

STUDY

No. 83-9 • December 2022 • Hans-Böckler-Stiftung

INFLATION AND COUNTER-INFLATIONARY POLICY MEASURES:

THE CASE OF CROATIA

Bernd Christoph Ströhm¹

ABSTRACT

This national case study will investigate recent inflationary developments in Croatia by combining quantitative analysis with a qualitative overview of policy making. It collects data regarding inflationary developments, wages and other key variables in Croatia's economy. The task of this study is to lay out wage and price developments within the country and to demonstrate structural aspects of inflation in light of post-covid recovery, supply-chain disruptions, and Russia's military invasion of Ukraine, causing surging inflation rates across Europe. To demonstrate the development of nominal wages, prices and corporate mark-ups, this study will utilise data by Eurostat and the Croatian Bureau of Statistics. In addition to researching inflationary developments, this study shall also analyse policy making and the evolution of policies by the government, aimed at tackling inflationary pressure in Croatia, including measures to support businesses and local households in managing surging energy costs. Croatia's energy dependency and its role as potential energy hub for the Western Balkan region shall be illustrated as well. Furthermore, this study describes the structure of Croatia's labour market and reflects wage negotiations between trade unions and the government.

¹ Vienna Institute for International Economic Studies WIIW and University of Vienna

INFLATION AND COUNTER-INFLATIONARY POLICY MEASURES: THE CASE OF CROATIA

Bernd Christoph Ströhm¹

Abstract

This national case study will investigate recent inflationary developments in Croatia by combining quantitative analysis with a qualitative overview of policy making. It collects data regarding inflationary developments, wages and other key variables in Croatia's economy. The task of this study is to lay out wage and price developments within the country and to demonstrate structural aspects of inflation in light of post-covid recovery, supply-chain disruptions, and Russia's military invasion of Ukraine, causing surging inflation rates across Europe. To demonstrate the development of nominal wages, prices and corporate mark-ups, this study will utilise data by Eurostat and the Croatian Bureau of Statistics. In addition to researching inflationary developments, this study shall also analyse policy making and the evolution of policies by the government, aimed at tackling inflationary pressure in Croatia, including measures to support businesses and local households in managing surging energy costs. Croatia's energy dependency and its role as potential energy hub for the Western Balkan region shall be illustrated as well. Furthermore, this study describes the structure of Croatia's labour market and reflects wage negotiations between trade unions and the government.

This study is part of a series produced jointly by



Macroeconomic Policy Institute (IMK) and
the Austrian Chamber of Labour Vienna (AK Wien).



Editorial responsibility for this report: AK Wien.

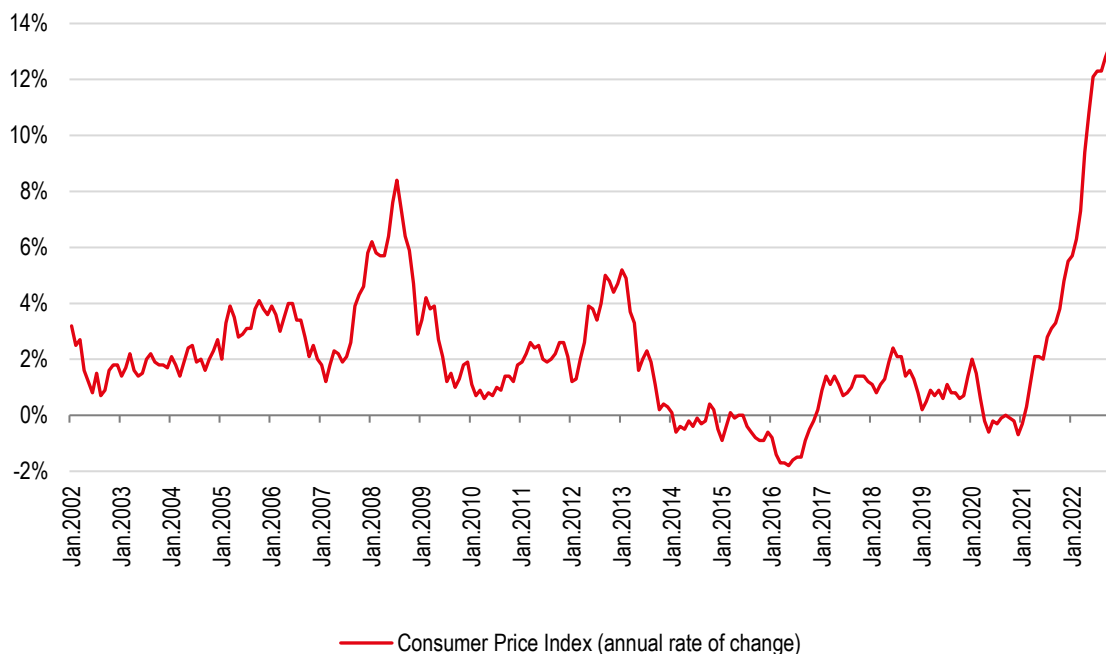
¹ Vienna Institute for International Economic Studies WIIW and University of Vienna

Price developments

The EU annual inflation rate surged to 10.1% year-on-year in August 2022, the new highest level since the EU's statistical office began compiling inflation data. The lowest annual rates were recorded in France (6.6%), Malta (7.0%) and Finland (7.9%). the highest annual rates were recorded in Estonia (25.2%), Latvia (21.4%) and Lithuania (21.1%) (Eurostat 2022b).

The average growth of consumer prices in Croatia amounted to 12.3% year-on-year in the month of August. This figure was higher than the euro area average, due to the country's stronger recovery from the COVID-19 pandemic in 2021 paired with the surge of processed food prices. Observing the structure of Croatia's consumer price indices, processed food contributes 22.5% in the growth rate of consumer prices (Croatian Bureau of Statistics 2022f).

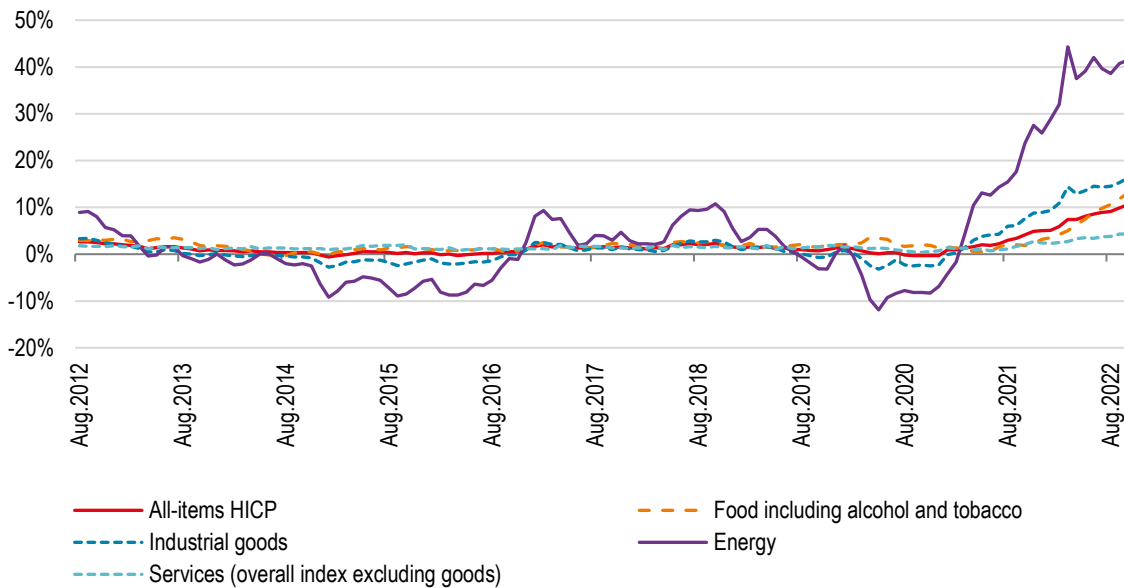
Figure 1: Consumer Price Index (annual rate of change, %)



Source: Croatian Bureau of Statistics 2022f, [PX-Web - Select variable and values \(dzs.hr\)](#)

Looking at the main components of euro area inflation in the month of August (Figure 2), energy had the highest annual rate, with 38.6%, followed by food, alcohol and tobacco, with 10.6%, non-energy industrial goods, with 5.1%, and services, with 3.8%.

Figure 2: Euro area annual inflation and its main components, August 2012 – October 2022

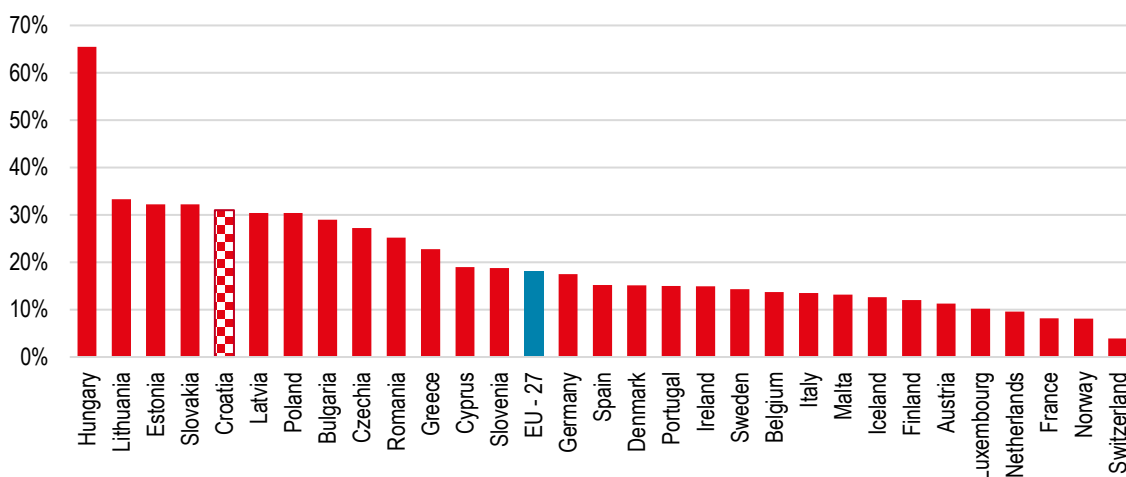


Source: Eurostat 2022c

The Croatian Bureau of Statistics recorded that in August 2022, producer prices of industrial products had increased by 22.6% as compared to August 2021, the lowest rate since April 2022. The decline can be explained due to a further decrease in energy prices between July (87.2%) to August (79.2%). In the EU, industrial producer prices surged by 37.8% year-on-year in the month of July. According to the main groups of the ECOICOP classification, the highest increase in average consumer prices in August was recorded in food and non-alcoholic beverages, by 19.2%. Prices in hotels and restaurants increased by 17.6% year-on-year in August, while prices in transport goods and services also surged by 14.1% due to increased energy costs as a result of the war in Ukraine. In selected groups, the highest surge in consumer prices at the annual level was recorded in the group of processed food, with 17.8%. The largest contribution to the consumer prices growth rate was recorded in the group of food and non-alcoholic beverages (+4.98 pp), followed by transportation (+2.08 pp), housing, water, electricity, gas and other fuels (+1.77 pp), restaurants and hotels (+0.88 pp), furniture, home equipment and regular household maintenance (+0.87 pp), recreation and culture (+0.50 pp), and clothing and footwear (+0.37 pp) (Croatian Bureau of Statistics 2022f).

Price growth in the service sector was spurred in particularly by increased tourist consumption following the COVID-19 pandemic, which created pressure on the demand side.

Figure 3: Inflation rate for bread in the EU



Source: Eurostat 2022d

The price of bread (Figure 3) increased by 31%, making Croatia one of five countries in the EU with the highest surge in bread prices. Hungary tops the ranking, with bread prices surging by 65%, followed by Lithuania, Estonia, Slovakia, and Croatia.

According to forecasts by the Croatian Central Bank, inflation will surge to 9.4% this year and to 4.6% in 2023. Persisting global supply chains disruptions and higher energy prices will exert upward pressure on inflation, which is why double-digit growth rates will persist in Q3 2022.

Croatia plans to introduce the euro in January 2023. The kuna will be converted to the euro at an exchange rate of HRK 7.53 – the current HRK central rate in the European Exchange Rate Mechanism (ERM II). Shops will begin displaying prices in both kuna and euros from September 2022.

According to study by the Croatian Central Bank conducted in 2017, price increases within Croatia during the euro adoption period could be triggered by spillover effects of conversion costs onto local households. Nevertheless, the effects of the euro adoption on the increase in consumer prices is expected to be mild. The Central Bank estimated that the effect of conversion in Croatia may result to a 0.20% increase in the country's consumer price index in the period of six month prior to and after euro adoption (Pufnik 2017, 9).

Wage developments

Croatia has a population of 3.8mn inhabitants according to the 2021 census. The average nominal gross monthly wage in Croatia stood at EUR 1,275 (HRK 9,569). This is significantly higher than in the countries of the Western Balkan region – Serbia had an average wage of EUR 870 (RSD 102,196), BiH an average wage of EUR 793 (BAM 1,552). In Montenegro, gross monthly wages also stood at EUR 793. Still, Croatia was at the bottom of the salary list among the EU countries in 2021, with only Bulgaria, Romania and Hungary having a lower salary (Eurostat 2022a).

In Q2 of 2022 the working-age population (aged 15 to 64) stood at 2.5mn people, out of which 1.7mn people were employed. The number of unemployed persons in Croatia amounted to 134,000 people (Croatian Bureau of Statistics 2022a).

Total labour costs per hour in Croatia in 2021 averaged to EUR 11.20, roughly the same as in Poland, with EUR 11.50. In Slovenia, total labour costs per hour amounted to EUR 21.10. Compared to other EU countries, Croatia also stood at the bottom list of total labour costs, with only Latvia, Bulgaria, Romania, and Hungary having lower costs (Eurostat 2022e)

Since 2008, labour costs have increased by a nominal 21.7% in Croatia (Lichter and Buhin Peharec 2022a). According to the European Commission's 2022 Convergence Report, Croatia's tight labour market and continued wage growth will result in a slight rise in nominal unit labour costs in 2022 and 2023 (European Commission 2022, 19).

The average nominal net monthly wage in Croatia in 2021 stood at EUR 945 (HRK 7,129). The median wage in the month of December 2021 stood at EUR 813 (HRK 6,131), meaning that 50% of the workers earn less than EUR 813, and that the average wage is skewed towards the right of the wage distribution, and is not representative of what majority of the workers earn (Croatian Bureau of Statistics 2022b).

According to the Croatian State Statistics Bureau, there are notable differences in the wages between the different regions in Croatia. The highest average monthly net earnings per person in employment for Q4 2021 are paid in the City of Zagreb, amounting to EUR 1.147 (HRK 8,639), second highest wages were paid in the Zagreb County, with EUR 973 (HRK 7,339). The lowest wages were paid off in the Virovitica-Podravina County, amounting to EUR 820 (HRK 6,188) and in the Vukovar-Sirmium county, with EUR 839 (HRK 6,328) (Croatian Bureau of Statistics 2022b).

Figure 4: Croatian counties



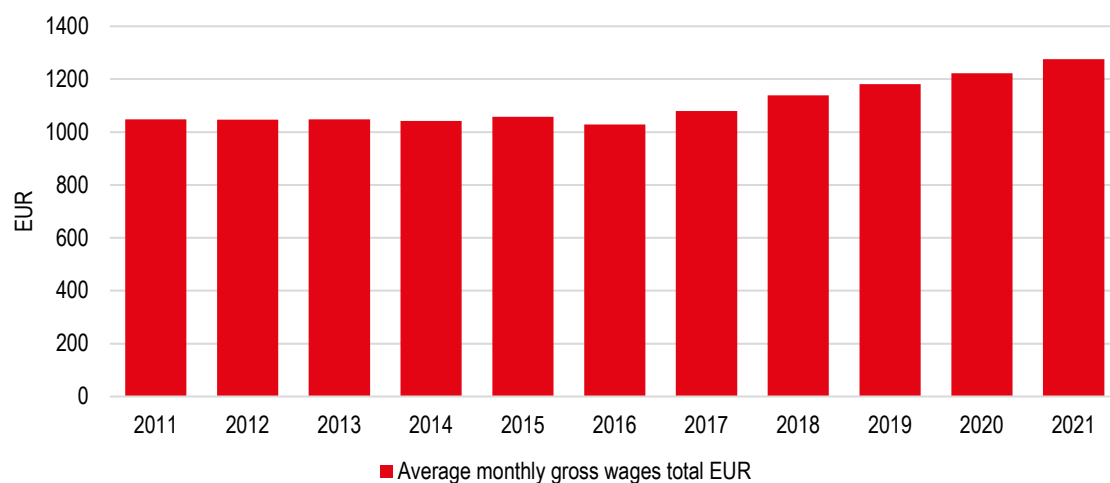
Source: Wikimedia Commons, 2010

It is noticeable that there is a wage gap between the public and private sectors. An analysis by the Croatian FINA finance agency from 2018 showed that state-owned companies paid 34% higher net salaries than the private sector in 2016 (excluding financial institutions). Croatia introduced a minimum wage in 2008, which stood in 2022 at EUR 624 (HRK 4,687) gross per month for full-time employees. In 2021, the government decided that it would increase minimum wages within Croatia by 10.3%, to EUR 500 (HRK 3,750) from 1 January 2022 (Government of the Republic of Croatia, 2021). Despite the relatively high increase, the spill-over to other wages has been rather small (Lichter and Buhin Peharec 2022b).

According to the MojaPlaca (MyWages) service, wages within Croatia have only grown by a 4% year-on-year in the first eight months of 2022. Just over a quarter of Croatian employees (28%) received a raise in 2022 (Poslovni dnevnik 2022).

The Labour Ministry established a task force in September and launched negotiations aimed at increasing minimum gross wages by 11.9%, from EUR 621 (HRK 4,687) to some EUR 696 (HRK 5,246) in 2023. Trade unions called on the government to increase minimum wages to at least EUR 700 (HRK 5,259) from 2023 due to surging inflation. Croatian Prime Minister Plenkovic announced in October 2022 that the government would raise Croatia's minimum legally mandated net salary to EUR 561 (HRK 4,220) in 2023, about a 12% increase from the current EUR 500 (HRK 3,750) (Government of the Republic of Croatia 2022d).

Figure 5: Average monthly gross earnings in Croatia, 2011-2021



Source: wiiw database

According to the Croatian state statistics bureau, average net monthly salary in Croatia grew by 7.5% in nominal terms year-on-year in the month of June 2022. However, this was 4.1% down in real terms, as the statistic's bureau cited a level of inflation of 12% year-on-year in June (Croatian Bureau of Statistics 2022d).

In July, the highest average wages were paid in air transport services, with EUR 1,620 (HRK 12,202), in consultancy, computer programming, and related services, with EUR 1,549 (HRK 11,685), in processing activities of crude petroleum and natural gas, with EUR 1,528 (HRK 11,528) and in information service activities, with EUR 1,497 (HRK

11,296). The lowest earnings were paid off in other personal service activities, with EUR 662 (HRK 4,986) and in manufacture of wearing apparel activities, with EUR 665 (HRK 5,022) (Croatian Bureau of Statistics 2022e).

In the January-July 2022 period (Table 1), the average monthly net wage paid by legal entities amounted to EUR 1,005 (HRK 7,569), which is 6.9% more in nominal terms compared to the same period of 2021, and 2.1% less in real terms. The nominal wage growth between 2020 and mid-2022 can be attributed to the government's employment-state aid measures and personal income tax cuts.

Table 1: Average monthly net and gross earnings for July 2022

	VII 2022	I – VII 2022	Indices		
			VII 2022 VI 2022	VII 2022 VII 2021	I – VII 2022 I – VII 2021
Net earnings					
Average monthly paid off net earnings per employee, kuna	7,576	7,569	98.2	107.5	106.9
Real net earnings per employee			97.8	95.7	97.9
Gross earnings					
Average monthly gross earnings per employee, kuna	10,306	10,277	98.2	108.6	107.9
Real gross earnings per employee			97.8	96.7	98.8
Net earnings per hour					
Average paid off net earnings per hour, kuna	44.18	43.46	102.2	112.1	107.3
Real net earnings per hour			101.8	99.8	98.3
Gross earnings per hour					
Average monthly gross earnings per hour, kuna	60.10	59.01	102.2	113.2	108.3
Real gross earnings per hour			101.8	100.8	99.2

Source: Croatian Bureau of Statistics 2022e

Croatia's labour market is characterised by labour shortages in some occupations, partly due to emigration to other member states of the European Union. Rigid legal regulations in the Croatian labour law inhibit a quicker growth in average wages. Such regulations also hinder flexibility in employment: In 2021, only 13.5% of all Croatian employees had a fixed-term employment contract. Especially telework is far below the EU average: Only 3.1% of all employees were officially able to work from home in 2020 (EU average stood at 12.2%) (Lichter and Buhin Peharec 2022c).

Corporate mark-ups

According to the Croatian Bureau of Statistics, there were a total of 180,537 active enterprises registered in Croatia's non-financial business sector in 2020, employing some 1,087,397 people. The statistics office also showed that manufacturing is the most important sector within Croatia, with enterprises in the manufacturing sector employing 271,072 people and generating a total annual turnover of EUR 87bn (HRK 656.2bn) (Croatian Bureau of Statistics, 2022g). The manufacturing sector's mark-up, excluding material costs, stood at 14.6% (Table 2).

Table 2: Corporate mark-ups in 2020

	Turnover	Value added at factor costs	Operating Surplus	Costs (excl. material costs)	Markup
	Thousand kuna				
Non-financial business economy	656,192,017	190,803,867	79,924,187.67	576,267,829.33	13.9%
B Mining and quarrying	1,287,906	508,401	282,952.95	1.004.953,05	28.2%
C Manufacturing	153,820,932	49,520,112	19,627,550.92	134,193,381.08	14.6%
D Electricity, gas, steam and air conditioning supply	29,900,145	9,024,634	6,572,051.87	23,328,093.13	28.2%
E Water supply; sewerage, waste management and remediation activities	11,343,056	6,136,021	2,207,358.70	9,135,697.30	24.2%
F Construction	58,971,022	18,458,635	7,035,242.92	51,935,779.08	13.5%
G Wholesale and retail trade; repair of motor vehicles and motorcycles	266,706,346	43,892,764	19,896,293.41	246,810,052.59	8.1%
H Transportation and storage	32,884,998	14,273,894	4,284,915.24	28,600,082.76	15.0%
I Accommodation and food service activities	17,893,399	7,175,222	420,494.88	17,472,904.12	2.4%
J Information and communication	32,975,538	17,116,181	8,982,536.55	23,993,001.45	37.4%
L Real estate activities	8,210,582	4,001,361	3,074,862.96	5,135,719.04	59.9%
M Professional, scientific and technical activities	28,663,499	14,748,842	6,056,597.34	22,606,901.66	26.8%
N Administrative and support service activities	11,981,938	5,494,244	1,284,463.75	10,697,474.25	12.0%
S95 Repair of computers and personal and household goods	1,552,655	453,556	196,566.12	1,356,088.88	14.5%

Source: own elaboration based on data by the Croatian Bureau of Statistics

The wholesale and retail trade activity section in Croatia had the largest share in the number of active enterprises (35.393 enterprises), generating a turnover of EUR 35.3bn (HRK 266.7bn) and employing 238,580 people, with a mark-up of 8.1% (excl. material costs).

Croatia's construction sector employed 126,701 people, creating a turnover of EUR 7.8bn (HRK 58.9bn). The construction sector's mark-up, (excl. material costs), reached 13.5%.

The highest mark-up was recorded in the country's real estate activity sector, reaching 59.9% (excl. material costs). The real estate sector employed 12,680 people and generated a turnover of EUR 1bn (HRK 8.2bn).

Each person employed in the non-financial business sector generated an average labour productivity of EUR 23,200 (HRK 175,500) in 2020. The average mark-up by all enterprises in the non-financial business sector, excluding material costs, stood at 13.9%.

Government measures

Policy to diversify Energy supplies

A vital element of the government's efforts to diversify Croatia's energy supplies was the construction of the liquefied natural gas (LNG) terminal on the Croatian island of Krk. Croatia started to procure LNG through the Krk terminal in Omišalj from 2020. In 2021, some 23% of consumed natural gas in Croatia was delivered via the LNG terminal, only 28% was imported from Russia, while Croatia produced some 30% of its gas supplies within the country. The rest was imported from other sources.

The Croatian government announced in August 2022 that it was to invest EUR 180mn to expand the capacity of the LNG terminal on the island of Krk and to build a new gas pipeline, in a bid to diversify Croatia's gas supplies, adding that it planned to extend the annual capacity of the LNG terminal, from 2.9bn to 6.1bn cubic metres for the 2024-2025 gas season. Croatian Prime Minister Plenkovic said that the planned increased capacity of the Krk LNG terminal would exceed the needs of the Croatian economy (Government of the Republic of Croatia 2022c).

The Krk terminal could theoretically supply other neighbouring countries to Croatia with natural gas, such as Slovenia or Bosnia and Herzegovina. Slovenia already expressed an interest in importing natural gas from the LNG terminal starting from October 2022.

In September 2022, PM Plenković said that the government managed to fill Croatia's Okoli gas storage facility at 90% (Radosavljevic, 2022). According to data from Aggregated Gas Storage Inventory, on September 23, the facility's capacity is 88% full. This is equal to approximately 15% of the annual gas consumption in the country.

As a measure to prevent energy shortages in the winter period, the government adopted energy saving guidelines for local households in July 2022. Those measures recommended a maximum heating temperature of 21°C, a cooling temperature of at least 25°C and the use of LED lighting, from 1 August 2022 to 31 March 2023 (Total Croatia News 2022).

State aid measures - Spring 2022

To support local households in managing surging energy prices, the government introduced in April 2022 a state aid package worth some EUR 664mn (HRK 5bn; 0.6% of GDP) to subsidize gas prices. The package comprised measures such as direct subsidies to households and small and medium-sized enterprises, social transfers to vulnerable groups and one-off measures for pensioners (Government of the Republic of Croatia 2022a).

The Croatian power utility Hrvatska Elektroprivreda (HEP) also introduced a **cap for electricity prices**, thereby relieving local households of some EUR 61mn (HRK 460mn) in annual electricity fees (Penić 2022).

In addition, the government reduced the VAT rate on gas prices from 1 April 2022 until 31 March 2023, from 25% to 5%, as well as for thermal energy, firewood, pellets, briquettes, and wood chips. To encourage citizens and entrepreneurs to diversify electricity production, the government decided to cut the VAT rate on the supply and installation of solar panels, from 25% down to 0% (Vlada Republike Hrvatske 2022).

In June 2022, the Croatian government also intervened to mitigate a sharp rise in fuel prices by reducing the excise tax and margins on gasoline and diesel for a period of one month. In addition, the government decided on June 20 to cap motor fuel prices for two weeks at all fuel stations not located along the country's motorways, at 1.79 euros/litre for Eurosuper 95 and 1.74 euros/litre for Eurodiesel; the government decided to extend the cap on fuel prices in July and August.

State aid measures - Autumn 2022

Due to record levels of inflation, **the government unveiled in September 2022 a new state aid package, worth some EUR 2.8bn (HRK 21bn; 4.8% of GDP), aimed at supporting local households and businesses in managing surging energy prices. The new set of aid measures included price caps for some foodstuffs, including sunflower oil, milk, flour, white crystal sugar, whole chicken, pork, and minced meat (Government of the Republic of Croatia 2022b).**

To mitigate the rising energy prices, the government decided to cap electricity prices at EUR 59 per megawatt-hour for consumption of up to 2,500 kilowatt-hours for local households and at EUR 88 per megawatt-hour above that threshold, from 1 October 2022 until 31 March 2023. In addition, the government decided to cap natural gas prices for households and prices of gas in portable cylinders, until 31 March 2023.

The government also capped heating prices for 160,000 households and businesses with central heating systems and increased discount rates for firewood, from 5% to 10% per cubic meter. The Hrvatske šume forest management utility also increased production from 1mn to 1.1 mn cubic meters, to facilitate the supply of some 35,000 citizens in Croatia with firewood. Farmers affected by the rise in fuel prices should receive aid worth some EUR 45.3mn, fishing and fish processing companies state subsidies in the amount of EUR 31.9mn, to cushion surging energy costs.

In addition to the relief for energy consumers, the government planned to support Croatia's green transformation by allocating subsidies for the development and introduction of energy-saving technologies. The government earmarked EUR 252mn for local companies to ensure investments in the production of electricity from renewable sources (solar, wind or geothermal energy). To facilitate investments into renewable energy

sources, the government planned to distribute state aid between EUR 100,000 and EUR 4.7mn to individual companies, depending on their size.

In November 2022, Finance Minister Primorac presented a bill aimed at introducing a one-off windfall tax for companies with revenues of over EUR 40mn in 2022 and a profit of more than 20% than their previous four-year average in the 2018 to 2021 period. According to the bill, such excess profits should be taxed with 33% (Lozančić 2022).

Negotiations with social partners / wage setters

There are currently no economy-wide agreements on wages in the public or private sector. Nevertheless, trade unions, employers and the government managed to establish a “tripartite economic and social council”, as a measure to create a forum for wage negotiations. There is no uniform collective bargaining system in Croatia and wage negotiation practices differ significantly between the public and private sectors. In the public sector, the basic collective agreement regulates the basis for wage calculations.

Wage negotiations for employees outside the public sector are predominantly conducted by the Union of Autonomous Trade Unions of Croatia (SSSH), representing around 1/5 of organized workers in the country, including the strongest branch unions in the private sector (e.g. metalworkers, commerce, construction, tourism and services, energy, chemical and non-metalworking workers).

In April 2022, a new Basic Collective Agreement was signed, in which public sector trade unions agreed to an increase in wages by 4% from 1 May 2022. In light of new record levels of inflation in June, July and August 2022, public service trade unions (including the Croatian Teachers' Union, the Independent Union of Secondary School Employees, and the Independent Union of Science and Higher Education) called on the government to start new negotiations aimed at further increasing the salary for public service employees (Simmonds 2022).

Public service trade unions are dissatisfied, since the negotiated 4% increase in the base salary didn't fully cover the previous rate of inflation, which already stood at 10.8% in the month of May. They will likely demand that employees in education, healthcare, social services, and other public services should receive a 10% wage increase from October 2022. To achieve this, union representatives launched an initiative to start negotiations with the government by the end of September.

On 20 September 2022, government and public sector unions agreed to speed up negotiations to facilitate a base pay rise for 2023 before the end of this year. The national teachers' union said that next to inflation, public sector trade union also took into account the rise in salaries at companies, which had surged by 7.9% in H1 2022.

Due to inflationary pressure on wages, a distributional conflict between wage earners and employers is very likely in 2022. New raises in public sector salaries will alter the government's 2023-2025 budget framework, in which it already intended to spend some EUR 6.6bn (HRK 50.2bn) on pension payments to adjust them to this year's inflation rate. With the adjustment, average pensions should increase for some for 1.2mn people within Croatia. In addition, the government's EUR 2.8bn Autumn State Aid Package, will exert pressure on the state budget and limit the government's fiscal capacity to increase public sector wages for 2023.

In October 2022, public sector trade unions already rejected the government's initial offer to increase wages for some 250,000 Croatian public sector employees by 4% in the same month and by an additional 2% in January 2023.

Table 3: Summary Tick Box List for Croatia:

Measure		Remarks
Energy tax cut	☑	From 1 April 2022 until 31 March 2023
VAT tax cut	☑	From 1 April 2022 until 31 March 2023
Retail price control	☑	In September 2022, the government introduced price caps for sunflower oil, milk, flour, white crystal sugar, whole chicken, pork and minced meat
Wholesale price control	-	
State-owned company mandate	☑	Price cap for electricity prices by Hrvatska Elektroprivreda (HEP)
Windfall profits tax	☑	One-off 33% windfall tax for companies with revenues of over EUR40mn in 2022 and a profit of more than 20% than their previous four-year average in the 2018 to 2021 period
Transfers to (vulnerable) households	☑	One-off payments to recipients of child benefits; one-off payments for pensioners with a monthly pension allowance of up to EUR 247 (HRK 1,850)
Transfers to (vulnerable) firms	☑	EUR 45.3mn state aid for local farming companies; EUR 31.9mn state subsidies for fishing and fish processing companies; EUR 252mn to other local companies
Unilateral wage policy/guideline	-	
Bi- or tripartite agreement social pact	-	
Other measures		
Minimum wage	☑	Government announced to raise net minimum wages by 12%, to EUR 561 (HRK 4,220), in 2023
Measures to prevent gas shortage during the winter	☑	Energy saving guidelines for local households: limiting heating temperature at 21°C, cooling temperature at 25°C and using LED lighting, from 1 August 2022 to 31 March 2023

Bibliography

- Croatian Bureau of Statistics (2022a). Labour force in the Republic of Croatia, second quarter of 2022. Available online at <https://podaci.dzs.hr/2022/en/29249> (accessed 23.09.2022).
- Croatian Bureau of Statistics (2022b). Average Monthly Net and Gross Earnings of Persons in Paid Employment for December 2021. Available online at <https://podaci.dzs.hr/2021/en/10583> (accessed 18.02.2022).
- Croatian Bureau of Statistics (2022c). Average monthly net and gross earnings of persons in paid employment by counties, fourth quarter of 2021. Available online at <https://podaci.dzs.hr/2021/en/31572> (accessed 02.03.2022).
- Croatian Bureau of Statistics (2022d). Average Monthly Net and Gross Earnings of Persons in Paid Employment for June 2022. Available online at <https://podaci.dzs.hr/2022/en/29049> (accessed 19.08.2022).
- Croatian Bureau of Statistics (2022e). Average Monthly Net and Gross Earnings of Persons in Paid Employment for July 2022. Available online at <https://podaci.dzs.hr/2022/en/29051> (accessed 20.09.2022).
- Croatian Bureau of Statistics (2022f). Consumer price indices, August 2022. Available online at <https://podaci.dzs.hr/2022/en/29193> (accessed 16.09.2022).
- Croatian Bureau of Statistics (2022g). Structural business indicator of enterprises, 2020. Available online at <https://podaci.dzs.hr/2022/en/29181> (accessed 08.07.2022).
- European Commission (2022). Convergence Report, Institutional paper 179 / June 2022. Available online at https://ec.europa.eu/info/sites/default/files/economy-finance/ip179_en.pdf (accessed 29.11.2022).
- Eurostat (2022a). Annual net earnings 2021. Available online at https://ec.europa.eu/eurostat/databrowser/view/earn_nt_net/default/bar?lang=en (accessed 25.03.2022).
- Eurostat (2022b). HICP - monthly data (annual rate of change). Available online at https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_manr/default/table?lang=en (accessed 11.11.2022).
- Eurostat (2022c). Euro area annual inflation and its main components, August 2012 - August 2022. Available online at https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Euro_area_annual_inflation_and_its_main_components,_August_2012_-_August_2022.png (accessed 16.09.2022).
- Eurostat (2022d). Inflation for bread in the EU, August 2022. Available online at <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20220919-1> (accessed 19.09.2022).
- Eurostat (2022e). Labour cost levels by NACE Rev. 2 activity. Available online at https://ec.europa.eu/eurostat/databrowser/view/lc_lci_lev/default/table?lang=en (accessed 17.05.2022).
- Government of the Republic of Croatia (2022a). Measures to mitigate impact of energy prices enter into force on 1 April. Available online at <https://vlada.gov.hr/news/measures-to-mitigate-impact-of-energy-prices-enter-into-force-on-1-april/35158> (accessed 31.03.2022).
- Government of the Republic of Croatia (2022b). €2.8bn aid package presented. Available online at <https://vlada.gov.hr/news/2-8bn-aid-package-presented/36042> (accessed 09.09.2022).

- Government of the Republic of Croatia (2022c). €180m to be invested in Zlobin-Bosiljevo gas pipeline and upgrade of LNG terminal. Available online at <https://vlada.gov.hr/news/180m-to-be-invested-in-zlobin-bosiljevo-gas-pipeline-and-upgrade-of-ling-terminal/35931> (accessed at 29.11.2022)
- Government of the Republic of Croatia (2022d). In the time of crisis solidarity should be the main principal of the social cohesion. Available online at <https://vlada.gov.hr/news/in-the-time-of-crisis-solidarity-should-be-the-main-principal-of-the-social-cohesion/36272> (accessed 26.10.2022).
- Government of the Republic of Croatia (2021). Minimum wage to rise by 10.3% to €500 in 2022. Available online at <https://vlada.gov.hr/news/minimum-wage-to-rise-by-10-3-to-500-in-2022/33265#:~:text=Croatia's%20minimum%20wage%20for%202022,consultations%20with%20all%20social%20partners> (accessed 18.10.2022).
- Lichter, Waldemar/Buhin Peharec, Snjezana (2022a). Kroatien: Lohnkosten. Germany Trade and Invest (GTAI). Berlin. Available online at <https://www.gtai.de/de/trade/kroatien/wirtschaftsumfeld/lohnkosten-229232> (accessed 29.11.2022)
- Lichter, Waldemar/Buhin Peharec, Snjezana (2022b). Lohn- und Lohnnebenkosten - Kroatien. Germany Trade and Invest (GTAI). Berlin. Available online at <https://www.gtai.de/de/trade/kroatien/wirtschaftsumfeld/lohn-und-lohnnebenkosten-kroatien-229212#:~:text=Kroatien%20hat%20seit%202008%20einen,Prozent%20des%20Mindestlohns%20nicht%20unterschreiten> (accessed 29.11.2022)
- Lichter, Waldemar/Buhin Peharec, Snjezana (2022c). Kroatien: Arbeitsmarkt. Germany Trade and Invest (GTAI). Berlin. Available online at [https://www.gtai.de/de/trade/kroatien/wirtschaftsumfeld/arbeitsmarkt-229216#:~:text=Rund%2013%2C5%20Prozent%20\(2016,unter-durchschnittlich%20vertreten%20ist%20die%20Telearbeit](https://www.gtai.de/de/trade/kroatien/wirtschaftsumfeld/arbeitsmarkt-229216#:~:text=Rund%2013%2C5%20Prozent%20(2016,unter-durchschnittlich%20vertreten%20ist%20die%20Telearbeit) (accessed 29.11.2022).
- Lozančić, Branko (2022). Companies with more than 300 million in revenue will be taxed at 33% on profits of more than 20%. Hrvatska radiotelevizija (HRT) from 17.11.2022. Available online at <https://glashrvatske.hrt.hr/en/economy/companies-with-more-than-300-million-in-revenue-will-be-taxed-at-33-on-profits-of-more-than-20--10445091> (accessed 29.11.2022).
- Penić, Goran (2022). Ipak skuplja struja, cijena grijanja ide u nebo, doznali smo i koliko: 'Vlada mora reagirati'. Jutarnji list from 26.08.2022. Available online at <https://www.jutarnji.hr/vijesti/hrvatska/ipak-skuplja-struja-cijena-grijanja-ide-u-nebo-doznali-smo-i-koliko-vlada-mora-reagirati-15239404> (accessed 26.08.2022).
- Poslovni dnevnik (2022). Porazno: Trećina radnika u Hrvatskoj nikada nije dobila povišicu. Poslovni dnevnik from 01.09.2022. Available online at <https://www.poslovni.hr/hrvatska/porazno-trecina-radnika-u-hrvatskoj-nikada-nije-dobila-povisicu-4351779> (accessed 01.09.2022)
- Pufnik, Andreja (2017). Effects of the Adoption of the Euro on Consumer Prices and Inflation Perceptions: An Overview of Experiences and Assessment of the Possible Impact in Croatia. Croatian National Bank. Zagreb. Surveys S-27. Available online at <https://www.hnb.hr/documents/20182/2070704/s-027.pdf/d995baa4-fab7-4417-bb67-3c463cfa24cc> (accessed 29.11.2022).
- Radosavljevic, Zoran (2022). Croatia's sole gas storage at 90%, PM says. Euractiv from 30.09.2022. Available online at <https://www.euractiv.com/section/energy-environment/news/croatias-sole-gas-storage-at-90-pm-says/> (accessed 29.11.2022)
- Simmonds, Lauren (2022). Unions Want Croatian Public Sector Wages to Match Inflation Rate. Total Croatia News from 05.07.2022. Available online at <https://www.total-croatia-news.com/business/64115-croatian-public-sector> (accessed 29.11.2022).

Total Croatia News (2022). Government Recommends Heating Temperature Of 21 °C, Cooling Temperature Of 25 °C. Total Croatia News from 28.07.2022. Available online at <https://www.total-croatia-news.com/politics/64637-government-recommends-heating-temperature-of-21-c-cooling-temperature-of-25-c> (accessed 29.11.2022).

Vlada Republike Hrvatske (2022). (2022, February 16). Predstavljen paket mjera za ublažavanje rasta cijena energenata vrijedan 4,8 milijardi kuna. Vlada Republike Hrvatske from 16.02.2022. <https://vlada.gov.hr/vijesti/predstavljen-paket-mjera-za-ublazavanje-rasta-cijena-energenata-vrijedan-4-8-milijardi-kuna/33907> (accessed 29.11.2022)

Wikimedia Commons: Counties of Croatia (2010, July 22). https://commons.wikimedia.org/wiki/File:Counties_of_Croatia-fr.svg

Imprint

Publisher

Macroeconomic Policy Institute (IMK) of Hans-Böckler-Foundation, Georg-Glock-Str. 18,
40474 Düsseldorf, Germany, phone +49 211 7778-312, email imk-publikationen@boeckler.de

IMK Study is an irregular online publication series available at:
<https://www.imk-boeckler.de/de/imk-studies-15380.htm>

The views expressed in this paper do not necessarily reflect those of the IMK or the Hans-Böckler-Foundation.

ISSN 1861-2180



This publication is licensed under the Creative commons license:
Attribution 4.0 International (CC BY).

Provided that the author's name is acknowledged, this license permits the editing, reproduction and distribution of the material in any format or medium for any purpose, including commercial use.

The complete license text can be found here: <https://creativecommons.org/licenses/by/4.0/legalcode>

The terms of the Creative Commons License apply to original material only. The re-use of material from other sources (marked with source) such as graphs, tables, photos and texts may require further permission from the copyright holder.
