, and innovative approaches to asset management. Heading into 2025, the industry's resilience and flexibility will be key to addressing the challenges of today's market.

Private equity insights of the month

Bonanza for private equity is coming

Lukáš Baloga

Analyst

The private equity (PE) market in 2024 continued to grapple with a notable slowdown in exit activity. As of Q3 2024, the global value realized from private equity portfolios reached $635 billion, trailing behind the $745 billion recorded for the entirety of 2023.[1]

From an average holding period perspective, there was a slight decline, with the figure dropping to 5.6 years—down from 5.8 years in 2023. Despite this reduction, it still represents the longest average holding period since 2017, highlighting a trend of prolonged investment durations in the sector.[2]

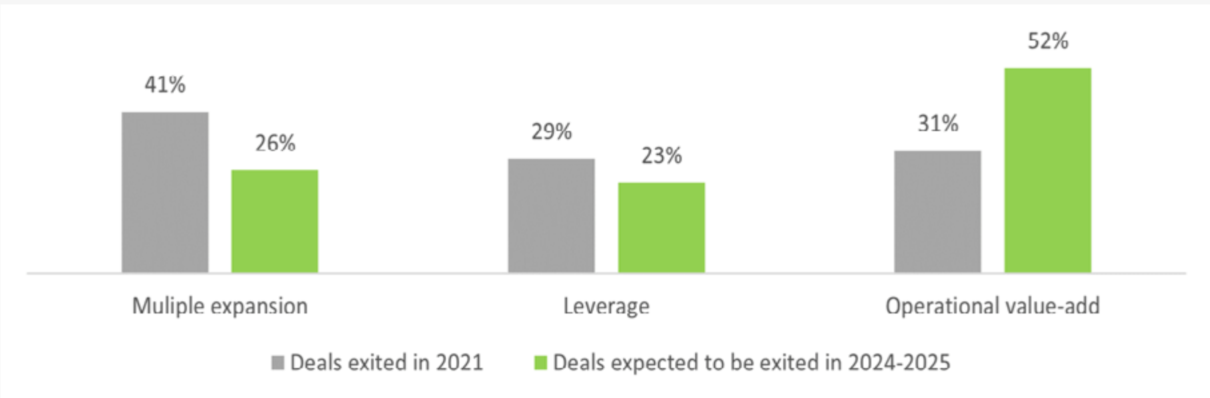
A recent study by Bain & Company revealed that buyout funds currently hold approximately 28,000 companies with a combined valuation reaching a record $3.2 trillion.[3] This high figure indirectly shows consistent pressure from limited partners (LPs) to general partners (GPs) to boost distributions. In 2023, over 80% of GPs reported being under at least moderate pressure to increase payouts. By Q3 2024, this sentiment eased slightly, with 70% of GPs still citing concerns over distribution demands.[4]

General partners' outlook

According to EY's PE Pulse survey for Q3 2024, 74% of GPs anticipate an increase in deployment activity over the next six months, a significant rise from 63% at the start of the year. Respondents highlighted the growing volume of assets coming to market as the primary driver needed to accelerate deployment, ranking it ahead of concerns over financing, fundraising challenges, and even valuation levels. This shift underscores the industry's focus on identifying actionable opportunities amid a dynamic market environment.[5]

Europe has emerged as a standout in the IPO market, achieving the highest IPO volumes since 2021. In H1 2023 alone, over €12 billion was raised, underscoring the region's resilience. According to KPMG, while H2 2024 expected subdued activity, there are growing signs of IPO candidates gearing up for the anticipated 2025 IPO window. This trend reflects cautious optimism as companies position themselves for favorable market conditions in the near future.[6]

Net interest margin by country (in percentages)



Source: Prequin, Apollo

Operational value-add has taken center stage as the primary trend shaping PE strategies for 2024-2025, according to numerous surveys, including EY's latest findings. Traditional drivers such as leverage and multiple expansion are expected to recede into the background.

Following deal closures, GPs are increasingly emphasizing operational expansion as a cornerstone of their approach. Key factors cited include sophisticated cash management, cost optimization, talent management, and leveraging ESG catalysts to enhance value creation.

Notably, the rise of generative AI has emerged as an important tool, with GPs identifying it as critical for driving business growth and operational efficiency. This focus reflects a broader trend toward integrating advanced technologies into PE portfolios to achieve long-term competitive advantages.

Economic climate
Should public markets maintain their upward momentum, inflation remain under control, and geopolitical tensions ease, private market funds are likely to adjust their portfolio valuations upward in 2025. This potential shift would reflect a more favorable economic environment and a clearer growth trajectory for portfolio companies. Such conditions could provide GPs with renewed confidence, setting the stage for more robust value creation and exit opportunities in 2025.

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[4] https://www.ey.com/en_gl/insights/private-equity/pulse

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[6] https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2024/08/ipo-market.pdf

Real estate & banking sector insight of the month

2025 gives us growth – in real estate and banking

Michal Mesík, Lukáš Štieber

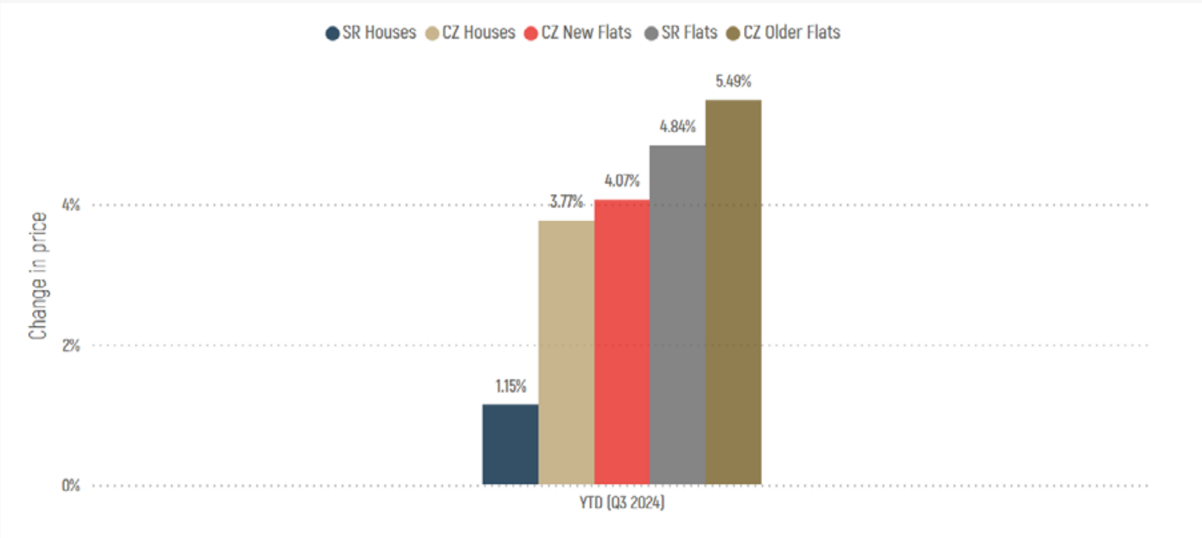
Analysts

End of the year is the time when national banks in Czech Republic and Slovakia publish their semi-annual reports on financial stability. While the NBS has declared a soft landing of the economy with some persisting risks, the CNB report speaks quite optimistically about a shift to a growth phase. What do the Czech and Slovak economies have in common and where do they differ? This article shall focus mainly on the state of the real estate market and the banking sector within the context of the economy.

In 2024 the inflation stopped dragging on the budgets of households and businesses. The CNB expects the inflation to remain stabilised also in 2025. On the other hand, the NBS expects inflation to hover around 5%, with the economy potentially slowing down due to the announced budget consolidation. Both national banks, though, observe solid labour markets and predict continued real wage growth. Nevertheless, multiple risks to growth lie ahead, mainly stemming from geopolitical tensions and potential changes in economic policy following elections in several of the largest developed economies.

In the residential real estate market, both central banks report accelerating price growth. As of Q3 2024, residential real estate prices have risen by approximately 4.3% in Czechia and 3% in Slovakia on a year-to-date basis. A robust labor market and declining mortgage rates are driving this recovery from previous cyclical lows. However, housing affordability remains below average in Czechia, while in Slovakia, it is still above the European average.

Residential real estate prices in Czechia and Slovakia on the rise (Q3 2024 vs. Q4 2023)



Source: NBS, CBA Monitor

In the commercial real estate (CRE) sector, recent trends in prime yields and rents suggest further price stabilization for prime properties in core sectors across Czechia and Slovakia. This stabilization is welcome news for CRE investors following the significant price declines of 2022–2023. However, persistently low growth signals an increasing divergence in the performance of primary and secondary quality properties, which could widen further if growth slows. Unlike previous real estate cycles, the current cycle is distinguished by strong employment figures but is primarily shaped by changes in the cost of capital. Therefore, risks to the growth outlook, particularly in the context of stagflation, could act as catalysts for further price corrections in both residential and commercial real estate.

As for the banking sector, both national banks appear strongly confident about its resilience, following years of building capital cushions and default rates being just slightly above historically lowest levels. In 2024, both Slovak and Czech banks, were able to accelerate the growth in new mortgage loans on the back of previous declines and falling interest rates. Among private borrowers, the increased mortgage payments of the past two years have not transformed into higher default rates, despite a temporary decrease in disposable income during the inflationary period. In addition, Slovak banks recorded no change in the structure of borrowers following the interest rate decreases in 2024. This contrasts with Czechia, where the indebtedness levels of private borrowers have been gradually growing to higher levels. Given the low amount of highly indebted borrowers, this has not become a source of concern. Although the current environment of declining interest rates will dampen their record profitability levels, banks in Czech Republic and Slovakia will continue to enjoy strong financial health and profitability also in 2025,

The very good capitalisation of banks has been confirmed by supervisory stress tests. The baseline stress scenario exhibits only a mild impact on the banks' capitalisation levels. Only the adverse scenarios would transform into severe recession and have a more severe impact on the banking sector. However, the banks are not expected to get into trouble even under the adverse scenario, with the banking sector still maintaining positive profitability. In contrast to the banks, CRE investors could face negative impacts if more adverse growth scenarios materialize, as current prices do not fully reflect these risks. The lower amount of CRE transactions since 2022 also raises questions regarding valuations of CRE assets, the book values of which may be still based on the optimistic assumptions valid before central banks started increasing interest rates.

In summary, the Slovak and Czech economies face relatively positive outlook, as both are expected to grow in 2025, despite risks from geopolitical tensions, economic policy shifts, and budgetary consolidation in Slovakia. Residential real estate prices will likely rise due to strong labour markets and decreasing mortgage rates, though affordability issues will limit growth in prices. The commercial real estate sector may face challenges from negative economic developments and consequent repricing. Both banking sectors are well-capitalized and resilient, having sufficient buffers to withstand negative shocks. Unless significant risks materialize, they are expected to remain strong and profitable.

Behavioral finance insight of the month

Why behavioral finance matters?

Jana Přílučíková, PhD
Analyst

It was another busy afternoon, nine months ago, when the news broke - Daniel Kahneman, the Nobel laureate whose work helped reshape the way we think about decision-making, including the decisions that shape our financial and investment choices, had passed away.

For a moment, the world of finance paused—and so did I. In that stillness, one sentence, inspired by his teachings, resonated vividly in my mind: **Take a moment to think—and then think about how you are thinking**. It reminded me that decisions are not just about the numbers but about understanding ourselves first- the impact of emotions, our mental shortcuts and biases, and the thought processes behind those numbers.

Sitting at my desk that day, I found myself reflecting on the profound impact his work had—on countless individuals across the globe, from investors to thinkers alike. Kahneman's insights weren't just theories or abstract concepts tucked away in academic journals and books. They are practical lessons guiding toward more thoughtful decisions and daily choices.

It was the way he made us turn inward, urging us to recognize that while markets may be volatile, our responses can remain deliberate. The mindset forms the cornerstone of behavioral finance—a field he and his collaborator, Amos Tversky, helped pioneer. Together, they revealed that heuristics, such as availability and anchoring, along with related biases, are not mere quirks but powerful forces shaping our financial decisions. They also taught us a profound truth- the pain of losing often outweighs the joy of gaining.

Behavioral finance is a specialized branch of financial studies that focuses on applying principles of behavioral economics to financial decision-making. It explores how psychological factors and irrational behaviors influence the actions of savers, investors, and borrowers, as well as the valuation of assets and the dynamics of financial markets.

Behavioral finance insights are not about overanalyzing every decision; rather, they provide a framework to rethink our approach to investing by recognizing the cognitive limitations and emotions that often cloud our judgment. Behavioral finance is another essential tool in an investor's arsenal, working alongside other strategies to complement and enhance decision-making.

Research in behavioral finance is prominently featured in the esteemed Journal of Behavioral Finance, published quarterly by Taylor and Francis since 2000. Financial topics viewed through a behavioral lens are also published in prestigious journals such as the **Journal of Economic Literature, Journal of Economic Perspectives, and Journal of Financial Economics**, advancing the understanding of behavioral finance, providing a platform for rigorous research and fostering deeper insights into financial decision-making.

Over the coming months, **PFI Monthly** will feature a behavioral finance column, joining the ranks of renowned journals that explore behavioral finance topics. Through stories, insights, and strategies, the column will delve into concepts such as heuristics and related cognitive, emotional, and socio-cultural biases, helping investors better understand the human behavior that drives markets, refine their decision-making, and balance intuition with deliberate thought.

As we step into January 2025, we bid farewell not only to the year gone by but also honor the memory of the visionary whose legacy extends far beyond his Nobel Prize. Daniel Kahneman's groundbreaking work, along with that of other pioneers in behavioral finance, serves as a powerful reminder- our mindset remains the most valuable asset we bring to every decision we make, both in life and in investing.

Blockchain technology and digital assets insight of the month

The institutions are here: Reflections from 2024 and what lies ahead in 2025

Adrián Páleš

Analyst

The long-anticipated era of institutional involvement in digital assets has arrived, marking 2024 as a transformative year for crypto. Institutional players have not only legitimized the asset class but also laid the groundwork for its evolution in 2025 and beyond.

2024: A Breakthrough Year for ETFs

The approval of Bitcoin (BTC) and Ethereum (ETH) ETFs in 2024 was a landmark moment, making these assets accessible to both retail and institutional investors. The IBIT ETF shattered records, achieving $3 billion in assets under management (AUM) within 30 days and $40 billion in under 200 days—unprecedented feats in legacy markets.

Options trading for IBIT began in late 2024, generating $2 billion in notional exposure on its first day. These derivatives provide institutions with new avenues for managing risk and customizing exposure to BTC. With BlackRock positioning digital assets as a valuable uncorrelated allocation, ETF inflows are expected to remain strong in 2025.

Tokenized Real-World Assets (RWAs): A 2024 Success Story

The tokenization of real-world assets gained significant traction in 2024. TradFi firms and crypto-native protocols alike embraced blockchain technology to tokenize treasuries, money market funds, and more. Notable highlights include:

- **Ondo Finance's USDY fund**: A tokenized treasury fund that amassed $440 million in AUM, with its ONDO token appreciating over 700% after listing.
- **Franklin Templeton's on-chain fund**: Backed by short-term treasuries, it reached nearly $500 million in AUM.
- **BlackRock's on-chain money market funds (BUIDL)**: Demonstrating the appeal of instant settlement, enhanced liquidity, and fractional ownership.

Looking ahead, tokenization is poised to further disrupt traditional financial markets in 2025, with firms like Fidelity and Citi exploring innovative digital money market fund concepts.

Stablecoins and Payments: A Converging Ecosystem

In 2024, the distinction between fintech, payments, and crypto began to blur. Paypal launched PYUSD on Solana, using DeFi incentives to accelerate adoption, while Agora introduced AUSD, a stablecoin backed by Van Eck and custodied by State Street. These moves highlight the potential for stablecoins to reduce costs, increase transparency, and address inefficiencies in payment systems.

2025 is expected to bring even greater adoption, with major players like Visa piloting large-scale USDC transfers on Solana and Ethereum and expanding payment infrastructure for stablecoin-based settlements.

2024 Institutional Milestones: Paving the Way for 2025

The past year saw significant progress across multiple fronts, signaling a deeper institutional commitment to digital assets:

- ✦ **JPMorgan expanded Kinexys** (formerly Onyx) for cross-border payments and tokenization.
- ✦ **Goldman Sachs announced plans** to spin off its digital asset platform into a standalone entity.
- ✦ **Robinhood launched crypto transfers** in Europe, diversifying its offerings.
- ✦ **Revolut's standalone crypto exchange** (Revolut X) expanded to 30 markets and prepared to launch a MiCA-compliant stablecoin.
- ✦ **Stripe made waves** with its $1.1 billion acquisition of Bridge, cementing its stake in crypto infrastructure.
- ✦ **Visa and Coinbase deepened collaboration**, enabling real-time deposits via debit cards and scaling live USDC pilots.

2025 and Beyond: Institutional Momentum Accelerates

The milestones achieved in 2024 have set the stage for continued institutional expansion in 2025. As ETFs attract steady inflows and RWAs drive innovation, the infrastructure supporting digital assets will grow more robust. Moreover, the line between traditional finance and crypto is expected to blur further as institutions embrace blockchain for efficiency and transparency.

In 2025, the focus will likely shift toward optimizing tokenization models, scaling stablecoin adoption, and integrating blockchain into core financial operations. Institutions are not merely participants in the crypto ecosystem—they are becoming its architects, shaping the future of finance for decades to come.

Energy sector insight of the month

Europe's gas worries: High prices beyond winter

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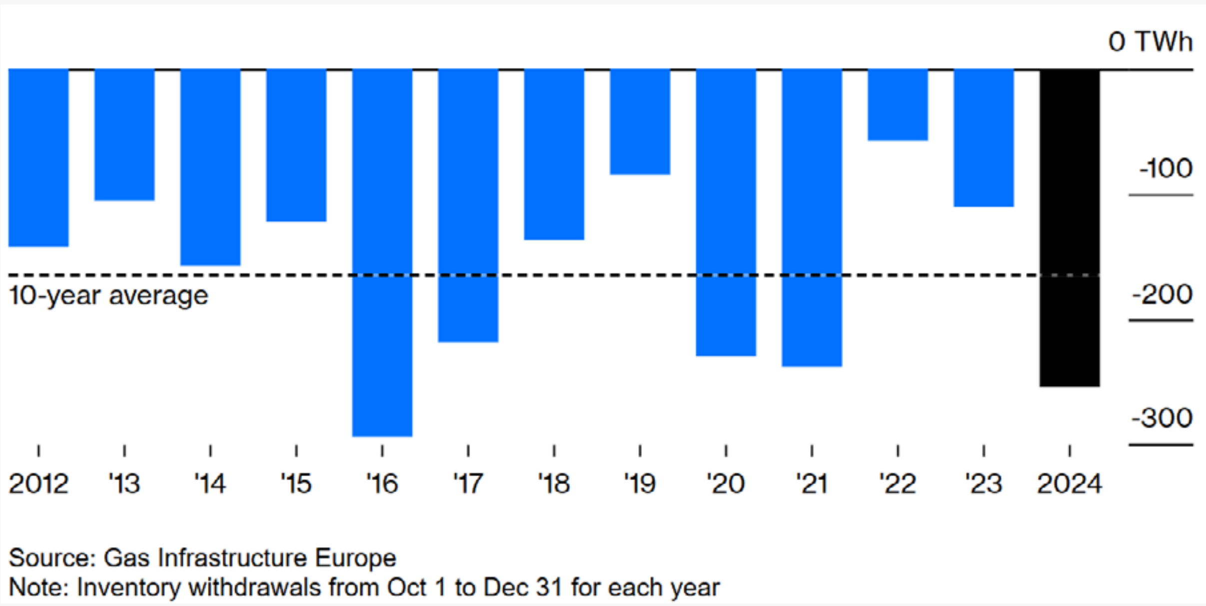
Analyst

Europe faces an unprecedented challenge with natural gas supply in 2025, as concerns extend beyond the typical winter months into spring and summer. Gas prices, measured by the Title Transfer Facility benchmark in the Netherlands, have surged above €50 per megawatt hour, a level rarely seen in the past two years. This trend threatens the region's energy-intensive industries and household budgets alike.

Key Factors Behind the Price Surge

1. Loss of Russian Gas:
Ukraine's non-renewal of its 2024 transit contract with Russia has severed a crucial gas supply route for Europe. Although Russia's exports to Europe have declined, nations such as Austria, Hungary, and Italy still relied on these shipments. The gap must now be filled by alternatives like U.S. liquefied natural gas (LNG) and Europe's storage reserves.

2. Depleted Inventories:
Europe has already withdrawn over 250 terawatt hours of gas from storage since October, well above the 10-year average of 165 TWh. The 2024-25 winter, characterized by colder, calmer, and drier conditions, has increased demand for gas in heating and power generation, straining reserves.
Image: European nations have withdrawn the second largest amount of natural gas taken out of inventories during the first half of the winter season



Inventory Challenges and Future Outlook
Europe began the winter with inventories at 95% of capacity, but estimates suggest levels could drop to 35%-40% by season's end, compared to 60% last year. A colder-than-average January-March could exacerbate this decline.
Low storage levels mean Europe will need to aggressively restock during spring and summer to meet the mandated 90% capacity by November 1. Competing with Asia for LNG shipments is likely to push prices even higher.

Market futures already reflect this tension, with summer gas prices trading at a premium of €4 per megawatt hour over winter gas — a stark reversal of usual trends. Storage operators face the dilemma of buying expensive summer gas and potentially selling at lower winter prices.

Limited Relief Options
Potential relief for Europe includes:

- **New LNG Supply**: U.S. liquefaction projects are anticipated, but most will not materialize until 2026-2027.
- **Lower Asian Demand**: Weaker economic growth in China could reduce competition for LNG.
- **Renewed Russian Supply**: A renewal of the Ukraine transit contract or a resolution to the Russia-Ukraine war under U.S. President Donald Trump could bring Russian pipeline gas back to Europe, though both scenarios remain uncertain.

A Grim New Normal
Europe is now confronted with persistently high gas prices, not only during winter but also during what should be a period of low demand. This marks a significant shift in the region's energy market dynamics, with ripple effects across industries and households alike.

Quantitative methods insight of the month

Introduction to time series analysis

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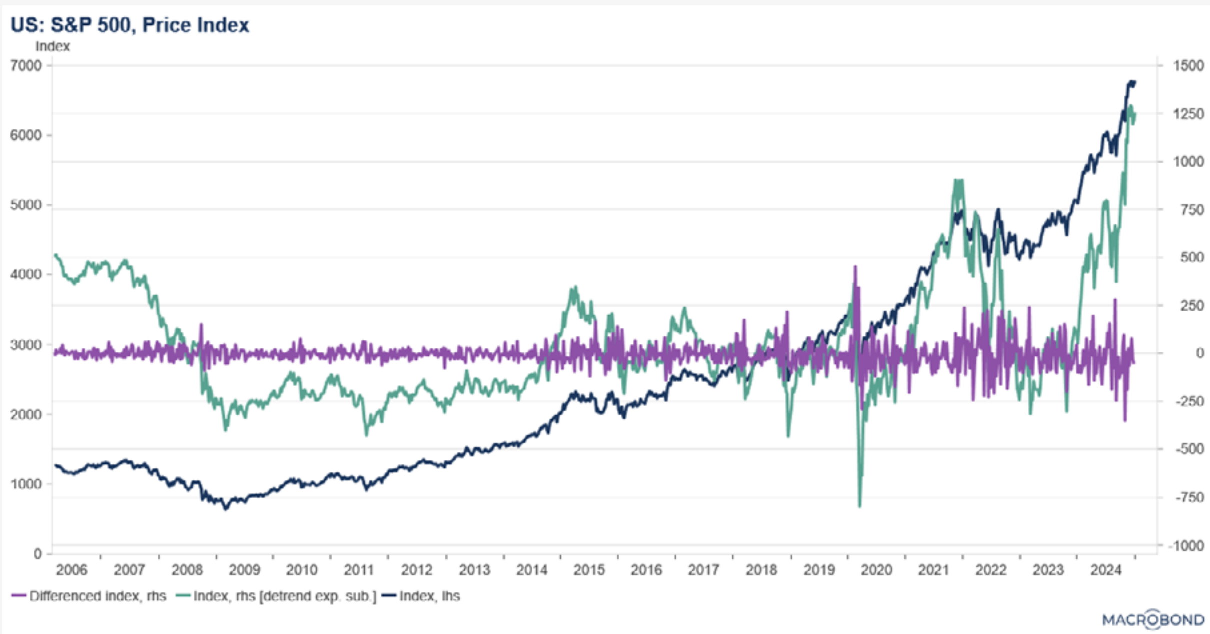
Time series analysis plays an important role in investment analysis, particularly when dealing with time series data. Unlike cross-sectional data, where variables are observed at a single point in time across different subjects, time series data is collected sequentially over time, often at regular intervals. Financial markets generate large volumes of time series data, such as stock prices, bond yields, exchange rates, and economic indicators. Analyzing this data effectively can uncover trends, forecast future movements, and inform investment decisions. However, the unique characteristics of time series data introduce specific challenges and considerations that investment professionals must navigate.

Imagine analyzing the monthly returns of a stock over several years. One of the most fundamental issues is stationarity, the assumption that a time series' statistical properties, such as mean and variance, remain constant over time. In practice, we observe that stocks usually gain value over time and the volatility can vary based on whether the economy is expanding or contracting. Stationarity is somewhat similar to the assumption of independence in a cross-sectional setting. If we want to make accurate decisions based on data, we need to be sure there is no underlying component (in terms of stock returns, it can be inflation, which makes the returns seem higher) that we do not understand, but which affects the future realizations of the time-series. That is why we use both nominal and real variables (in principle, real variables account for such trends and are preferred in some cases).



For instance, stock returns are often stationary after transformations like detrending (green line), logarithmic scaling, or differencing (purple line in the picture, note the different scaling of the blue (original) line). While detrended the time series is still relatively far from being stationary, we note that the average return after detrending is approximately constant, compared to the true returns. After removing additional seasonal effects, we can be more confident when creating forecasts based purely on this series. Alternatively, differencing involves subtracting the previous period's value from the current period's value, effectively transforming a non-stationary series like stock prices into a stationary one (purple line). In the context of stock returns, differenced values show day-to-day changes in returns. Intuitively, day-to-day changes in returns should be similar. We note that the mean of the differenced series is constant and the variance of the index is relatively stable for the period 2015-2024.

Stationarity is often violated in scenarios where structural breaks occur—such as during financial crises or regulatory changes—or where series exhibit strong seasonal effects like retail sales peaking around holidays. In these cases, failing to address non-stationarity can lead to overestimating relationships between variables, which can result in poor predictions or misguided policy decisions.

Another important feature of financial time series is their dependence on past values. For example, stock prices today are strongly influenced by their historical values due to momentum effects, market inertia, or even psychological factors driving trader behavior. This characteristic makes time series inherently different from other types of data. Autocorrelation, where the value of a series at a given time is correlated with its previous values, is a common feature. In financial markets, autocorrelation might manifest in short-term momentum, where past positive returns can predict near-term positive returns. Conversely, it might also highlight mean-reversion, as seen in some stock indices or commodities, where extreme prices tend to return to an average over time. In financial markets, autocorrelation occurs when current values in a time series are influenced by past values, leading to distinct patterns like short-term momentum or mean-reversion. Positive autocorrelation, where past positive returns predict near-term positive returns, often creates the appearance of strong trends. For instance, a stock delivering consistent daily gains of 1% over a week may seem to exhibit sustained growth, but if these returns are driven by momentum rather than fundamentals, the trend could abruptly reverse, leading to overestimated future price levels. Conversely, negative autocorrelation reflects mean-reversion, where extreme values are followed by a return to average levels, as seen in commodities or stock indices. Ignoring autocorrelation in analysis can lead to errors, such as underestimating volatility.

ARIMA models (AutoRegressive Integrated Moving Average) decompose time series data into three components: AR, I, and MA, each addressing specific aspects of the data. The AutoRegressive (AR) component captures the relationship between the current value and its own past values, modelling patterns like persistence or momentum in stock returns. For instance, if today's return depends on returns from the previous day or two, the AR component reflects this. The Moving Average (MA) component models the influence of past forecast errors or shocks on current values, such as how an unexpected market event affects subsequent returns. The Integrated (I) component handles non-stationarity in the series by differencing. Together, ARIMA effectively captures temporal dependencies, trends, and shocks in stock return data.

Thirdly, when time series interact with other variables, such as indices or economic indicators, cointegration analysis becomes essential. Cointegration tests help identify long-term relationships despite short-term fluctuations. For example, a stock's price might move closely with its industry index over the long term, even if daily returns are highly volatile. Due to this short-term volatility, it might look as these time series are unrelated. Failing to account for cointegration can lead to spurious correlations, where unrelated variables appear to be connected.

In spurious correlation, where variables appear related due to shared trends or coincidence. For instance, suppose a fund manager notices a high correlation between S&P 500 returns and the number of new tech patents filed. This might suggest a link, but the correlation could merely reflect simultaneous growth trends in innovation and the stock market, without any causal relationship.

An often-cited amusing example of spurious correlation outside finance is the positive relationship between a country's per-capita chocolate consumption and the number of Nobel laureates it produces. While entertaining, this is a textbook case of how unrelated factors can coincidentally align. If one were to take this correlation at face value, it might suggest that increasing chocolate consumption could lead to more Nobel laureates (or vice versa). However, the true explanation lies in various economic factors, such as GDP, average wages, and the number of academic institutions, which influence both chocolate consumption and the number of Nobel prizes awarded. Wealthier countries, for instance, tend to have better academic systems and greater affordability for luxuries like chocolate, explaining the observed correlation without implying causation. Spurious correlations like this mislead by implying causality where none exists, often resulting in poor decision-making if not scrutinized. There is a whole website dedicated to examples of spurious correlations.

In summary, time series models are invaluable for finance but require handling (possibly more cautious handling than cross-sectional data) to avoid pitfalls like non-stationarity and spurious correlations, ensuring the conclusions are accurate.

About

Prague Finance Institute (PFI)

Non-profit organization affiliated with CERGE-EI

PFI aims to connect experienced and young finance professionals, including students, especially through educational and networking events

Our key activities

- **PFI Talks podcast** in cooperation with the daily E15 (e.g. Daniel Kahneman, Jeffrey Sachs, Aswath Damodaran, Marc Faber, Barry Eichengreen or Peter Oppenheimer)
- **Panel discussions** (roundtables)
- **Valuation Masterclass** (semester-long business valuation course)
- **Technical Analysis Masterclass** (unique six lectures on technical analysis)
- **Research** (PFI Monthly magazine)
- **PFI Scholarship**
- **Platform for sharing interesting job opportunities** in the financial sector
- **Social media**, especially LinkedIn

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