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In-depth review for Lithuania

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European Commission

Lithuania

In-Depth Review 2023

On the basis of this in-depth review for Lithuania undertaken under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, the Commission has considered in its Communication "European Semester – 2023 Spring Package" (COM(2023) 600 final) that:

Lithuania is not found to experience imbalances. Vulnerabilities relating to price competitiveness, external balances and house price developments have recently increased but overall seem to be contained at present. The economy was strongly affected by the energy price shock with inflation rising fast; however, Lithuania's competitiveness is projected to recover slowly as energy prices are falling. The current account deteriorated markedly in 2022 on account of the increased energy import prices but is forecast to move close to balance this year. Going forward, mild current account deficits will not compromise external sustainability given its sound stock position. Nonetheless, inflation and wage pressures, if persistent, risk impairing Lithuania's competitiveness, particularly as core inflation is well above the euro area average. House prices have grown strongly since the pandemic, but there is no evidence of overvaluation and prices are now moderating given the interest rate rises and the economic recession underway. In addition, household debt is low, and the banking sector is well capitalised, highly profitable and records low non-performing loans. The policy setting is overall favourable, although some policies could help to address the risks from the identified vulnerabilities. Continued counter-cyclical fiscal and macroprudential policies, reinforced when needed, would be important in that respect. At the same time, more focus on fostering competition in the domestic market and policies to increase the quality and quantity of labour supply could help to manage price and unit labour cost pressures.

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1. INTRODUCTION

In 2022, over the previous annual cycle of surveillance under the Macroeconomic Imbalance Procedure (MIP) Lithuania was not subject to an in-depth review to assess its vulnerabilities. ([1]) The 2023 Alert Mechanism Report published in November 2022 concluded that an in-depth review (IDR) should be undertaken for Lithuania this year, with a view to examine newly emerging vulnerabilities and their implications. ([2]) It found that concerns related to cost competitiveness existed before the COVID-19 pandemic and recent developments brought them to the fore. Nominal unit labour cost growth has been strong in recent years and is set to remain high, while core inflation has also been high compared with Lithuania's euro area peers. Nominal house price growth has been among the highest in the EU, and associated with strong loan growth.

Lithuania's economic growth was impeded by surging inflation in 2022 and is expected to remain weak in 2023, mainly due to subdued internal and external demand. ([3]) Real GDP grew by 1.9% in 2022, with a contraction in the final quarter, driven by a fall in real household disposable incomes and a concomitant decline in real consumption growth. Russia's war of aggression exacerbated a surge in energy prices, which translated into broader inflation over the course of 2022. It reached 18.9% in 2022 and was one of the highest in the EU. Inflation reached its peak in September 2022, at 22.5%, though still standing at 15.2% in March 2023 despite energy prices coming down, as core inflation remains high (although decreasing slightly but steadily after reaching a peak in November 2022). House prices were also growing rapidly in 2021-2022, reaching a historically high growth rate of 22.1% in Q2 2022. However, they have been decelerating since then and are projected to continue to decelerate also in 2023. The high inflation rates have eroded households' purchasing power. Real adjusted household disposable income decreased in 2022 and is projected to remain stable in 2023. As a result, real private consumption growth decreased to 0.5% in 2022 and is projected to remain only slightly positive at 0.1% in 2023. Along with weak external demand, this is projected to result in low real GDP growth of 0.5% in 2023. In 2024, economic growth is projected at 2.7%, as demand is projected to strengthen. However, despite the slowdown in the economy, the labour market continued its recovery in 2022 and is expected to relatively withstand the downturn. Total employment reached a record high but is projected to decrease slightly in 2023. Similarly, the unemployment rate decreased in 2022, before rising slightly in early 2023. Persistent uncertainty coupled with the tightening of financial conditions may have a negative impact on aggregate investment. Potential delays in the implementation of EU funds also constitute a downside risk to investment growth.

This in-depth review presents the main findings of the assessment of macroeconomic vulnerabilities for Lithuania. Vulnerabilities related to housing, external sustainability and competitiveness in Lithuania are also discussed in horizontal thematic notes that were recently published. ([4]) The MIP assessment matrix is published in the 2023 Country Report for Lithuania. ([5])

([1]) European Commission (2022), European Semester Spring Package 2022, COM(2022) 600 final.

([2]) European Commission (2022), Alert Mechanism Report 2023, COM (2022) 381 final.

([3]) European Commission (2023), European Economic Forecast: Spring 2023, Institutional Paper 200.

([4]) European Commission (2023), Housing Market Developments: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 197. European Commission (2023), Inflation Differentials in Europe and Implications for Competitiveness: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 198. European Commission (2023), External Sustainability Analysis: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 196.

([5]) European Commission (2023), Country Report Lithuania 2023, SWD(2023) 615 final.

2. ASSESSMENT OF MACROECONOMIC VULNERABILITIES

Gravity, evolution and prospects

Lithuania has been selected for an in-depth review to assess risks related to external balances, deteriorating price competitiveness linked to the build-up of wage and price inflation differentials with its trading partners, and strong housing price growth. House price growth in Lithuania picked up significantly in 2021 and accelerated further in 2022. While this follows a period of subdued house price growth, the review examines the reasons for the recent acceleration. Wage growth was robust all through the past decade and has accelerated after the pandemic to 10.6% in 2022. At the same time productivity grew more slowly than wages leading to increasing unit labour costs (ULC), which grew at 5.9% on average over the ten years to 2022. Household savings reached record levels during the COVID-19 related lockdown in 2020. This overall setting gave a further boost to HICP inflation on top of energy and commodity input prices over 2020-2022. ULC growth, inflation and house price growth in Lithuania were among the highest in the euro area in 2022, which could give rise to competitiveness concerns, if persistent. Finally, while Lithuania's net international investment position has constantly improved over the past decade, the current account widened significantly in 2021 and 2022, which warrants a closer look at the drivers of the break in pattern.

On 5 April 2023 the Commission presented a horizontal thematic note on housing markets, which also covered Lithuania. It showed that, despite strong house price growth in the past three years, the housing market does not appear to be overvalued. Over the last decade, house prices have doubled in nominal terms, with 50% of this increase taking place over the last three years. House prices started to grow significantly in 2021, partly due to pandemic-related restrictions and increases in construction costs. They kept accelerating also in 2022 under general inflationary pressures. Despite that, over the last decade the house price increase has broadly tracked the increase in personal income. At present, price-to-income ratios are still lower than those at the peak some 15 years ago. According to the Commission's valuation methodology, house prices appear to still be slightly undervalued on average, although some differences might exist among municipalities. According to the Bank of Lithuania's valuation model, house prices appeared to be slightly overvalued by around 2.2% on average based on Q4 2022 data ([6]). This estimated overvaluation is still relatively small and well below the values before the global financial crisis, when it reached between 35% and 50%.

Pandemic-related restrictions and construction material supply chain issues led to a slower development of new housing supply and a significant increase in construction costs, which affected house prices. Before the pandemic, housing supply moved together with sales and the house price-to-income ratio was stable. On the supply side, housing construction steadily increased until the pandemic, with investment in residential buildings rising from 2.8% of GDP in 2015 to 3.2% in 2020. As a result of pandemic restrictions, residential housing investment

([6]) Central Bank of Lithuania, 'Kas vyksta būsto rinkoje? (Duomenų komentaras)', 2023 March 26, More: https://www.lb.lt/lt/naujienos/kas-vyksta-busto-rinkoje-duomenu-komentaras

decreased to 3% in 2021, before bouncing back to 3.6% in 2022. However, despite the recent recovery in residential investments, construction costs remain significantly above the pre-pandemic levels, which continues to put upward pressures on house prices: from December 2019 to December 2022, construction costs increased by almost 30%, mostly due to increased costs of materials (34%) and equipment (22%) and - to a lesser extent – higher wages of construction workers (20%)). Latest data shows that supply of new flats continues to increase ([7]) and construction costs have decreased in Q1 2023 ([8]). These trends are likely to continue throughout the rest of the year due to decreasing energy prices and renewed supply chains, creating favourable conditions for house price growth to decelerate further.

Tightening financial conditions are leading to a turning point in the housing and mortgage markets, with the house price and mortgage growth rates decelerating in 2023. Housing market activity is moderating after the post-pandemic bounce-back and high activity in 2021 and partially in 2022. The number of officially registered home sales has been decreasing since March 2022, and in the first months of 2023 it reached the lowest value since the start of the pandemic ([9]). The slowdown in the housing market is due to high inflation that is reducing real incomes, rising interest rates and the war negatively affecting consumer confidence. Annual residential real estate price growth is still high (16% in Q4 2022), but due to lower demand it has been slowing since mid-2022. More recent monthly data on apartment prices show that the growth rate keeps decelerating also in the first months of 2023: the annual growth rate decreased from 18.2% in December 2022 to 12.7% in March 2023 ([10]). Along with the general slowdown in the housing market, mortgage lending is also slowing down, with the flow of new loans in Q4 2022 being 8% lower than on average in Q1-Q3 2022 ([11]). In December 2022, the total outstanding amount of mortgages, as a percentage of GDP, reached its pre-pandemic level (17.2%). Expected rises in interest rates will likely contribute to a further slowdown in lending. However, while there is a larger number of factors suggesting slower price growth in the short run, in the medium to long run, upward pressure on housing prices arises from continued high growth in (nominal) incomes as well as increasing positive net migration from abroad ([12]). Continued internal migration towards the largest cities puts upward pressure on urban house prices, while hampering it in rural areas.

As the majority of houses are owned without mortgages and mortgages are stress tested for increases in interest rates, household debt does not pose a significant threat to financial stability. Household debt increased only slightly in the last decade. It stood at 22.1% of GDP in 2022, well below the fundamental threshold but a bit higher than the prudential threshold ([13]). Mortgage debt stood at 17.2% of GDP in 2022. Only a relatively small share of the population has a mortgage – 16.6% in 2021, whereas the EU average was at 26.1%, and more than 40% of house purchases (when measuring purchase values) is financed without mortgages. However, mortgage debt is significant among mortgage holders, as it corresponded to 180% of

([7]) Central Bank of Lithuania, 'Kas vyksta būsto rinkoje? (Duomenų komentaras)', 2023 March 26, More: https://www.lb.lt/lt/naujienos/kas-vyksta-busto-rinkoje-duomenu-komentaras

([8]) State data agency 'Statistics Lithuania'.

([9]) Lithuanian Centre of Registers.

([10]) Central Bank of Lithuania.

([11]) Central Bank of Lithuania.

([12]) It is estimated that net immigration increased from around 20 000 people in 2021 to 72 000 in 2022, cfr. State data agency 'Statistics Lithuania'.

([13]) European Commission (2023), Housing Market Developments: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 197.

average disposable income in 2021 ([14]). As flexible rate mortgages predominate and interest rates continue to rise ([15]), the mortgage debt service to income (DSTI) ratio is also increasing. However, household resilience to higher mortgage payments must be tested when issuing loans in Lithuania: the DSTI must be at most 50% if the borrowing (interest) rate were to increase to 5% ([16]). This reduces risks stemming from increasing interest rates. While mortgage payments are increasing, non-performing mortgage loans continued to decrease in Q3 2022 and stood at 0.58 % - the lowest since 2007 ([17]). Overall, the risk of widespread mortgage defaults is low and would only have a limited impact on the stability of the banking system, given the small size of the mortgage market, although vulnerable borrowers could come under pressure.

On 5 April 2023 the Commission presented a horizontal thematic note on cost competitiveness and inflation differentials in Europe, which also covered Lithuania. ([18]) The analysis showed that domestic factors played a dominant role for the increase in personal consumption expenditure (PCE) prices (and its differential from other euro area countries), in addition to external factors. The horizontal note observes a negative correlation between inflation in 2022 and price levels in 2021, likely resulting from a higher share of energy components in the consumption basket as well as the price convergence processes in the EU single market. Furthermore, Lithuania's inflation differential to the EU is partly explained by its relatively high sensitivity to external shocks: the external energy price shock affected domestic prices more as the energy weight in the HICP inflation basket is larger compared to other EU countries, and Lithuania's production structure is about twice as energy-intensive as that of the EU. However, the increase in inflation can only be partly explained by the impact of the external shock. The analysis showed that, while import prices contributed substantially to private consumption inflation (around 10 pp.) in 2019-2022, the contribution of domestic-origin inflation, at around 16 pp., is greater in Lithuania than in most other EU member states. The part of PCE price growth that is explained by changes in import prices can be expected to correct once import prices normalise. However, domestic-origin inflation could be more persistent, as it was partly driven by rapidly rising ULCs.

Increasing energy prices have pushed up prices across the board, with divergent core inflation between Lithuania and the euro area (graph 2.1 a). Year-on-year HICP inflation peaked at 22.5% in September 2022 in Lithuania, being one of the highest in the euro area. Energy and food have been the main contributors (graph 2.1 b). The energy price shock affected Lithuania's HICP significantly more than other euro area countries. Lithuania is among the most reliant on energy imports among all EU countries ([19]). Commodity price pressures have also passed through the food supply chain, with food inflation reaching 26.2% in 2022. Finally, core inflation also increased significantly, peaking at 12.7% in November 2022, one of the highest rates among euro area countries. In comparison, euro area core inflation peaked at 5.7% in March 2023.

([14]) European Commission (2023), Housing Market Developments: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 197.

([15]) Interest rates for new mortgage loans reached 4.42 % in December 2022, 2.4 pp. more than a year ago.

([16]) The sensitivity test was introduced since November 2015, as part of the broader 'Responsible Lending Regulations'. When granting credit with a variable interest rate (which can be changed regularly or under the terms and conditions specified in the credit agreement during its validity period), the creditor must perform an interest rate sensitivity test and make sure that the borrower will be able to meet debt obligations if the interest rate increases. While performing a sensitivity test of the borrowing rate, the creditor, when calculating the DSTI, must use the applicable borrowing rate not lower than 5%. The DSTI resulting from the sensitivity test of the borrowing rate shall not exceed 50%.

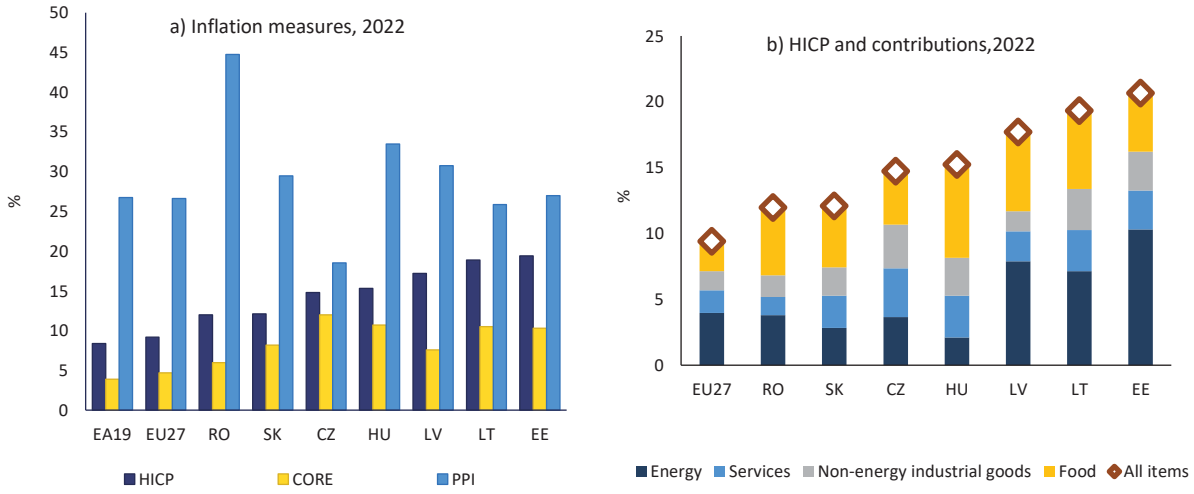
([17]) Central Bank of Lithuania.

([18]) European Commission (2023), Inflation Differentials in Europe and Implications for Competitiveness: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 198

([19]) European Commission (2023), Inflation Differentials in Europe and Implications for Competitiveness: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 198

Inflation differentials, if persistent, have the potential to adversely affect competitiveness if not matched by productivity gains. Differences in inflation rates have already resulted in an appreciation of Lithuania's HICP-based real effective exchange rates. Over the past decade, compared to the euro area, the REER based on core and HICP inflation appreciated by roughly 13% and 12%, respectively, in Lithuania, of which 5 and 8 percentage points occurred in 2022 only. However, Lithuania's REER appeared to be in line with fundamentals up until 2022. ([20]) For 2018, Coutinho et al. (2021) find the REER to be overvalued by about 10-20% using REER benchmark models, but in line with fundamentals based on a current account-based assessment. ([21]) The latter holds true also for 2021. The IMF finds the REER of Lithuania in 2021 to be slightly undervalued based on a current account assessment and a REER model ([22]). Despite the appreciation of Lithuania's REER, its export market shares continued to increase (in real and nominal terms) from 2016 up until 2022.

Graph 2.1: **Inflation measures and contributions, Lithuania**



Source: Eurostat, European Commission services

Both nominal wages and profits drove domestic-origin inflation. The estimated contribution of domestic-origin inflation to private consumption inflation in Lithuania increased in the period 2019-2022 relative to the period 2016-2019. The estimated domestic contribution reflects rising ULC and profit margins (as reflected also in the notable rise in operating surplus in national accounts statistics) (graph 2.2) ([23]). Nominal wages growing faster than productivity resulted in increasing ULC (see graph 2.3 a), as well as in the appreciation of the ULC-based real effective exchange rate (REER) over the 2018-2021 period ([24]). At the same time profitability was also increasing in Lithuania faster than on average in the EU. In 2022, gross operating surplus (as % of GDP) reached and surpassed pre-pandemic levels (graph 2.3 d). In effect, the corporate sector on the aggregate managed to raise its profitability despite the rise in input costs. Furthermore,

([20]) European Commission (2023), Inflation Differentials in Europe and Implications for Competitiveness: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 198

([21]) Coutinho et al. (2021), "Methodologies for the Assessment of Real Effective Exchange Rates," European Economy – Discussion Papers 2015 - 149, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

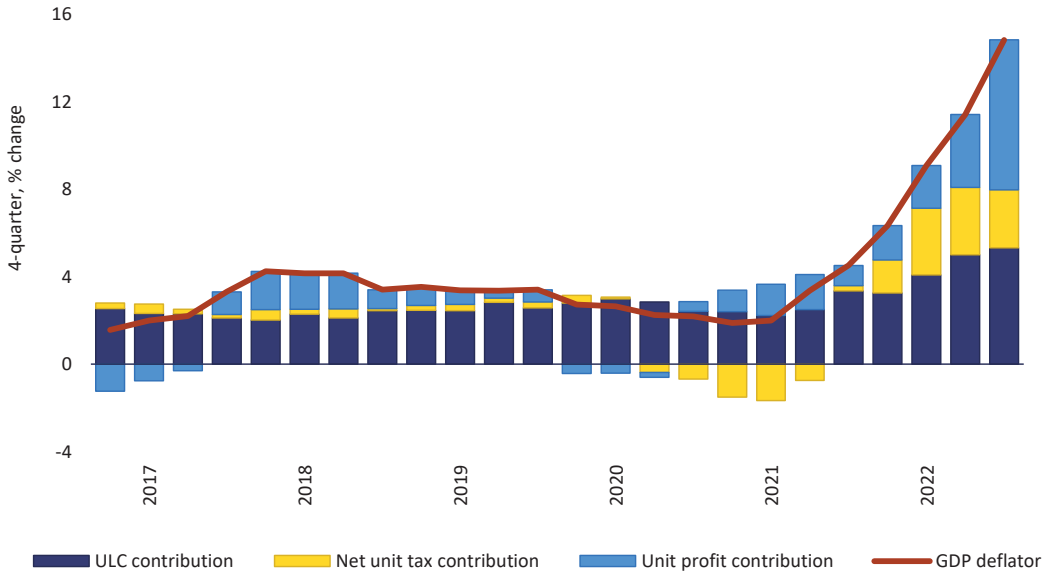
([22]) IMF (2022): "Word Economic Outlook", October 2022.

([23]) European Commission (2023), Inflation Differentials in Europe and Implications for Competitiveness: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 198

([24]) European Commission (2023), Inflation Differentials in Europe and Implications for Competitiveness: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 198

producer price inflation remained at a relatively low rate, close to the HICP (25% and 18.9%, respectively), and slightly lower than the EU and euro area averages in 2022. This, together with increasing profits, indicates that producers transferred increases in their production costs onto consumers relatively swiftly. Overall, it might suggest low competition in Lithuania's domestic economy.

Graph 2.2: **GDP deflator decomposition, Lithuania**



Source: European Commission services based on AMECO

Contrary to consumption deflator changes, Lithuania's export price changes were mainly affected by imported energy prices, while domestic-origin inflation did not have a significant effect. According to the analysis presented in the horizontal thematic note, Lithuania appears to be a unique case when prices of its export are analysed: the energy import price impact seems to be the sole determinant of the increase in export prices, while domestic factors appear to have had a negative effect on the overall prices of Lithuania's export over 2019-2022 (graph 2.4 b). This is likely linked to the low domestic content and high energy-intensity of exports: Lithuania's main exported goods and services are transport services and minerals.

Productivity grew faster in the tradables than in the non-tradables sector over the last five years, resulting in lower nominal ULC growth, while profits kept increasing. Nominal ULC grew by around 40% in the non-tradables sector and by 32% in the tradable sector over the last five years. The difference between tradables and non-tradables was driven mostly by differences in productivity growth. At the same time, due to very high inflation, ULC growth in the tradable sector stood at 13.6% in 2022, as compared to 13.2% in non-tradables. Real wage growth was in line with productivity growth over the 2016-2021 period, and in 2022 productivity growth significantly surpassed real wage growth (graph 2.3 a). Profits have been increasing significantly more than wages in the main tradable sectors (such as manufacturing or agriculture) over 2019-2022 (graph 2.3 c).

Unit labour cost growth and inflation are expected to decelerate in 2023-2024. Unit labour cost growth is projected to reach 9.1% in 2023 and 3.1% in 2024, presenting a marked decline from 2022 (14.0%). Signs of cooling in the labour market emerged at the end of 2022, with the number of vacancies decreasing and a slight pick-up in the unemployment rate. The slowdown in GDP growth is expected to negatively affect employment growth, yielding a slower wage growth in 2023. However, labour shortages remain a persistent issue for the Lithuanian labour market,

which will eventually bring upward pressures to wage growth. Inflation was already on a deceleration trend at the turn of the year, after peaking in 2022 at 18.9%. It is set to reach 9.2% in 2023 thanks to the declining global price of energy and other commodities, and by the gradual easing of price pressures in Lithuania's major trading partners. Nevertheless, HICP inflation is set to remain above the EU average in 2023. In 2024, HICP inflation is expected to come closer to the EA average, reaching 2.2%, with the decline in energy and input prices.

Wage setting in Lithuania is firm-based and fully flexible, allowing for quick adjustments in the short term. Wage indexation to inflation is typically not used. Collective bargaining in Lithuania takes place predominantly at the company level, but the coverage is relatively low, below 10%, compared to an EU median of slightly above 50%. While minimum wages registered a significant increase between January 2021 and January 2023, as a share of average wages their level cannot be considered as excessively high. Public sector wage growth has been in line with private sector trends.

The risk that unit labour cost growth in the tradables sector could be fuelled by wage pressures stemming from the non-tradables sector seems contained. Lithuania's economy is characterised by labour supply shortages: the working age population is projected to continue to decrease in Lithuania, and employment already reached a record-high level of 79% of the working-age population in 2022. In this context, if wages in the non-tradables sector keep growing faster than in tradables (graph 2.3 a), this might create spill-over effects between the sectors in the future. Despite that, current pressures from the non-tradable sector do not appear to be significant. There is no evidence of any catching up of the tradables sector yet (see graph 2.3 a). According to data from the last quarter of 2022, the monthly average wage was still higher in the manufacturing sector (the main goods exporting sector) than, for example, in the construction sector (a sector that could attract employees from manufacturing) (graph 2.3 b). In addition, even if wages in the tradables sector start growing more strongly due to pressures from non-tradables, there can still be offsetting productivity increases, as productivity tends to grow more strongly in the tradables sector in general. Finally, as the recent strong growth in profitability in the tradables sector shows, for the time being ULC growth in the tradables sector can still be absorbed (depending on the magnitude of the increase) without price increases, while keeping profit growth above the level in the economy overall (graph 2.3 c).

The risk of cost competitiveness losses stemming from Lithuania's inflation differential to the euro area appears limited, but would increase if inflation becomes entrenched. Lithuania's export market share is projected to start growing again in 2024, after a small downtick in 2023, but at a slower pace. As discussed in the previous paragraphs, Lithuania's export sector has not yet been affected by the domestic-origin inflationary pressures (which is likely linked to the higher productivity and flexibility of the export sector as well as relatively low domestic content of exports). Thus, once energy prices decrease, this should feed through to lower export prices for Lithuania. However, some pressures affecting the non-tradable sector may turn out to be of a more persistent and long-lasting nature (such as core inflation or increases in wages that are not matched with increases in productivity) or could be seen as structural issues (such as labour supply shortages, which is projected to become even more severe in the future). Going forward, pressures related to the increasing wages in the non-tradables sector are estimated to be contained in the short or medium term, however, in the long-term it might lead to unsustainable ULCs growth and slower increases in export market shares or even slower economic growth in general.

On 5 April 2023 the Commission presented a horizontal thematic note on external sustainability, which also covered Lithuania. The analysis showed that the worsening current account balance in the first three quarters of 2022 was mostly related to high energy prices, which translated into higher energy imports in value terms. Since the financial crisis of 2008, Lithuania's current account has remained broadly in balance, with a significant swing into surplus during the

COVID-19 pandemic. The current account balance equalled -5.1% of GDP in 2022. ([25]) This represents a deterioration from a surpluses in 2019-2021. These changes have mostly been driven by the dynamics of the trade balance, which was positive and increased significantly in 2020-2021, but then dropped and turned negative in 2022. The worsening of the overall trade balance reflected almost entirely the movements in the goods balance (graph 2.4 a). More precisely, the breakdown of the balance of trade in goods shows that the deterioration in 2022 (especially when comparing to the pre-pandemic period) was almost entirely observed only in the trade of mineral products. As mentioned in previous paragraphs, Lithuania is more susceptible to external energy price shocks, as it imports most of its energy, and its industry is very energy-intense. Interestingly, in terms of volumes, the overall (goods and services) trade balance remained relatively stable and positive over 2019-2022 (graph 2.4 b). Thus, the deterioration in the overall balance of trade has been crucially shaped by the changes in trade deflators, with the import deflator increasing significantly faster than the export deflator (graph 2.4 c). As a result, the terms of trade also deteriorated in 2022, and, as in many other Member States, the deterioration was largely driven by energy prices.

The current account deficit is expected to recover in line with decreasing energy prices in 2023 and 2024. The prices of natural gas and electricity are now expected to decrease considerably for this year and the next. Consequently, lower energy prices would lead to a positive direct impact on the trade and current account balances through a higher balance of trade in energy goods. Furthermore, economic growth has slowed significantly in Q4 2022, posing a risk of technical recession. The slowdown is associated mostly with the decrease in domestic demand. Due to high inflation, domestic demand, especially private consumption, has weakened significantly. This should also support a gradual correction on the current account. As a result, the current account balance is set to reach -0.9% of GDP in 2023 and 0.1% of GDP in 2024.

Despite the current account deficit, Lithuania is projected to sustain a sound external stock position in the near future. The Commission's horizontal thematic note on external sustainability also covered an analysis of Lithuania's net international investment position (NIIP). Lithuania's NIIP was still somewhat below the norm but far above prudential thresholds in 2022. NIIP was improving steadily since the global financial crisis until 2022. It moved from -23.5% of GDP in 2019 to -7.4% in 2021, and -6.7% in 2022. Since Lithuania's liabilities largely consist of foreign direct investment, its NIIP excluding non-defaultable instruments (NENDI) has been positive since 2019 and reached 21.5% of GDP in 2022. From a sectoral perspective, the overall improvement before 2022 was driven by an increase in the central bank's positive net position, while the government sector considerably supported the improvement in 2022 (graph 2.4 d). The deceleration in the NIIP improvement since 2021 has been driven by a combination of declining positive net transaction and valuation effects, and a persistent large negative investment income effect (graph 2.4 e). The NIIP is projected to improve mildly and gradually, with the NIIP turning balanced by 2032 under the baseline scenario (see graph 2.4f). Under the alternative assumptions of scenarios 1 and 2, the NIIP is expected to come at around 16% of GDP, i.e. close to -15% of GDP over the same period, showing some sensitivity to alternative assumptions of energy price developments. ([26])

([25]) While the horizontal note on the external sustainability considers data up to Q3 2022, the numbers here are updated for the whole 2022. The main messages remain unchanged.

([26]) The optimistic alternative scenario (scenario 1) assumes higher trade balances in 2025 and thereafter by 2 pp of GDP, higher real GDP growth in 2025 by 2 pp, as well as lower inflation rate by 1 pp in 2025 than in the baseline scenario. It illustrates a case of a more positive trade balance evolution amid lower energy prices than under the baseline. The pessimistic alternative scenario (scenario 2) describes a corresponding adverse shock in which it assumes the same timing and the magnitude of deviations from the baseline, but with the opposite sign.

Overall, given Lithuania's sound stock position, the mild current account deficits will not compromise external sustainability. Even though Lithuania experienced one of the largest declines in the current account balance over 2019-2022, it is projected that, along with decreasing energy prices, the current account will gradually recover in the following years, reaching -0.9% in 2023 and 0.1% in 2024 ([27]). As Lithuania has a relatively strong external stock position, with the NIIP coming close to balance, and with a strong NENDI, there do not seem to be any immediate external sustainability issues, even with a moderate current account deficit.

Assessment of MIP relevant policies

Lithuania plans to continue its efforts to reduce its dependency on energy imports and improve its connectivity to Europe's energy markets, which is key to minimising Lithuania's vulnerability to external energy price shocks in the future. In recent years, Lithuania has successively abandoned imports of gas, oil, electricity and coal from Russia by redirecting energy imports through the LNG terminal in Klaipėda, the oil terminal in Būtingė, the new Gas Interconnection Poland-Lithuania (GIPL), the enhanced interconnection with Latvia, as well as the existing electricity interconnections with Poland, Latvia and Sweden ([28]). However, Lithuania still imports around two thirds of its electricity from abroad, due to insufficient, albeit increasing, domestic electricity generation. Lithuania aims to increase the generation of electricity from renewable sources to 7 TWh by 2030, which will ensure at least 50% of total domestic electricity consumption ([29]). At the same time, Lithuania, with Estonia and Latvia, is still part of the BRELL electricity network controlled by Russia, which poses a geopolitical risk. Lithuania's energy security could be improved by the timely implementation of electricity grid synchronisation with the Continental European Network (CEN); Lithuania is preparing to join CEN by 2025. Lithuania will also implement several investment projects as part of its Recovery and Resilience Plan, aiming to reduce its dependency on energy imports, for example: support for the development of local renewable energy sources, and installation of electricity storage infrastructure, which will facilitate Lithuania's efforts to disconnect from BRELL electricity network.

Government policies in response to the energy price surge cushioned the impact on consumers, yet they were not targeted and did not preserve the pricing signal to cut back on energy consumption. In 2022 Lithuania's government introduced one of the most generous support packages in Europe, amounting to around 1.3% of GDP in 2022, aiming to absorb some of the energy price increase for businesses and households. The package is also being partly applied in 2023. Electricity and gas prices were compensated above a certain threshold (partly for businesses and fully for households), and VAT compensations were introduced for heating of residential properties. Instead of targeting businesses that were most vulnerable to the energy price shock, which in Lithuania are often exporting companies, compensations fed into the overall economy, contributing to some extent to the increasing gross operating surpluses and wages in 2022 (graph 2.3 d). Furthermore, adopted measures did not preserve the price signal to reduce energy demand and increase energy efficiency. These measures, if prolonged, would further suppress the price signal and put additional pressure on the general government deficit.

Investments in skills and health could help increase labour supply, which faces a structural decline due to ageing. Due to population ageing, the Lithuanian economy is facing a

([27]) Forecast data are from European Commission (2023), European Economic Forecast: Spring 2023, Institutional Paper XXX.

([28]) European Commission (2023), Country Report Lithuania 2023, SWD(2023) 615 final.

([29]) European Commission (2023), Country Report Lithuania 2023, SWD(2023) 615 final.

structural decline of labour supply, which puts additional upward pressure on wages. Investments in skills and health could help increase participation or improve the quality of the labour force facing such a structural decline. With shortages of specialists of both medium and high skill and low participation rates in adult learning, there is ample room for productive investment in skills which would help improve the employment opportunities of the low-skilled and alleviate the broader labour supply problem. Equally, the comparatively poor health of the Lithuanian population (see Lithuania 2023 Country Report) contributes to absenteeism and limits the potential of the population around retirement age. As part of its Recovery and Resilience Plan, Lithuania plans to allocate around EUR 118 million for adult learning and improvement of labour skills. The Lithuanian plan includes several measures in this area, for example: the creation of a one-stop shop lifelong learning platform based on the principle of individual learning accounts; facilitation of the greater apprenticeships opportunities; increasing employment support in view of the digital and green transition; investments on training of workers in specific sectors such as healthcare and long-term care, and the public sector are also included. In the area of healthcare, Lithuania plans to reform its long-term care provision system as part of the Recovery and Resilience Plan, which, once successfully implemented, might increase labour force participation rates.

Lending regulations as well as capital buffer requirements were tightened in 2022 in response to increasing systemic risks. However, Lithuania does not make full use of immovable property taxation, which could dampen real-estate cycles. Lithuania has a relatively generous real estate taxation system, characterised by low yearly tax rates applied to residential properties, a small tax base and low tax on the transfer of the title. Capital gains from selling owner-occupied houses are not taxed. In 2021, revenues from property taxes, which are among the taxes least detrimental to growth, amounted to only 0.3% of GDP, around seven times lower than the EU average. Currently, as part of its Recovery and Resilience Plan, the government is considering changing the model of taxation of non-commercial immovable property owned by individuals – to expand the residential real estate tax base and to move from taxation based on the total value of real estate (as a wealth tax) to a classical real estate tax model where individual immovable property objects are taxed separately. However, it is not yet clear how this new real estate taxation model would affect prices and volatility of the housing market. Home ownership is also supported by mortgage guarantees offered to certain population groups, like young families living in less developed regions. Mortgage interest deductibility was abolished in 2009. In response to the projected economic downturn, in 2022 Lithuania has tightened some capital buffer and mortgage lending requirements. Banks and other financial institutions will have to accumulate a 1% countercyclical capital buffer until October 2023, which should help to increase the resilience of important financial institutions in Lithuania to shocks and reduce the probability of their bankruptcy ([30]). Furthermore, in 2022 the loan-to-value ratio has been reduced to 70% for second and subsequent housing loans. This regulation is expected to help to develop a responsible borrowing practice by preventing households from becoming overindebted.

Conclusion

In Lithuania, vulnerabilities relating to price competitiveness, external balances and house price developments are increasing but seem to be contained. The economy was strongly hit by the energy price shock; however, Lithuania's price competitiveness is projected to slowly recover together with decreasing energy prices, without posing external sustainability challenges. Lithuania's exports have so far not been strongly affected by the domestic-origin

([30]) Central Bank of Lithuania, 'Role of the Bank of Lithuania in maintaining financial stability', More: https://www.lb.lt/en/role-of-the-bank-of-lithuania-in-maintaining-financial-stability#ex-1-4

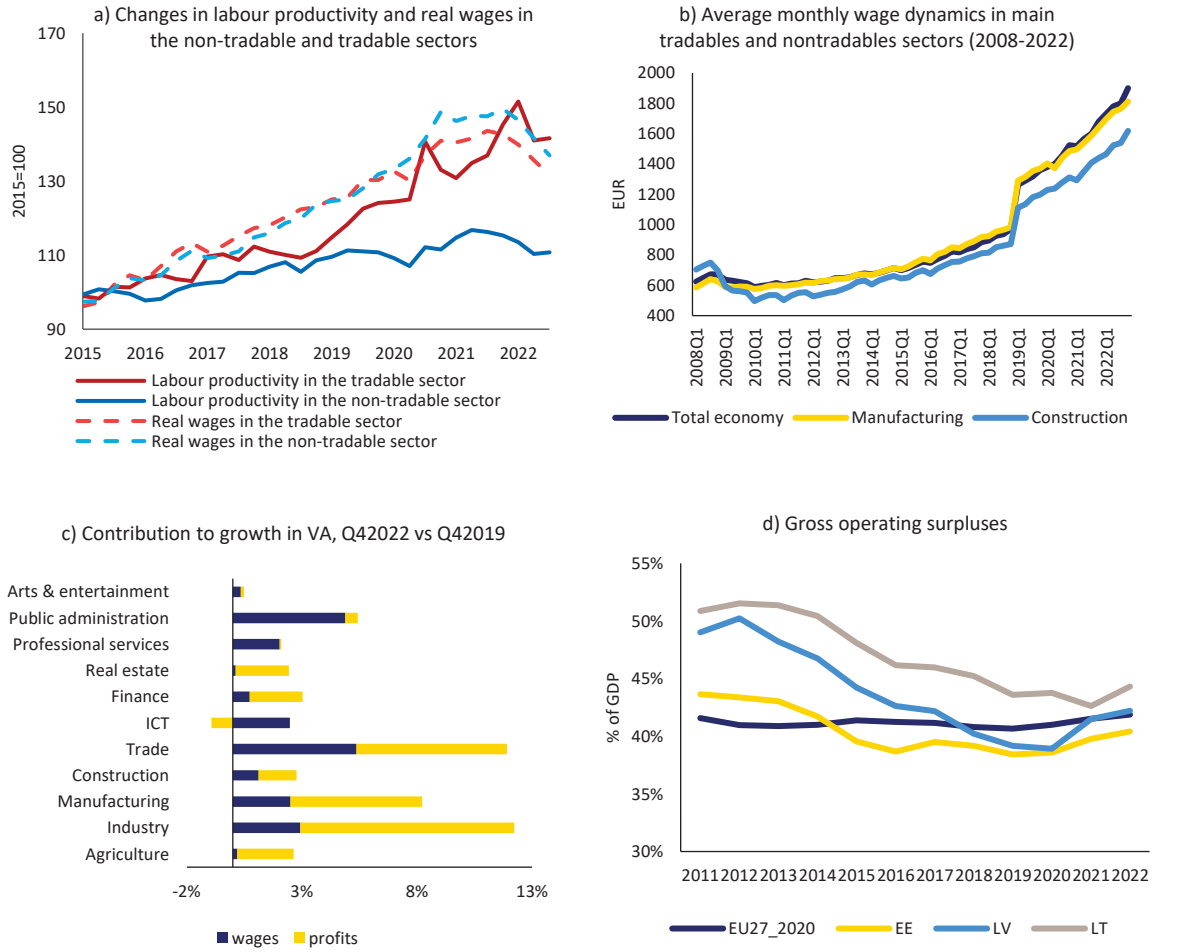
inflationary pressures. Thus, once energy prices decrease, this should feed through to lower export prices as well as improving Lithuania's trade balance. The trade balance in volumes already improved somewhat in 2022 but deteriorated in value terms almost exclusively due to increased energy import prices. The worsening of the current account balance in 2022 was also due to an increasingly negative energy trade balance. Going forward, the mild current account deficits will not compromise external sustainability given Lithuania's sound stock position. House prices are now likely to undergo a period of moderation, given the interest rate rises and the economic slowdown underway. Moreover, the household debt is low and the financial sector is well capitalised, highly profitable and benefits from currently low NPLs. Due to population ageing, the Lithuanian economy is facing a structural decline of labour supply, which might impair its competitiveness over the medium term if unaddressed.

The policy setting is overall favourable in light of the identified vulnerabilities, although some specific structural policies could help to manage price pressures. The authorities' policy response to the energy price shock helped to preserve households' purchasing power in the situation of high inflation. The Lithuanian government managed to react swiftly to the external energy price shock, which hit Lithuania much more heavily than most other EU economies. Electricity and gas price caps for households, VAT compensations for heating of residential houses, increases in social benefits, pensions and minimum wages helped to preserve households' income and purchasing power in the situation of high inflation. However, as energy price compensation measures were untargeted and relatively generous, it led to an increase in the general government deficit. Furthermore, temporal electricity price caps have been applied to businesses in all sectors, even though most production sectors seem to have successfully passed increasing production costs to consumers and generated increasing profits in 2022. In the situation of low intensity of competition on domestic markets, untargeted general government support for businesses might have further increased profits with only a limited effect on prices. Going forward, certain policies could help to better address the risks stemming from the negative trends identified in this report. In particular, Lithuania does not make full use of immovable property taxation, which could also dampen real-estate cycles. More focus on some specific structural policies could also help to manage price pressures, such as fostering competition in the domestic market, increasing local energy production and energy efficiency. Rising ULCs could be addressed by either improving labour supply – through investments in the skills and health of the population – or through investments into innovation, thus supporting the transition to a high value-added economy.

Based on the findings in this in-depth review, the Communication "European Semester – 2023 Spring Package" sets out the Commission's assessment as to the existence of imbalances or excessive imbalances in Lithuania, in line with Regulation 1176/2011. ([31])

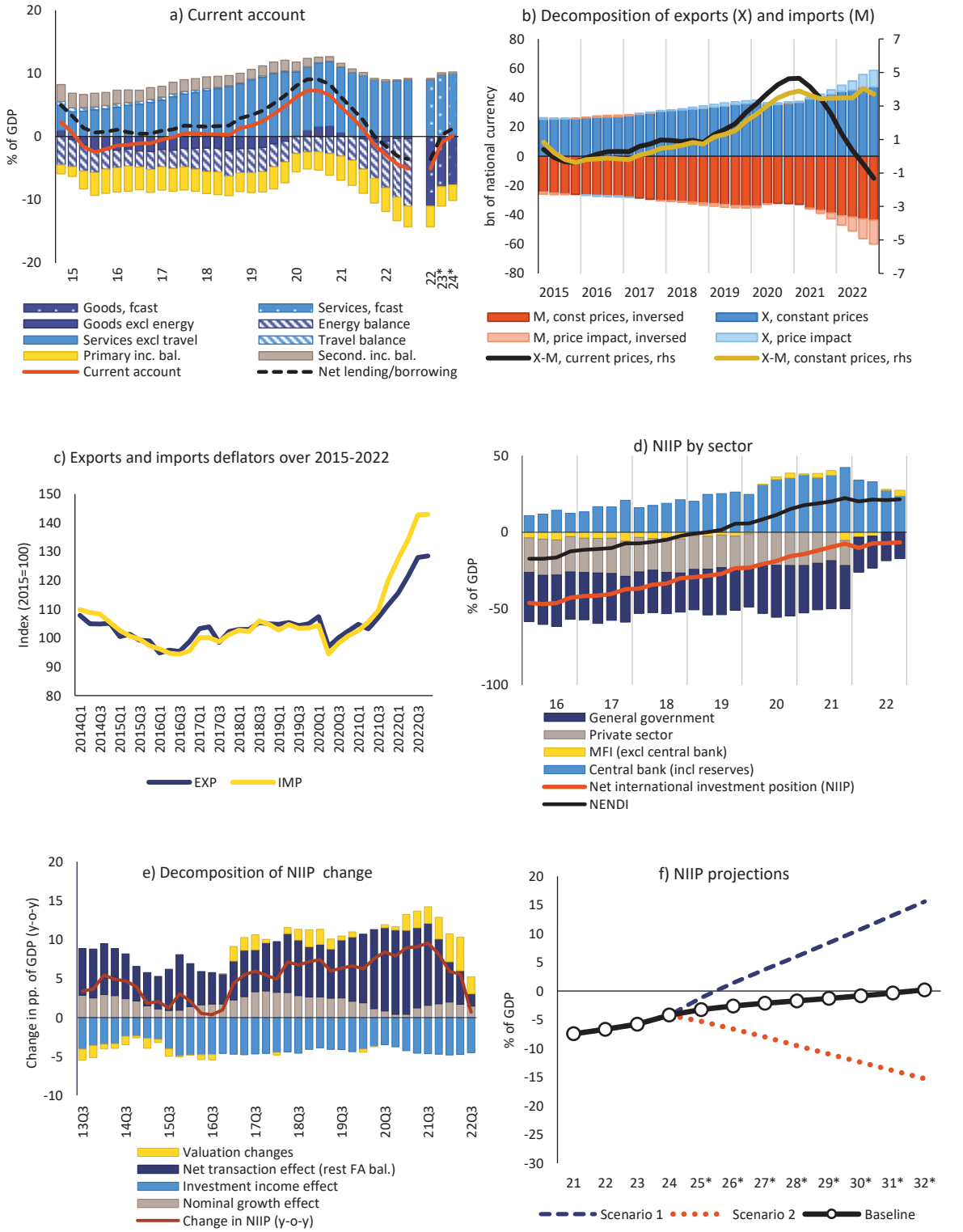
([31]) European Commission (2023), European Semester Spring Package 2022, COM(2023) 600 final.

Graph 2.3: **Selected graphs: productivity, wage, and profit dynamics in tradable vs non-tradable sectors, Lithuania**



The tradable sector consists of agriculture and manufacturing. Labour productivity data is seasonally adjusted.
Source: Eurostat, Statistics Lithuania, Bank of Lithuania calculations and European Commission services.

Graph 2.4: **Selected graphs: current account, external trade and NIIP dynamics, Lithuania**



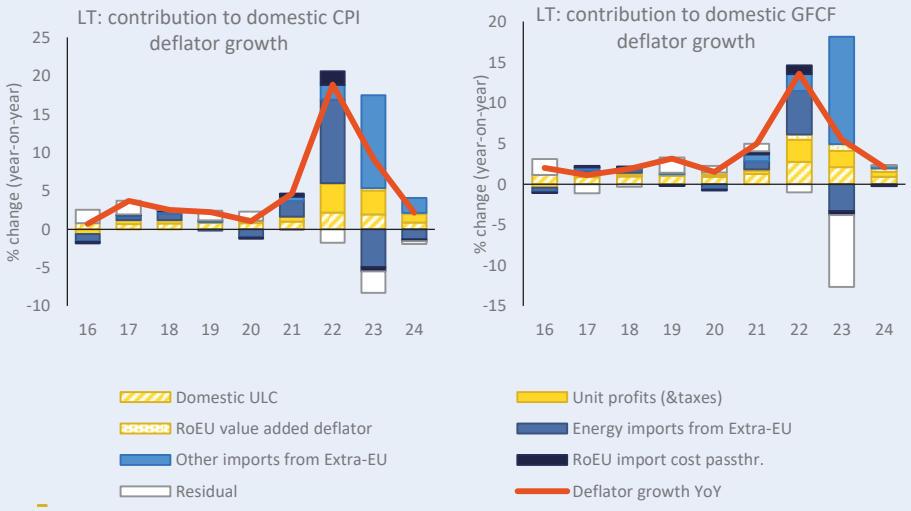
graph d: private sector data not available for 2022
Source: Eurostat, European Commission services

Box 1: Inflation exposures and cross-border pass-through

This box sheds light on the sources of inflation in Lithuania and its spill-overs with EU partners. The period since 2021 has been characterized by pandemic aftershocks and global supply chain disruptions compounding global inflationary pressures and a surge in commodity prices triggered by Russia's war of aggression against Ukraine. As a result, inflation in Lithuania surged to unprecedented levels. In response, wages and profits also picked up across the EU, which further added to price pressures in Lithuania. With input-output data, domestic inflation can be decomposed into the contributions from key cost factors. Taking into account some data limitations, the framework can be used to attribute consumer and investment price changes to i) extra-EU import price changes, which include both directly imported inflation and inflation passed through from EU partners import costs ii) domestic unit labour cost changes iii) domestic unit profit changes, including indirect taxation changes and iv) rest-of-EU value added price changes. ([32])

Data suggests that much of inflation in Lithuania in 2022 reflected surging energy prices, whereas non-energy imports are projected to keep inflation elevated in 2023. In 2022, as shown in Graph 2.5, energy prices were a key driver of consumer and investment inflation. The contribution from inflation passed through EU partners, both import cost as well as value added, was considerably smaller. The contribution from domestic value-added inflation, which covers wages and profits, was and is expected to remain sizeable in 2023. This reflects increases in both, unit profits and unit labour cost in 2022 and 2023. The impact of energy inflation is set to decrease inflation this year, as prices of energy commodities have fallen. By contrast, non-energy imports from outside the EU are expected to keep both consumer and investment inflation elevated. Spill-overs from inflation in other EU countries are set to remain marginal. In 2024, domestic inflation is projected to fall further on account of both, a lower contribution from domestic wages and profits as well as imports.

Graph 2.5: **Components of gross fixed capital formation deflator growth and consumer price inflation**



Source: European Commission services

([32]) The graphs below are based on national accounts data and the Commission's Spring 2023 forecast, combined with Eurostat input-output data. HICP is taken as the measure of the price of private consumption, including non-residents. Changes in import prices and value-added deflators are assumed to affect demand prices with a delay of 2 and 1 months for consumption and investment inflation, respectively. For further methodological details, see explanations in the 2023 in-depth review for Czechia, p. 16.

Table 2.1:**Selected economic and financial indicators (Part 1), Lithuania**

all variables y-o-y % change, unless otherwise stated	2003-07	2008-12	2013-18	2019	2020	2021	2022	forecast 2023	forecast 2024
Real GDP	8.7	-0.4	3.3	4.6	0.0	6.0	1.9	0.5	2.7
Potential growth (1)	6.2	1.8	2.3	4.3	4.1	4.5	3.5	2.9	2.6
Contribution to GDP growth:									
Domestic demand	11.6	-3.5	3.8	3.0	-1.8	6.5	0.9	0.7	2.8
Inventories	0.2	-0.1	-0.3	-1.6	-1.8	-0.2	0.7	0.0	-0.1
Net exports	-3.1	2.8	-0.2	3.2	3.5	-0.3	0.2	-0.1	0.1
Contribution to potential GDP growth (1):									
Total Labour (hours)	-0.1	-0.7	0.2	0.6	0.4	1.2	0.9	0.4	0.1
Capital accumulation	2.5	1.1	1.3	1.8	1.6	1.8	1.7	1.6	1.6
Total factor productivity	3.8	1.4	0.8	1.9	2.1	1.5	0.9	0.8	0.9
Output gap (2)	4.1	-4.4	1.2	3.7	-0.3	1.1	-0.5	-2.7	-2.6
Unemployment rate	8.4	13.2	8.8	6.3	8.5	7.1	6.0	6.6	6.5
Harmonised index of consumer prices (HICP)	2.4	4.7	1.3	2.2	1.1	4.6	18.9	9.2	2.2
GDP deflator	4.8	3.3	2.6	2.7	1.9	6.3	16.8	10.4	3.1
External position									
Current account balance (% of GDP), balance of payments	-9.4	-3.2	0.4	3.5	7.3	1.1	-5.1	-0.9	0.1
Trade balance (% of GDP), balance of payments	-8.7	-3.5	1.2	5.3	9.3	4.5	-2.0	.	.
Primary income balance (% of GDP)	-2.4	-1.5	-2.9	-3.5	-2.9	-3.8	-3.3	.	.
Secondary income balance (% of GDP)	1.8	1.8	2.1	1.7	0.9	0.5	0.2	.	.
Current account explained by fundamentals (CA norm, % of GDP) (3)	-1.2	0.3	0.6	0.6	0.6	0.5	0.3	0.1	0.1
Required current account to stabilise NIIP above -35% of GDP over 20Y (% of GDP) (4)	-3.5	-4.3	-4.1	-3.0	-2.4	-1.7	-1.5	-1.4	-1.2
Capital account balance (% of GDP)	1.1	3.3	2.2	1.7	1.7	1.4	1.5	.	.
Net international investment position (% of GDP)	-44.2	-56.5	-41.9	-23.5	-15.7	-7.4	-6.7	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (5)	-15.4	-25.6	-11.9	5.6	15.1	22.3	21.5	.	.
Net FDI flows (% of GDP)	-3.3	-1.1	-0.9	-2.3	-1.1	-2.2	-2.5	.	.
Competitiveness									
Unit labour costs (ULC, whole economy)	5.6	0.6	5.4	6.3	4.9	6.8	14.0	9.1	3.1
Nominal compensation per employee	13.9	2.6	6.6	10.6	6.6	11.9	10.6	10.4	6.2
Labour productivity (real, hours worked)	6.7	2.5	2.1	3.9	6.1	3.1	-3.3	0.7	2.0
Real effective exchange rate (ULC)	3.5	-1.5	3.4	3.9	0.7	6.2	9.6	2.8	-0.6
Real effective exchange rate (HICP)	1.2	1.9	0.9	0.1	1.5	1.8	7.9	.	.
Export performance vs. advanced countries (% change over 5 years)	63.0	39.5	9.3	14.4	39.5	44.2	.	.	.
Private sector debt									
Private sector debt, consolidated (% of GDP)	52.6	72.1	55.8	55.2	54.3	53.9	51.6	.	.
Household debt, consolidated (% of GDP)	14.9	28.0	22.3	23.0	24.2	23.6	22.1	.	.
Household debt, fundamental benchmark (% of GDP) (6)	6.4	10.1	11.1	13.5	14.8	14.9	15.8	.	.
Household debt, prudential threshold (% of GDP) (6)	74.8	76.2	73.7	87.7	58.1	53.2	52.1	.	.
Non-financial corporate debt, consolidated (% of GDP)	37.7	44.0	33.5	32.3	30.2	30.4	29.5	.	.
Corporate debt, fundamental benchmark (% of GDP) (6)	38.2	43.7	49.0	47.9	50.2	48.8	48.8	.	.
Corporate debt, prudential threshold (% of GDP) (6)	93.7	102.8	93.8	100.6	74.7	72.4	70.9	.	.
Private credit flow, consolidated (% of GDP)	14.4	-1.3	2.6	2.6	0.3	5.9	6.7e	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-7.0	6.1	6.0	6.2	11.7	2.6	-3.5	1.8	2.1
Households, net lending (+) or net borrowing (-) (% of GDP)	-0.7	0.1	-3.1	-1.5	4.3	1.0	-0.1	-0.1	0.2
Net savings rate of households (% of net disposable income)	-1.2	0.1	-3.0	0.1	9.1	2.2	.	.	.

(e) estimate based on ECB quarterly data

(1) Potential output is the highest level of production that an economy can reach without generating inflationary pressures. The methodology to compute the potential output is based on K. Havik, K. Mc Morrow, F. Orlandi, C. Planas, R. Raciborski, W. Roeger, A. Rossi, A. Thum-Thysen, V. Vandermeulen, The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps, COM, European Economy, Economic Papers 535, November 2014.

(2) Deviation of actual output from potential output as % of potential GDP.

(3) Current accounts in line with fundamentals ("current account norms") are derived from reduced-form regressions capturing the main determinants of the saving-investment balance, including fundamental determinants, policy factors and global financial conditions. See L. Coutinho et al. (2018), "Methodologies for the assessment of current account benchmarks", European Economy, Discussion Paper 86/2018, for details.

(4) This benchmark is defined as the average current account required to halve the gap between the NIIP and the indicative MIP benchmark of -35% of GDP over the next ten years, or to stabilise the NIIP at the current level if it is already above the indicative MIP benchmark. Calculations make use of Commission's T+10 projections.

(5) NENDI is a subset of the NIIP that abstracts from its pure equity-related components, i.e. foreign direct investment (FDI) equity and equity shares, and from intracompany cross-border FDI debt, and represents the NIIP excluding instruments that cannot be subject to default.

(6) Fundamentals-based benchmarks are derived from regressions capturing the main determinants of credit growth and taking into account a given initial stock of debt. Prudential thresholds represent the debt threshold beyond which the probability of a banking crisis is relatively high, minimising the probability of missed crisis and that of false alerts. Methodology to compute the fundamentals-based and the prudential benchmarks based on Bricongne, J. C., Coutinho, L., Turrini, A., Zeugner, S. (2019), "Is Private Debt Excessive?", Open Economies Review, 1- 42.

Source: Eurostat and ECB as of 2023-04-28, where available; European Commission for forecast figures (Spring forecast 2023)

Table 2.2:**Selected economic and financial indicators (Part 2), Lithuania**

all variables y-o-y % change, unless otherwise stated	2003-07	2008-12	2013-18	2019	2020	2021	2022	2023	2024
Housing market									
House price index, nominal	19.3	-5.5	5.5	6.8	7.3	16.1	19.0	.	.
House price index, deflated	16.8	-9.9	4.3	4.5	6.1	11.0	0.3	.	.
Overvaluation gap (%) (7)	22.1	2.3	-14.2	-13.7	-13.1	-4.7	-1.7	.	.
Price-to-income overvaluation gap (%) (8)	21.8	-0.2	-16.9	-18.4	-19.1	-10.0	-8.7	.	.
Residential investment (% of GDP)	2.2	2.5	2.7	3.0	3.2	3.0	3.6	.	.
Government debt									
General government balance (% of GDP)	-0.8	-6.2	-0.4	0.5	-6.5	-1.2	-0.6	-1.7	-1.4
General government gross debt (% of GDP)	18.0	31.1	39.0	35.8	46.3	43.7	38.4	37.1	36.6
Banking sector									
Return on equity (%)	13.4	-1.8	11.8	15.1	8.8	11.4	.	.	.
Common Equity Tier 1 ratio	8.9	10.4	12.8	15.4	18.8	23.5	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (9)	0.7	11.9	4.9	1.6	1.3	0.7	.	.	.
Gross non-performing loans (% of gross loans) (9)	.	.	4.4	1.7	2.2	1.2	1.0	.	.
Cost of borrowing for corporations (%)	.	.	2.5	2.9	2.6	2.7	4.7	.	.
Cost of borrowing for households for house purchase (%)	.	.	2.1	2.4	2.2	2.1	4.4	.	.

(7) Unweighted average of price-to-income, price-to-rent and model valuation gaps. The model valuation gap is estimated in a cointegration framework using a system of five fundamental variables; total population, real housing stock, real disposable income per capita, real long-term interest rate and price deflator of final consumption expenditure, based on Philiponnet, N., Turrini, A. (2017), "Assessing House Price Developments in the EU," European Economy - Discussion Papers 2015 - 048, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission. Price-to-income and price-to-rent gaps are measured as the deviation to the long term average (from 1995 to the latest available year).
(8) Price-to-income overvaluation gap measured as the deviation to the long term average (from 1995 to the latest available year).
(9) Domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.
Source: Eurostat and ECB as of 2023-04-28, where available; European Commission for forecast figures (Spring forecast 2023)

Table 2.3:**Selected housing market indicators, Lithuania**

			2003-07	2008-12	2013-18	2019	2020	2021	2022	22Q1	22Q2	22Q3	22Q4
House price developments	Unit	Source											
Real house price, yoy growth	%	(a)	16.9	-8.9	4.3	4.5	6.1	11.0	0.3	4.9	3.0	-1.8	-4.5
Nominal house price, yoy growth	%	(a)	19.6	-4.4	5.5	6.8	7.3	16.1	19.0	19.1	22.1	19.3	16.0
Price to income in level [1]	years	(b)	12.0	9.8	8.2	8.0	8.0	8.9	9.0	9.3	8.9	8.8	9.0
Rent price developments		Source											
Nominal rent price index	2015=100	(a)	44.6	72.3	99.6	126.1	129.4	131.8	153.0	162.9	164.6	165.4	166.0
Nominal rent price, yoy growth	%	(a)	14.6	3.8	8.9	7.7	2.6	1.8	16.1	37.7	39.7	39.8	40.7
Valuation gaps													
Price to income gap [2]	%	(c)	21.8	-0.2	-16.9	-18.4	-19.1	-10.0	-8.7	-6.6	-7.9	-8.7	-10.9
Price to rent gap [2]	%	(c)	32.9	0.4	-20.0	-21.6	-18.0	-6.6	-4.2	-2.5	-3.6	-4.1	-6.2
Model valuation gap [3]	%	(c)	11.6	6.7	-5.7	-1.1	-2.3	2.4	7.8	7.9	8.2	8.5	7.1
Average house price gap [4]	%	(c)	22.1	2.3	-14.2	-13.7	-13.1	-4.7	-1.7	-0.4	-1.1	-1.4	-3.3
Housing credit													
Bank mortgages (% GDP)	%	(d)	10.9	19.8	16.8	17.2	18.4	18.2	17.2				
Bank mortgages, yoy growth	%	(d)	69.8	4.4	4.8	8.6	8.5	11.6	12.7				
Housing supply						0.0	0.0	0.0	0.0				
Residential construction - dwellings (% GDP)	%	(e)	2.2	2.5	2.6	3.0	3.2	3.0	3.6				
Residential construction - dwellings, yoy growth	%	(e)	38.2	-1.9	8.6	14.7	5.8	-0.2	18.2				
Non-residential construction (% GDP)	%	(e)	11.8	9.2	8.1	8.7	8.5	8.2	8.0				
Value added in the construction sector, yoy growth	%	(e)	47.8	-6.6	5.1	7.5	-0.3	3.0	1.3				
Building permits index	2015=100	(a)	91.7	72.8	104.3	109.8	111.0	142.7	117.0	126.0	140.3	110.3	91.2
Building permits, yoy growth	%	(a)	35.7	-6.8	8.4	-5.5	1.1	28.6	-18.0	-20.2	1.9	-15.5	-36.9
Number of transactions, yoy change	%	(f)											
Other housing market indicators													
Share of owner-occupiers, with mortgage or loan	%	(a)	4.5	7.2	9.6	12.2	14.0	16.6					

(') Forecast. The forecast of house prices is computed on the basis a housing valuation model shared with Member States in the context of the EPC LIME working group. The forecasts represent real house price percentage changes expected based on economic fundamentals (population, disposable income forecast, housing stock, long-term interest rate, and the price deflator of private final consumption expenditure), as well as the error correction term summarising the adjustment of prices towards their long-run relation with fundamentals. The source for the forecast of other variables is Ameco.
(1) Price to income in level is the number of years of income necessary to buy an assumed 100m2 dwelling. See Bricongne, J-C, A Turrini, and P Pontuch, 2019, "Assessing House Prices: Insights from HouseLev, a Dataset of Price Level Estimates", Discussion Paper 101, European Commission, available in "https://ec.europa.eu/info/publications/assessing-house-prices-insights-houselev-dataset-price-level-estimates_en".
(2) Price to income and price to rent gaps are measured in deviation to the long term average (from 1995 to the latest available year).
(3) The model valuation gap is estimated in a cointegration framework with nominal house prices as the dependent variable and five fundamental explanatory variables: total population, real housing stock, real disposable income per capita, real long-term interest rate and price deflator of final consumption expenditure. See Philiponnet and Turrini, Assessing House Price Developments in the EU (2017) available in "https://ec.europa.eu/info/publications/economy-finance/assessing-house-price-developments-eu_en" and revision notes presented to LIME in October 2019 and June 2020.
(4) The average house price gap is the simple average of the price-to-inome, price-to-rent and model valuation gaps.
Sources: Sources: Eurostat, OECD, ECB, BIS, Ameco, national sources, European Commission calculations.

Table 2.4:**Selected household debt indicators, Lithuania**

	Source	2003-07	2008-12	2013-20	2021	2022	2023f
Stocks							
Debt, consolidated (% of GDP)	*(a,d)*	15	28	23	24	22	22
Debt, consolidated (% of potential GDP)	*(a,b,d)*						
Prudential threshold (% of GDP)	*(c)*	75	73	73	53	52	53
Fundamental benchmark (% of GDP)	*(c)*	6	10	12	15	16	17
Debt (% of gross disposable income)	*(a,b,d)*	23	42	36	39	37	37
Interest paid (% of gross disposable income) [2]	*(a,b)*	0.6	1.4	0.5	0.4		
Debt (% of gross financial assets)	*(a,d)*	19.8	33.0	24.6	20.1		
Share of variable rate loans for house purchase (%)	*(d)*	90.3	76.6	87.7			
Domestic loans in forex (% of adjusted dom. loans)	*(d)*	0.7	1.0	0.6	0.2	0.2	
Adjusted domestic loans (% of gross disposable income)	*(d)*	25.2	39.8	33.8	35.8	34.0	
Loans for house purchase (% of gross disposable income)	*(d)*	16.9	29.7	27.2	29.8	28.6	
Flows							
Credit flows (% of gross disposable income) [2]	*(a)*	9.0	0.0	2.1	3.7	2.3	1.9
Loans for house purchase (% gross disposable income)	*(a,b)*	8.1	1.1	1.6	3.1	3.2	
Benchmark for flows (% of GDP)	*(c)*	1.8	0.5	1.6	0.7	-0.2	-0.3
Savings rate (% gross disposable income)	*(b)*	3.1	4.0	2.7	5.8	3.9	4.0
Investment rate (% gross disposable income)	*(b)*	6.0	5.0	6.7	4.8	5.2	5.3
p.m. Bank HH NPLs (% of HH loans) [1]	*(d)*			*4.4*	*1.0*		

(f) European Commission forecast,. (1) Gross non-performing bank loans and advances to Households and non profit institutions serving households (% of total gross bank loans and advances to Households and non profit institutions serving households). (2) Quarterly data is annualized.
Source: (a) Eurostat, (b) Ameco, (c) European Commission calculations, (d) ECB.