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QUARTERLY INSIGHTS

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HIDDEN FACTORS BEHIND ALPHA GENERATION IN EMERGING EUROPEAN MARKETS

Emerging European countries represent a structural convergence story towards developed Europe supported by strong manufacturing performance based on cheap and skilled labour force, EU integration accelerated by EU grants and accompanied by lower debt penetration enabling higher room to grow. This long-term structural growth story and the close geographic proximity of the countries is often perceived homogenous at first sight.

However, the convergence path is often encountered with cyclical and temporary ups and downs that make individual economies and stock markets remarkably heterogenous in the short to medium term:

- Countries' macroeconomic vulnerability to energy price shocks varies on a wide range.
- EU financial grants contribute to local economies differently.
- Post-soviet political ideological heritage collides with liberal, market friendly views as governments come and go.
- International and local fund flows impact individual stock markets in various manners.

Due to the illiquid nature of Emerging European stock markets, the heterogenous swings along these factors create large price divergencies ending up with wide misvaluations. This phenomenon provides great opportunities for active managers to harvest alpha.

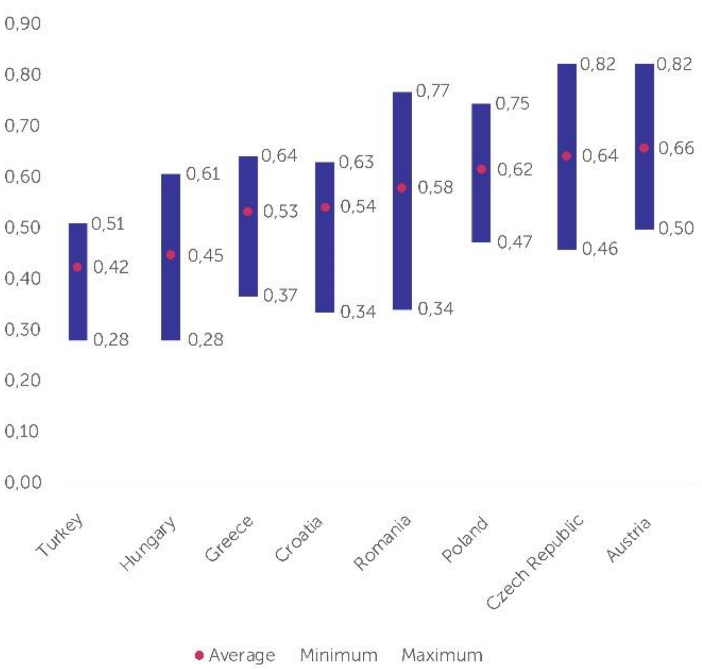
We aim to uncover this heterogenous characteristic of the Emerging European countries and stock markets in two subsequent Quarterly Insights. In the current one, we are presenting a long-term historical correlation study as quantitative evidence and we are highlighting the details of the less well-known, hidden factors behind it. In our next Quarterly Insight, we are going to provide short case-studies on how the stock markets diverged and how the individual companies' stocks deviated from each other within individual sectors - often against fundamentals - since the onset of the Russian- Ukrainian war.

CORRELATIONS AMONG THE INDIVIDUAL STOCK MARKETS ARE WIDELY DISPERSED

During the previous fifteen years the average correlation coefficient among Central Eastern European markets was 0.56. Diving deeper into the correlation matrix we observed two key important characteristics of the relationships between the individual stock markets. First, the correlation of individual countries with each other were widely dispersed between 0.28 and 0.82, second the dispersion got even wider during periods of market turmoil.

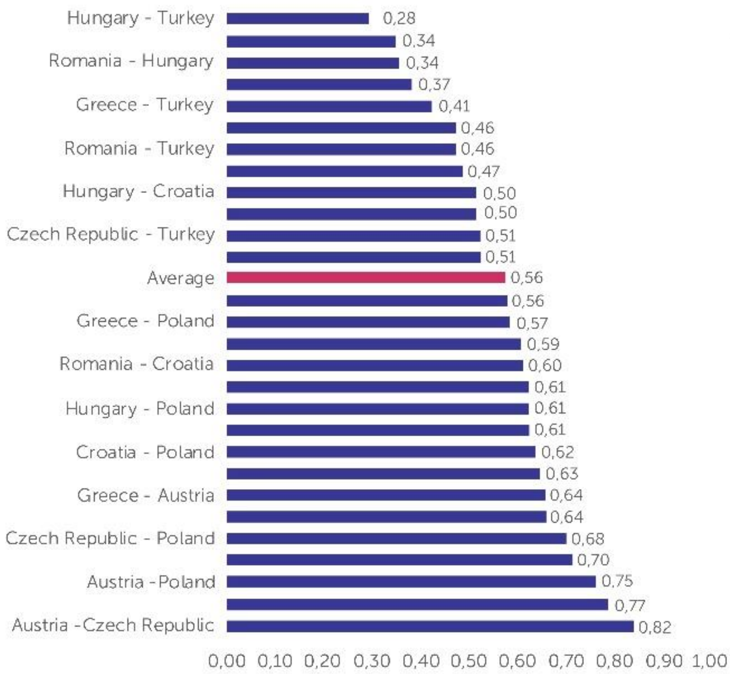
TURKISH AND HUNGARIAN EQUITY MARKETS DEVIATE THE MOST FROM THE REST

Correlation of individual stock markets with the rest of the region* (2008.01.01.-2023.02.22)



INDIVIDUAL MARKETS CORRELATION RANGES WIDE

Correlation of individual stock markets (2008.01.01.-2023.02.22)



Source: Bloomberg

*The chart on the left shows the average correlation level of an individual equity market with the rest of the markets and the minimum and maximum correlation figures with individual markets.

Based on the study, we highlight the following observations:

- The Turkish market deviates the most from the block's other exchanges. It is less of a surprise as Turkey is not the member of the EU and Recep Erdoğan has been running the political show from 2003 already.

- Hungary's below average correlation with the other markets is more of a surprise, and the lowest correlation factor is detected between Hungary and Turkey.

- Croatia and Romania, the two EU members that are still classified as frontier markets stand in the middle.

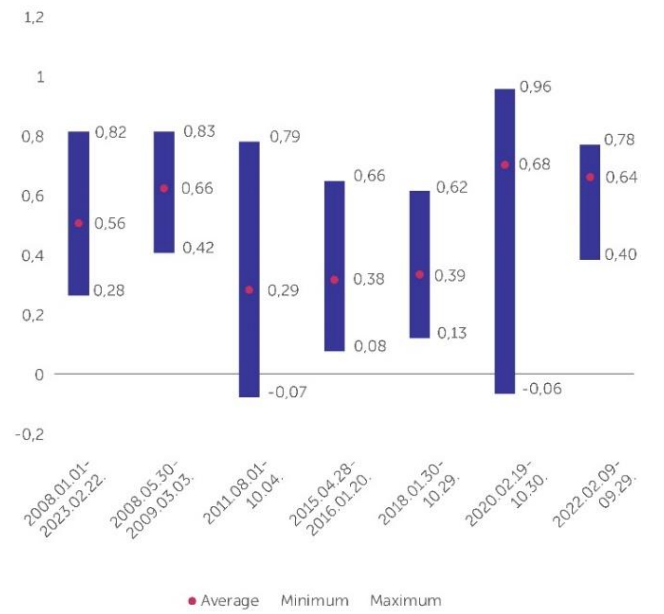
- Polish, Czech, Austrian and Greek markets show relatively higher correlation with each other.

Delving deeper, in periods when markets shift to crisis mode the correlation range between the individual countries widens significantly. This provides additional room for alpha generation. Inconsistency and inefficiency of the markets grow in these volatile periods. Being value investors with a contrarian investment approach, these periods of panic provide two ways to add alpha. First is to add risk exposure and increase the equity weight, second is to rotate between countries and industry peers.

During market turmoil we trade significantly more, scattering the seeds of alpha generation.

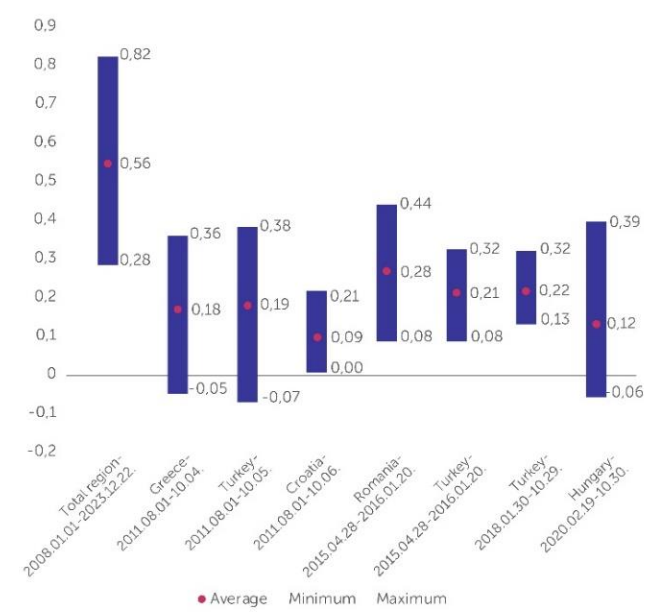
HETEROGENOUS MOVES IN 4 OUT OF 7 BEAR MARKETS

Correlation shifts among the regional countries during stock market turmoils



WILD DEVIATIONS AMONG SOME INDIVIDUAL COUNTRIES DURING BEAR MARKETS

The most extreme correlation shifts of individual stock markets during stock market turmoils



Source: Bloomberg
The chart on the left shows the correlation levels during seven large market downturns of the last fifteen years. The chart on the right sheds light on the most dramatic correlation collapses during the downturns between individual markets.

VULNERABILITY TO ENERGY PRICES MAKES A DIFFERENCE

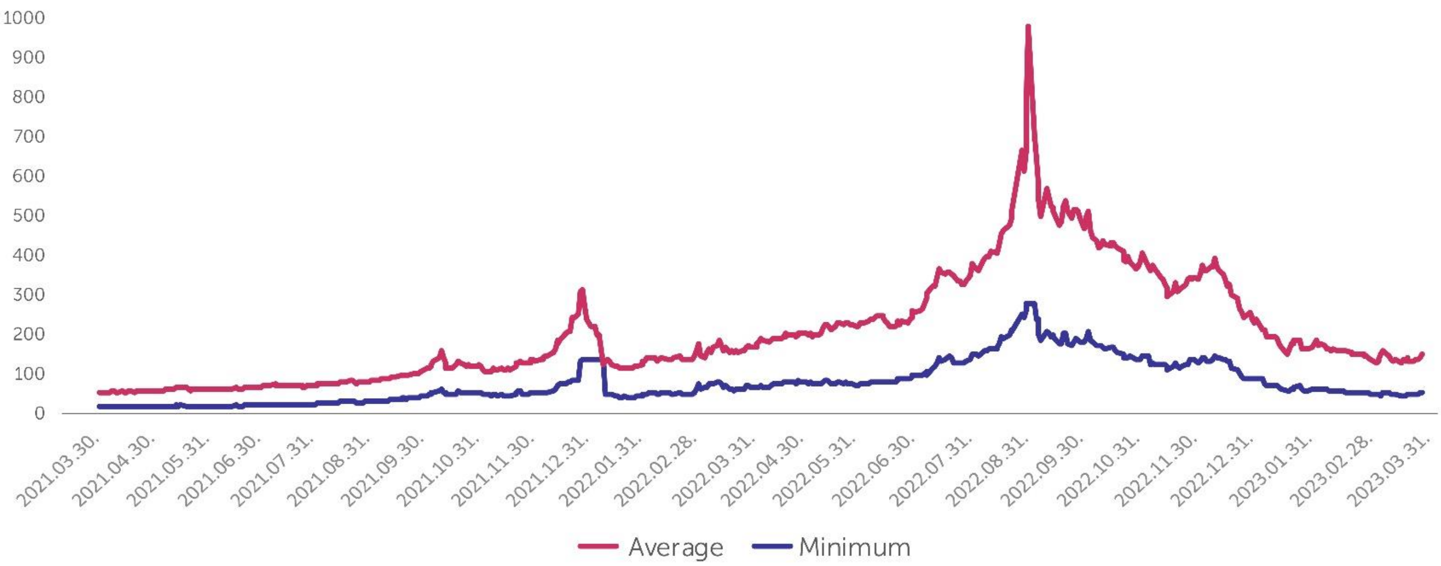
2022 stress tested the economies from a new angle. It came to light that the macroeconomic vulnerability of a country is not only dependent upon private and public indebtedness, external funding needs or the budget and current account deficit but on its energy need and energy source dependency as well.

The cataclysm of the economic war, Russia's deployment of its „ gas weapon" via shutting down more than 80% of the export towards Europe have pushed the price of natural gas to stratospheric heights and caused a long and deep dive of the regional stock markets. Recession „fearometer" spiked.

The financial exposures to the energy price increase were widely dispersed based on the energy intensity of the economy, the import dependency in natural gas and electricity, on the geographical source and price of the import.

GAS AND ELECTRICITY PRICES ROSE TO STRATOSPHERIC HEIGHTS IN AUGUST 2022...

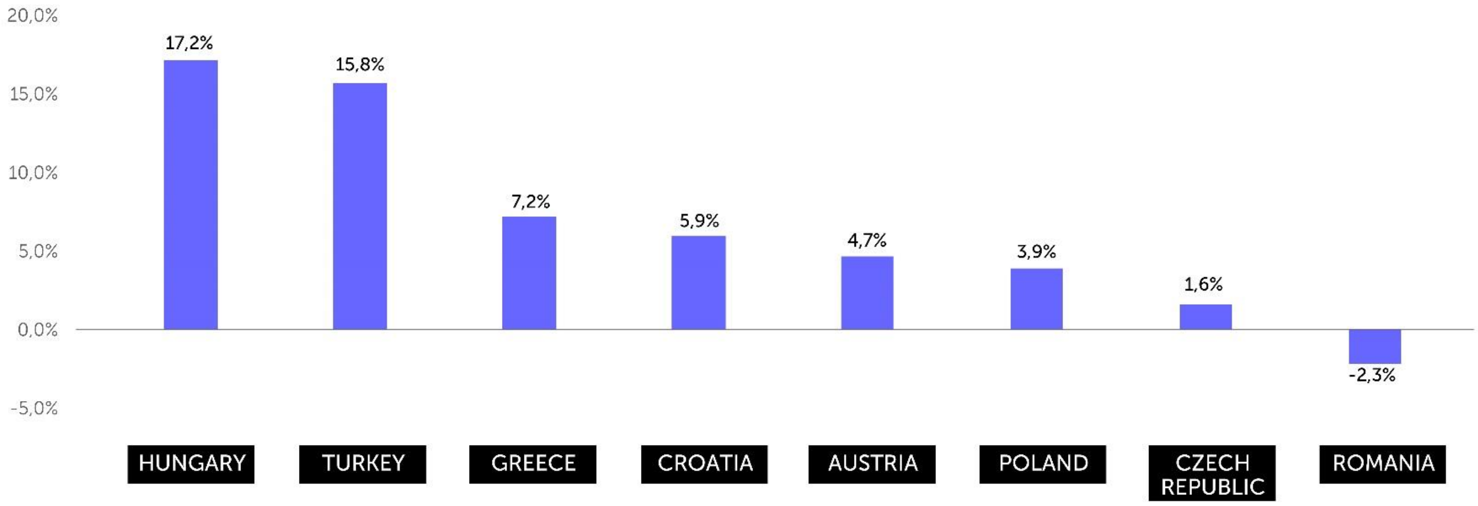
European natural gas & electricity prices (EUR/MWh)



Source: Bloomberg

...COULD HAVE LED TO ECONOMIC DEPRESSION IF SUSTAINED FOR HUNGARY AND TURKEY

Additional gas and electricity procurement cost to GDP per annum*



Source: Worldometer, Bloomberg, HOLD Asset Management estimate
*Peak 2022 prices: 280 EUR/MWh natural gas and 1000 EUR/MWh electricity price

A sustained energy price shock could have resulted in bankruptcy for Hungary and Turkey, all things equal. Annualizing the 1-year natural gas and electricity futures at their August peak levels, the increase of the energy bill of natural gas and electricity import reached 17% of the GDP for Hungary and 16% for Turkey.

Of course, it was not rational to extrapolate peak energy prices but at least stock markets could have reflected the relatively different risk exposures more efficiently. In 2022, this was the point when we identified the highest level of inconsistency. Individual stock markets got deeply disconnected from the economic developments and fundamental outlook enabling multiple tens of percentage points to earn on relative basis. More on this in our next Quarterly Insight.

Romania enjoys a safer position due to large domestic natural gas reserves and its electricity production reliant on hydro, nuclear and domestic coal and gas. Had it developed the large Black Sea Neptun natural gas field earlier, it could have emerged as an absolute winner as well via capitalizing on highly priced natural gas exports.

Poland’s relatively low vulnerability is the consequence of two factors. One derives from heritage, one from a wise political decision. The country fulfils its electricity need domestically mostly from coal, and on the gas side it put large effort in the last five years to get rid of its Russian exposure. It built a pipeline connecting Poland with Norway, PGNIG bought significant gas reserves in Norway and struck a deal with North American LNG providers with Henry Hub based pricing.

EUROPEAN UNION GRANTS PROVIDE NITRO TO THE CONVERGENCE, BUT COUNTRIES DRIVE AT DIFFERENT SPEEDS

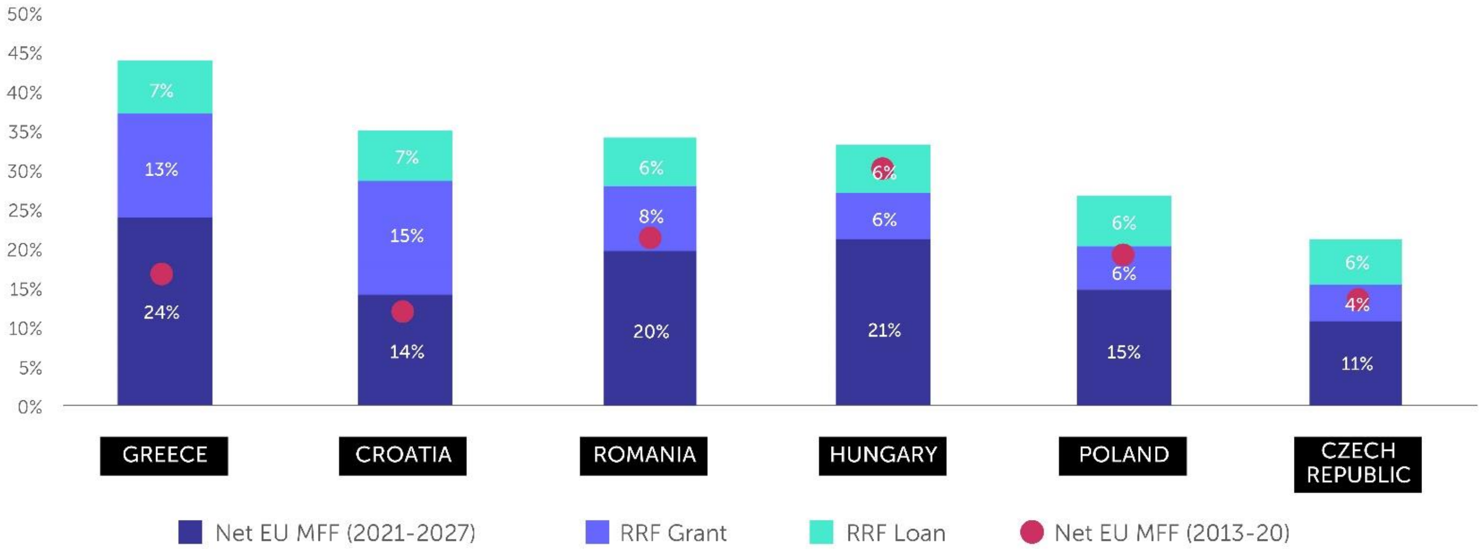
The European Union unites member states with different levels of development in a single common internal market. In order to reduce the economic inequalities, the EU provides non-reimbursable financial support for less developed countries, mainly Eastern and Southern European countries, with huge sums of money every year within seven-year budgets.

On the top of the ordinary structural support, the EU in 2020 established the Recovery and Resilience Facility (RRF) which is the centrepiece of NextGeneration EU, the EU's recovery plan. RRF supports the way out of the Covid-19 crisis and aims at making Europe more resilient and better prepared for the challenges and opportunities of the green and digital transitions.

The combined funds provide significant economic support, however their impact on the economies of the individual countries could be uneven. The absolute level of funds to GDP ratio varies between 3-6% per annum. Also the relative growth of the funds compared to the prior period is different, which causes different economic growth impulses. Moreover, there are political hurdles that endanger the accessibility of the funds in particular cases.

EMERGING EUROPEAN ECONOMIES ARE BOOSTED BY EU FUNDS

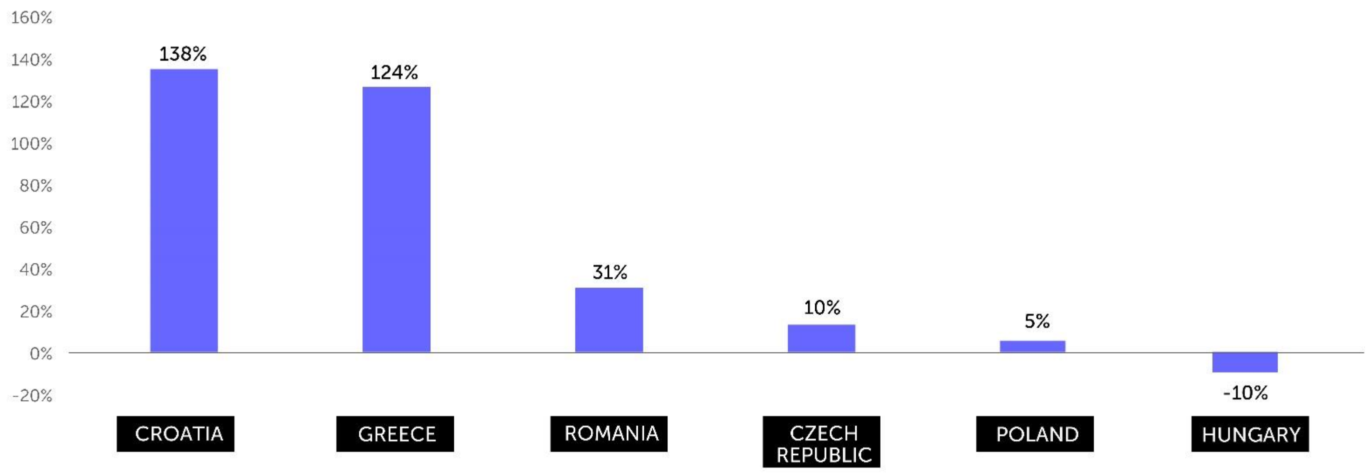
EU grants and loans framework in % of GDP (2021-27 vs. 2014-20 period)



Source: ec.europa.eu

GREECE AND CROATIA ARE SHIFTING TO HIGHER GEAR

EU grants impulse (2021-27 vs. 2014-20 period)



Source: ec.europa.eu, HOLD Asset Management

Greece receives the largest impetus as the total aid plus the cheap RRF loan adds up to 44% of the 2020 GDP in cumulated manner between 2021-2027. Excluding the loans, the grant's magnitude is 124% higher than in the 2014-20 era. The more than a decade long Greek recession, dragged the country down to the „emerging" league enabling the country to receive a larger financial support. Thanks to the RRF framework, Croatia's enjoys a large financial impetus as well.

Romania is also well positioned in absolute terms but the relative impulse is less significant.

In Poland's and Hungary's case however, there is a non-negligible chance of losing part of the aid. Disputes with the European Union about the rule of law and core democratic standards raised the probability that EU will withhold billions of EU grants. EU demands guarantees for judicial independence in case of both countries, in addition Hungary must fulfil anti-corruptive requirements regarding the utilization of EU funds. The ever-changing probability of gaining access to the EU grants results in volatility on the stock markets and provides investment opportunities as well.

All in all, the extensive amount of financial support is a key element of the Emerging European convergence story. Often labelled as the Marshall plan for Central-Eastern European countries.

INDIVIDUAL POLITICAL SOUNDWAVES CREATE IDIOSYNCRATIC UPS AND DOWNS

Most of the Central Eastern European countries were located behind the Iron Curtain from the end of World War II till the end of the Cold War in 1991. Throughout this era the Soviet Union blocked these nations away from the West both economically and ideologically. The fall of the Iron Curtain ignited the economic and ideological convergence of these countries to Western Europe. Accession to the NATO and to the European Union further accelerated this process. Although the economic and political institutions indisputably became more liberal, more democratic and market friendlier in the last three decades, the ideological heritage of the past still influences part of the political landscape.

Political parties differ on their stance on crucial values. There are observable political fault lines or differences in the quality and strength of the EU integration. They differ in economic policies as well. There are true followers of Adam Smith's invisible hand, while others pursue higher state control and influence. Some aim capital markets to flourish, some ignore them. Fiscal orthodoxy and unorthodoxy also vary, and pro-cyclical economic policies often end up as higher burdens on the shoulders of large companies.

Governments with different ideologies and economic policies change from time to time, influencing individual stock market valuations sometimes negatively, sometimes positively. The policy variability offers investment opportunities and represents risks as well. However, these waves don't crush the structural convergence story of the regional economies in the longer run.

As political interventions are more common in this region, analyzing political agendas of incumbent parties and their challengers is key part of our proprietary research process.

Greece for example is currently enjoying a fiscally prudent, market friendly, pro-growth government that tries to navigate the Greek economy out of a one-and-a-half-decade long recession and the aftermath of the populist, left wing Syriza party's governance between 2015-19. Athens stock exchange has been an overperformer but its performance was derailed after a fatal train crash resulting in a jump in Syriza's popularity ahead of the upcoming elections. Tight race is expected.

Another example to mention was Victor Ponta's prime ministership in Romania from 2012. Contrary to being a socialist, he was an advocate of the capital market. In 2019 at the helm of the liberal party, Ludovic Orban also did a lot to improve the Romanian economy. However, Ponta and Orban and since 2020 multiple socialist governments caused regular headaches to the market via too much state interventions and levies.

Hungary's and Poland's tug of war with the EU we described above.

Last, but not least, there is significant chance that Erdogan's era in Turkey comes to an end. Aligned opposition parties score higher at polls ahead of the May election. Majority of foreign investors have left the country during Erdogan's unorthodoxy. Opposition victory could attract them back as it would certainly mean an orthodox turnaround with fiscal and monetary adjustments.

UNEVEN INTERNATIONAL AND LOCAL FLOWS CREATE DIFFERENT EFFECTS

Central Eastern Europe from North to South, from Poland to Turkey and from West to East from Austria to Romania comprises stock markets that are classified differently by MSCI. Austria belongs to the developed index, Poland, Czech Republic, Hungary, Greece and Turkey are members of the emerging index, while Romania, Croatia, Slovenia and Serbia are included in the frontier index.

The various index membership status contributes to lower correlation among the country indices as the assets under management and the geographic concentration of the indices differ. Significantly more money tracks the MSCI emerging index and there are specific funds and institutional mandates whose geographic exposure is narrowed to Emerging Europe. On the contrary much less money tracks the frontier index and there is not any specific Frontier European ETF.

Therefore, the flows are distributed in an uneven manner, which further increase the level of heterogeneity. Typically during harsh negative market corrections, the European „emerging" countries underperform the frontier ones. When risk-off mode is switched on, frontiers like Romania, Croatia hardly react on the first days, whilst Poland and Hungary are heavily sold. Usually, hot money leaves and returns. Value managers and local investors identify these non-fundamental deviations enabling a corrective mean reversion to occur eventually.

2022 was one of the worst years for Emerging Europe. Russian exposure converged to zero in value, while the ex-Russian stock markets suffered valuation de-rating due to massive outflows. Highly representative of the times was the fact that multiple asset management companies closed their Emerging European equity funds. Among others, Blackrock's iShares Emerging European Equity Fund was liquidated, Jupiter and Barings closed their regional funds as well.

MSCI re-classification of countries and individual stocks generate „non-fundamental" flows inducing valuation re-rating. The Romanian market is a candidate for MSCI emerging promotion. The imminent IPO of Hidroelectrica, the state-owned hydro energy giant will be an important step forward, but the liquidity of the market needs to improve significantly to meet MSCI's criteria.

MSCI CLASSIFICATION OF THE CENTRAL EASTERN EUROPEAN EQUITY MARKETS

DEVELOPED	EMERGING	FRONTIER
Austria	Poland	Romania
	Czech Republic	Croatia
	Hungary	Slovenia
	Greece	Serbia
	Turkey	

Besides the international flows, the local flows also have decisive effects. In less liquid markets, the local pension fund flows represent a strong price determining factor. The pension schemes are different among the countries and are subject to change from time to time.

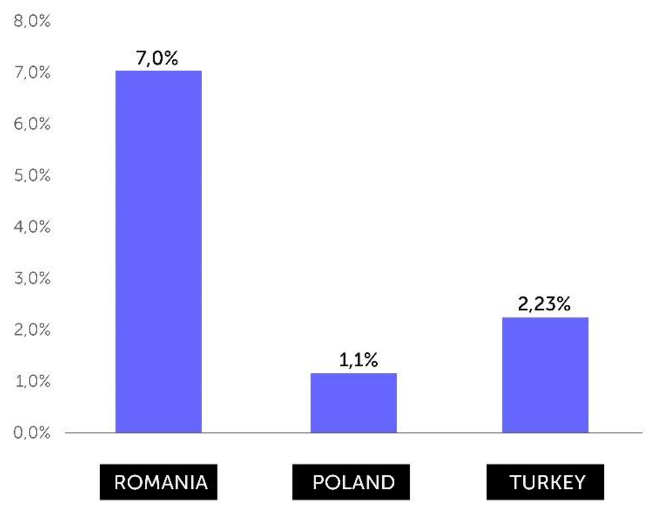
For instance, the Polish mandatory pension scheme between 1999 and 2013 was only allowed to invest into the Polish stocks which drove valuation of the market to extremely overpriced levels compared to other countries. Politicians scrapped the scheme in 2013 after which a prolonged and large in magnitude de-rating started.

The Hungarian mandatory pension scheme became a victim of the 08/09 GFC and its aftermath in 2010 reducing the local buying power thereafter.

Meanwhile the Romanian and the Croatian mandatory pension schemes are still supporting the local equity markets. The Romanian pension funds' annual „purchasing power" equals 7% of the Bucharest index free float market capitalization and provides a massive 47% of the annual traded value of the index members. As the pension funds are far from breaching the 10% ownership limit in individual equities, the inflow gets proportionately spent on the index members. This constant flow mitigates market drawdowns during risk off days and can lead to higher comparative valuation multiple in the long run.

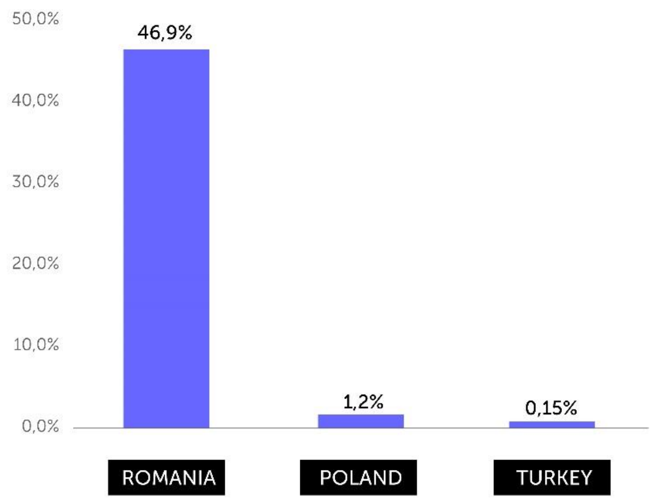
NET INFLOW INTO PENSION SCHEMES PROVIDE SUPPORT...

Pension funds' annual domestic net equity purchase as % of the market's free float market cap*



...ROMANIAN MARKET IS THE KEY BENEFICIARY

Pension funds' annoual domestic net equity purchase as % of the market's annual traded value*



Source: Bloomberg, Wood, Intercapital, AK Bank, PKO, Hold

*Based on the market capitalization and annual traded value of the index members. (BET, WIG20, XU100)

The Croatian pension scheme looks even more influential at first sight; however, the pension funds are close to the ownership limits and unable and also unwilling to convert the inflow into growing domestic equity holding. Without the limits they could absorb 1.5% of the free float of the index members per annum which could represent 77.5 %(!) of the index member's annual trading value. Due to the limits only small fraction of this can support the local market. As long as the current concentrated pension fund market remains unchanged – there are four big pension funds - and the limits remain stable they will turn more and more toward international markets. Only new domestic IPO's will be able to enjoy their support.

Recently, the newly defined Polish pension scheme, a voluntary one is on the rise, raising the net annual inflow to a level of 1.1% of the total free float, however this is just 1.2% of the annual traded value of the Warsaw stock exchange as it is a more liquid emerging market.

Turkey also has a mandatory pension scheme. In order to support the equity market, where households were heavily exposed, ahead of the upcoming election Erdogan obliged the pension funds to increase the equity weight from 10 to 30%. However, as the Turkish equity market is much more liquid than any of the regional markets, the impact of the pension flow is less of a price driver.

The remaining countries in our universe don't have pension schemes with meaningful purchasing power.

FINAL WORDS

Central Eastern Europe is a tiny part of the global equity markets, its share in the MSCI emerging index is only 2%. The small size keeps this region under the radar which coupled with lower liquidity contributes to wider inefficiencies. Economic developments are often misunderstood. Fund managers located overseas (i.e. not on site) often ignore the heterogeneity of the economies and markets that lies below the surface. Having boots on the ground our analysts and portfolio managers constantly strive to identify the key economic, political and capital market developments from bottom up and top down angles as well. Consequently, although the region is small, the alpha generation potential is higher. In this piece of Quarterly Insights we provided a glimpse into some less obvious factors that are often misunderstood.

In our next Quarterly Insight, we are going to provide you with short case-studies on how the regional stock markets diverged and how the individual companies deviated from each other within individual sectors - often against fundamentals - since the onset of the Russian- Ukrainian war.

Stay tuned.

You can read our previous Quarterly Insights letters here:

2022 Q3 - unPOLISHed diamond - At the heart of Emerging Europe

2022 Q2 - First (Erste) in quality - Last in price performance?

2022 Q1 - VIG: two nice and one ugly business under one umbrella - What happens when the ugly starts to perform?

2021 Q4 - DIGI Communications - A misunderstood owner-operated business in Central Eastern Europe

2021 Q3 - Swift Post-Covid Recovery - With bright future growth prospects

2021 Q2 - Greek revival - A contrarian bet on cyclical recovery

2021 Q1 - CEE refineries - Compelling opportunities in the cyclical recovery

2020 Q4 - Tactical opportunities in CEE - Why Index changes could be detrimental for future returns of Regional Passive Portfolios

2020 Q3 - CEE Equity Strategy - In the Context of Value vs. Growth Prospects

2020 Q2 - Well positioned banking sector in CEE

2020 Q1 - Value investing in emerging Europe - Why incentives matter!

2019 Q4 - Owner-operated Mayr-Melnhof Karton

If you are interested in the performance of our Emerging European Equity Strategy you can find it here.