

LONG-TERM CONSUMER PRICE DYNAMICS IN BULGARIA, 1750 – 2020

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***Abstract:** In this paper we explore the long-term developments of consumer prices in Bulgaria for the period 1750–2020. The discussion draws on a component-based index of consumer prices constructed by the authors. We consider both nominal price-level time series and real prices of selected essentials (bread, meat, sugar, tobacco, alcohol, and construction goods used by households). For the reviewed period, we identify two major inflationary episodes, namely the two World Wars and the interwar period, and the period of post-communist transition. For the former, we compute an increase of the price level of about 46 times. For the latter, we arrive at a mind-blowing analogical result of over 3800 times. A curious finding concerns the communist period. Contrary to popular beliefs established through a massive propaganda of no-inflation socialist economies, we discover an overall increase of the price level for that period of nearly 4 times. Real prices of individual commodities are calculated by deflating nominal figures by the value of the corresponding base consumer price index. The inspection of their dynamics leads to uncovering hidden insight related to the developments of specific markets. Also, it allows to assess more clearly the similarities and differences of real price evolutions over different political regimes. For example, we find that the real price of bread in the times of communist rule did not contrast markedly with its levels in preceding and succeeding periods. Another example points to the conclusion that in the years of EU membership, the real prices of most commodities that we consider follow a path of decline. This suggests that statements on the economic developments in those years which rely heavily on the popular perception of lower affordability should at least be taken with a grain of salt. The availability of our results could facilitate further explorations into the nature and specifics of the economic and social development of Bulgaria over a long period of time.*

Key words: inflation, real prices, long-term price dynamics, Ottoman Empire, World Wars, communism, transition, Bulgaria

JEL: E21, E31, N33, N34, P22

Introduction

This research was inspired by the many requests we have received over the years from colleagues and friends to compare prices and “translate” certain amounts of money, mentioned in historical documents, into present day values. For example, we have been asked questions like “Was bread cheaper during the communist period compared to the years before World War II and the transition years?” or “What is the present value of Evlogi Georgiev’s donation to the Sofia University at the end of nineteenth century?” Given the recent inflationary developments, questions concerning price comparisons over time tend to become more pressing.

Answering such questions requires the availability of a long-term price index linking the different historical periods in Bulgaria with the modern-day CPI¹ which was introduced in the early 1990s. Constructing a historical CPI is a lengthy and particularly laborious process of data mining through the archives. For this reason, such studies are extremely rare in international scholarly literature. In a recent working paper, we have suggested the compilation of a unified index of consumer prices (Ivanov, Simeonova-Ganeva and Ganev, 2022). That index merges our newly computed component-based index, presented here, with a composite index of all price indices produced by the Bulgarian statistical authorities throughout the years.

In our work we drew on the handful of existing historical CPI reconstructions such as O’Donoghue et al. (2004) for the U.K., Officer et al. (2006) for the U.S., Edvinsson and Söderberg (2010, 2011) for Sweden, Klovland (2014) for Norway, Radu (2019) for Denmark, as well as Pamuk (2000) and Özmucur and Pamuk (2002) for the Ottoman Empire.

For the compilation of the component-based index we utilized records from nearly 500 commercial account books kept in local archives, museums and libraries, available official market prices of goods and services, and existing surveys of households’ consumption. The consumer basket consists of roughly twenty items² that are largely representative of the consumption patterns of Bulgarians until the end of World War II. The Laspeyres formula was applied to produce the index numbers. The latter provides compatibility with modern-time price index methodologies.

Three main challenges encountered in compiling the index should be mentioned. First, the relatively wide range of coins of various currencies in which the prices were

¹ Consumer Price Index (CPI) measures change over time in the general level of prices of goods and services that a reference population acquires, uses, or pays, for consumption (Eurostat, 2012).

² The consumption basket includes bread, rice, beans, meat, olive/sunflower oil, cheese and butter, onion, apples/grapes, sugar, salt, wine and rakiya, tobacco/cigarettes, aba/shayak/calico, candles/lamp gas/brown coal, lime/cement, cart/railway transport, soap, barley.

expressed in original sources. Second, the wide range of pre-modern, non-metric measures used throughout the present-day Bulgarian territory until early 1880s. Third, the missing price and weight observations for certain years/periods (not only for the eighteenth and the early nineteenth century but occasionally for some communist and early transition years as well). We were able to tackle the first two issues with the assistance of two specially constructed exchange rate and antiquated-measures datasets that we compiled for the purpose. Using sophisticated techniques like cubic splines for time-series interpolation (Fritsch and Carlson, 1980) and log-log regressions for statistically significant correlations with Istanbul prices (Pamuk, 2000), we were able to bridge all data gaps³. Our new annual component-based index covers the period 1750–2020 and allows the computation and the subsequent analysis of nominal and real price⁴ developments in the long run. In particular, it provides a solid foundation for comparison of values over different political and economic regimes of Bulgaria.

In the remainder of this paper, our main objective is to describe and discuss price dynamics in Bulgaria from the mid-eighteenth century until present. We focus on the dynamics of real prices of six key commodities computed using the component-based index, namely bread, sugar, meat, tobacco, alcohol, and construction goods used by households. The following sub-periods are identified and then compared in terms of price developments: pre-industrialization, early industrialization, wartimes (Balkan Wars, World War I, World War II) and the corresponding interwar periods, communist regime, transition, and EU membership.

The paper is structured as follows. In the next section, we discuss the long-term price dynamics in Bulgaria for the period 1750–2020. There we also track in parallel GDP dynamics over the period 1887–2020. After that, we present empirical results and comment on the real prices of the selected commodities. Finally, we describe our main findings in the concluding section.

Long-term price dynamics in Bulgaria

Bulgarian lands had been under Ottoman rule from the late fourteenth century until the late nineteenth century. In the beginning of the eighteenth century, the Ottoman Empire was already a declining power in political and in economic terms. Laying in the periphery of the Ottoman world, Bulgarian lands were in an even more deprived state, especially compared to Istanbul and other key commercial hubs like Izmir or Salonika. Landlocked, far from the main international trading routes, with notoriously poor roads in their interior, until the early 1840s Bulgarian lands enjoyed

³ For more details on the sources, methods, and computations cf. Ivanov, Simeonova-Ganeva and Ganev, 2022.

⁴ Real prices are nominal prices adjusted for inflation.

relatively stable prices. With the exception of sporadic events (e.g., wars, uprisings, or natural disasters), those dynamics implied price stability, with only low-to-moderate fluctuations (see Fig. 1). The data on this period suggest that there was a large degree of market fragmentation (in fact, markets were restricted to small local areas). Such a hypothesis is corroborated by the fact that even in neighbouring areas there were different measurement units⁵. In particular, this could explain the absence of significant influences on behalf of price volatility observed in the core parts of the empire⁶.

The more pronounced shifts in the price level in the second half of the nineteenth century can be explained by the growing integration of Bulgarian lands within the international economy. The price liberalization of the early 1840s, the abolition of all export bans (particularly of grains), and the centralized efforts for improvement of the inland communication network (roads and later railway construction) brought increased market integration and hence, higher price volatility⁷. Over the period 1840–1878, the price level doubled by a factor of 2.18.

The next period (1878–1945) that included the Balkan Wars and the two World Wars of the first half of the twentieth century was featured by strong inflationary price dynamics. On the one hand, they were driven by the 1910s and 1930s ‘mini spurts’ of the Bulgarian economy⁸, and its further integration in the European markets for goods. On the other, wartime economic dynamics associated with the destruction of capital, disruptions of trade and production chains, reorientation of output for war purposes, and higher indebtedness of governments, among others, led to severe price hikes and substantial changes in relative prices. Overall, for the period 1914–1944 the accumulated increase in the price level in Bulgaria according to our component-based index exceeded 46 times (while that for the period 1878–1914 it was roughly 1.17 times). This cumulative rate of increase of the price level, though impressive, is far lower than the ones observed in some hyperinflationary countries such as Germany, Austria, Hungary, and Poland, but still substantially higher than the rest of industrialized Europe⁹. The explanation of the Bulgarian figure can be sought in the relative economic backwardness of the country, in its foreign trade orientation (while still not so well integrated in international trade) at that time, and its statute of a defeated country after World War I, overburdened with heavy reparations.

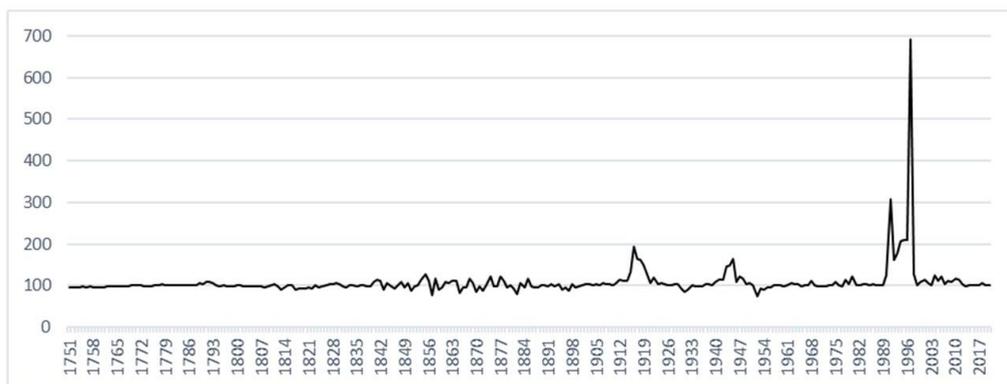
⁵ The most stunning example is of Karlovo and Plovdiv that lie only 50 kilometres from each other. Yet, the grain *kile* in both towns differed by nearly 6,5 kg. NBKM-BIA, Col. 25, a. e. 85, pp. 171–172.

⁶ For example, Pamuk, 2000 provides ample evidence on considerable volatility of consumer prices for Istanbul.

⁷ For the Ottoman Empire and its increased integration into the world economy cf. Pamuk, 1986. For the identical process within Bulgarian lands of the empire, cf. Ivanov, 2021.

⁸ Lampe, 1975 for the 1910s ‘mini-spurt’ and Ivanov, 2012 for the 1930s.

⁹ See for example Lopez and Mitchener, 2018.



**Figure 1. Annual price dynamics
(chain component-based consumer price index), previous year = 100**

Source: Own calculations

The inflationary momentum of World War II continued until the middle of the 1950s, with a tendency of acceleration. The main causes of those developments were rooted in the adverse effects of the war on the economy of Bulgaria, the ensuing disruption of production and markets for goods, services, and labour (incl. due to nationalization and the ideological bias of the communist regime), emerging scarcities, and the flourishing black markets. Negative influences also followed from the *de facto* statute of a defeated country, the enormous post-war expenses most notably related to the imposed support of a huge Soviet army on the territory of Bulgaria for more than two years, etc. (Znepolski et al., 2019, pp. 106–125). Post-World-War-II price dynamics bear the mark of three monetary reforms. The first communist monetary reform of 1947 seemed to provide evidence on two types of phenomena. On the one hand, the government aimed at seizing the assets of the “defeated bourgeois classes”. On the other, the parameters of the reform indicated the presence of raging inflation as bank notes of much higher face value than the ones that were previously in circulation were issued. The 1952 reform was primarily tailored for harnessing inflationary pressures, although seizure of population assets by the government also transpired from the background: in essence, the reform consisted in replacing currency units at an unfavourable rate. In such a way, the money stock was reduced substantially, and the purchasing power of the population, especially the wealthier part of it, was significantly diminished. At the same time, central administration of the prices of most essentials was launched. Those prices were set at levels that implied a higher degree of affordability for the masses. This is observed clearly in the declining trend of the component-based index (deflation) in the beginning of the 1950s (Fig. 2). Keeping prices stable seems to have been a major goal

of the communist regime, as otherwise high inflation would have undermined the confidence of the population in the ruling elite.

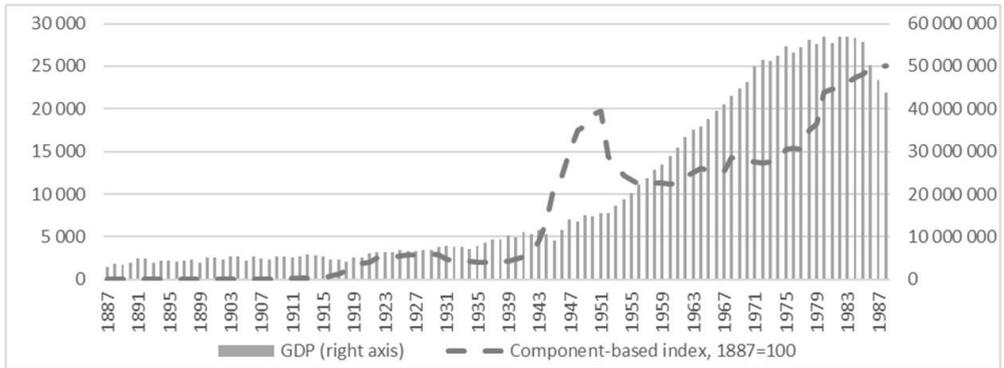


Figure 2. Price dynamics

(component-based consumer price index, 1887=100) and GDP (in 1990 \$)

Source: Own calculations (GDP is based on Ivanov, 2012 and Maddison Project Database, 2018).

Some price stability, however, was possible to maintain only for less than a decade. At the end of the 1950s, inflationary processes, although not as severe as these of the immediate post-war era, started looming again. The 1962 monetary reform seemed to be of pure anti-inflationary nature: notes and coins, as well as prices were replaced at the same ratio of 10:1. The intended effect was a psychological one, i.e., to tame inflationary expectations. However, its success was questionable as prices continued crawling upwards. A relative peak of the price level was reached at the end of the 1960s. While the early 1970s featured some stabilization of prices, the world oil crisis at the end of 1973 caused new rises of the price level. The negative price developments were matched by the notorious decay of the economic growth rate of Eastern Bloc countries, less pronounced in Bulgaria. The drastically reduced investment rates combined with the effects of the second oil shock of 1979 exacerbated further the unfavourable price developments (Znepolski, 2019, pp. 252–280). The 1980s witnessed a continuing, although slightly subdued, upward trend of the price level, despite the implemented controls and the officially proclaimed price stability. Overall, the communist period 1944–1989 accounted for approximately 3.8 times increase in the price level, twice as much as in the 1878–1914 period, which included the Balkan Wars.

Notwithstanding the limited effectiveness of price controls (focused mainly on essentials), it severely diminished the information function of prices, introducing huge

distortions in relative prices. All this implied the presence of accumulated enormous inflationary pressures. The price liberalization of the beginning of the 1990s unleashed those so far hidden inflationary pressures and led to significant price level hikes. Our component-based index points to an annual increase of the price level by 206.7 percent in 1991¹⁰. The adopted policy of floating exchange rates of the Bulgarian lev, the weak forex controls, and the poor conduct of monetary policy and banking regulation further aggravated the inflationary environment. The macroeconomic policy misconduct intensified in the mid-1990s by the allowance of large-scale soft budget constraints for government enterprises and uncontrolled expansion of unsecured bank loans. In 1996, the inflation rate accelerated alongside with a quickly depreciating national currency, and in 1997 the largest inflationary shock ever experienced by the Bulgarian economy was registered. According to our component-based index, the inflation rate in that year totalled 592.8 percent¹¹. Although the number stands for the whole year, the increase was concentrated largely in first two months of 1997.

The change of government immediately after this hyperinflation episode and the announced introduction of a currency board arrangement that included pegging the Bulgarian lev to the Deutschmark quickly harnessed the rise of the price level. In the following years, the annual inflation rates computed using the component-based index did not exceed 30 percent¹². In 1999, the national currency was denominated at the ratio of 1000:1 to address the extremely high price levels reached and to lower inflationary expectations. Besides the enormously lowered forex uncertainty, the ensuing disinflation was also determined by the process of large-scale privatization, the rapid development of the private sector and competitive markets, the opening of international trade towards the European Union, and the resulting economic growth.

The pre-accession period and the years of EU membership¹³ as a rule indicate the presence of positive inflation rate differentials vis-à-vis the Eurozone. Those were determined by the fact that the starting price level in Bulgaria was much lower than the EU average. The growing openness of the Bulgarian economy to the EU markets led to price level convergence. Still, the speed of this type of convergence has been moderate-to-low throughout the years, leaving a price level gap to be still filled.

According to our component-based index, the overall price level increase for the entire post-communist period 1990–2020 totals more than 3800 times (!)¹⁴ (Fig. 3). Such

¹⁰ This result understates the official NSI figure which equals 473.7 percent. Still, our small consumer basket manages to capture at least partially the unprecedented price hike in that year.

¹¹ The official NSI figure is quite close to our estimate equalling 547.7 percent.

¹² Official figures are all below 20 percent annually.

¹³ Bulgaria became a fully-fledged EU Member State on January 1, 2007.

¹⁴ The corresponding figure based on officially published indices is even larger: over 5100 times.

huge nominal price increases combined with currency denomination blur significantly the assessment of the dynamics of the value of consumer goods and services. In particular, it makes it very difficult to compare those values across different political epochs. In order to eliminate this obfuscation caused by erratic price level hikes for prolonged periods of time, we resort to the calculation of the so-called real prices.

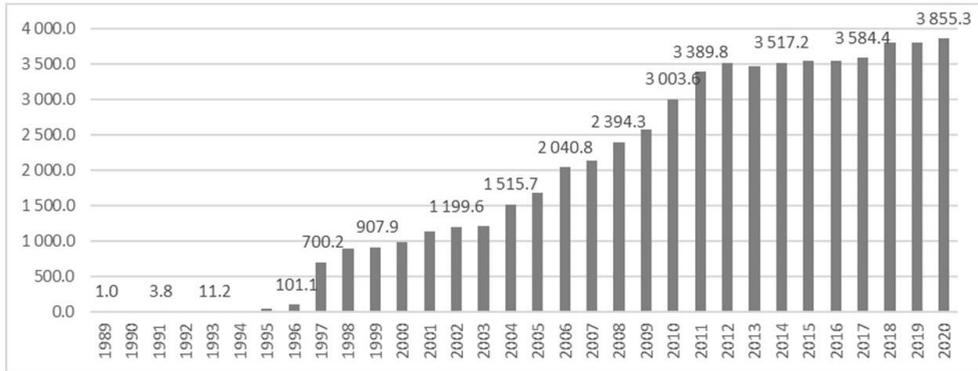


Figure 3. Change in price level in the post-communist years, 1989 = 1
Source: Own calculations (based on the authors' component-based index).

Real prices of selected commodities

We consider the real prices of six key commodities (bread, meat, sugar, alcohol, tobacco, and construction goods used by households) that are highly representative of household consumption patterns that prevailed during the entire period in review (1750–2020). They constitute roughly 40 percent of the consumption basket in 1848, 45 percent ca. 1900, and about 40 percent in the 1960s and about 30 percent 2020. Each of them has their own specifics of price development which allows to explore a considerable range of price variation patterns.

Bread

To this day, bread has been the staple food of Bulgarians. Therefore, the population has always been extremely sensitive to changes in its price. Logically, governments have almost always paid special attention to it, and has accordingly accommodated their policy actions to prevent significant price hikes. This is reflected in considerable stability of the real price of bread over the long run, with prevailing

modest fluctuations in the narrow corridor of 0.2 – 0.4 constant 1750 leva (Fig. 4)¹⁵. Another major factor that however contributed to this real price stability is associated with the fact that with very few exceptions, Bulgaria has been producing surpluses of grain that started being exported in modern times.

Two sizable hikes are observed in the end of the eighteenth century: first, when centralized Ottoman state control over Bulgarian lands almost vanished, and second, at the end and in the immediate aftermath of World War II when the obsolete ‘bourgeois’ economic regime collapsed.

Driven by political considerations, during most of the communist period real bread price was kept impressively stable at a very low level. Due to an overall quicker increase in the overall price level, there was even a mild but steadily declining trend throughout the entire communist period. Two determinants played a crucial role thereto. The first one was related to the strict administrative controls of central planning concerning key commodities. The second is associated with the pronouncedly boosted productivity in agriculture. To illustrate those observations, note that in 1944 the real price of bread equalled 0.68 leva, while in 1989 it reached its lowest of 0.24 leva (both in 1750 constant prices).

The fall of the Berlin wall brought some abrupt hikes followed by increased volatility in the real price of bread. Still, the latter remained in the above-mentioned corridor. Low and stable real prices of bread were observed once more in the post-EU-accession years (specifically after 2010) when, contrary to the popular beliefs, the real price of bread reached levels of roughly 0.18-0.20 constant 1750 leva which stand below those observed for the communist decades.

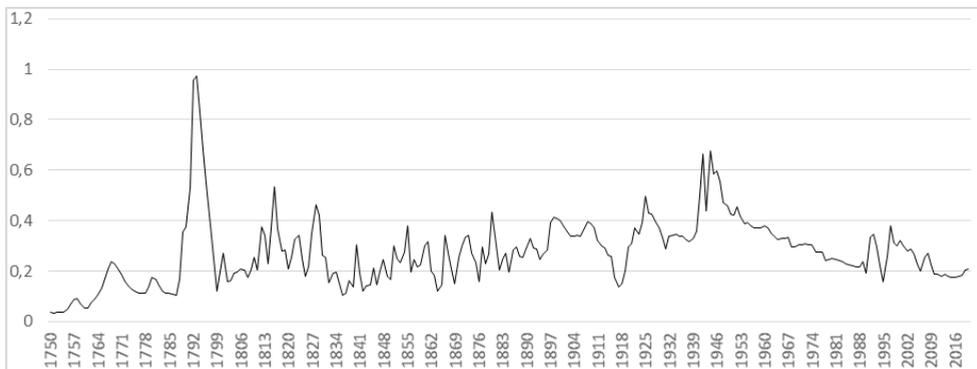


Figure 4. Bread price, per kilogram, constant 1750 leva

Source: Own calculations

¹⁵ We use the expression “constant 1750 leva” to indicate deflated magnitudes. The usage of the name of the currency is only conditional for the period until 1879 when it was formally introduced.

Sugar

Unlike bread, until recently, sugar has been a luxury good, less affordable for many Bulgarians. For that reason, the real price of sugar can be seen as broadly representative of the gradual improvement of their standard of living.

In 1750, the real price of sugar equalled approximately 2.4 leva (Fig. 5). In the following decades of the late eighteenth and the early nineteenth centuries, sugar was the commodity that was affected the most by the deep political and economic crisis experienced by the Ottoman Empire. The real price skyrocketed, reaching its peak of 9.4 constant 1750 leva in 1816. By ca. 1820, it returned to its pre-crisis levels, and then followed a steady decline until present. This downward trend was only briefly interrupted by wars (particularly World War I and World War II), and by outbursts of galloping inflation in the transition period. In the beginning of the communist period (1944), the real price of sugar equalled 0.87 constant 1750 leva, while at its end (1989) it diminished slightly to 0.73. From the mid-1990s onwards, it has been declining again, reaching record-low levels. In 2018, the lowest ever value of the real price of sugar of just 0.16 constant 1750 leva was reached.



Figure 5. Sugar price, per kilogram, constant 1750 leva

Source: Own calculations

Meat

In the traditional Bulgarian society, meat was a festive food consumed mainly on special occasions. Demand was low and seasonal (lamb for St. George and Easter, pork for Christmas, fish for St. Nicolas, or chicken for St. Peter), and animal farming was mostly subsistent. This could explain both the relative cheapness and the stability of its real price.

In 1750, the real meat price per kilo was 0.23 leva (Fig. 6). After that, in the late eighteenth and in almost the entire nineteenth centuries, it featured somewhat higher volatility, but it did not exceed 1.20 constant 1750 leva. For example, during the Liberation War (1878), the real price of meat equalled 0.94 constant 1750 leva. Since ca. 1886, it has followed a stable positive trend, suggesting a slow but stable improvement in the standard of living. Considerable peaks are seen in the last years of World War II, and in the 1980s. In particular, in 1944, the real price of meat climbed to 2.66 constant 1750 leva. In 1986, it almost doubled to 4.76 constant 1750 leva. Overall, with the exception of the temporal success in lowering the real price of meat in the post-World-War-II decade, central planning failed to stabilize it. The latter reflects the growing shortages of meat supply and the falling capacity of the communist regime to meet the demand. In the mid-1990s, another brief hike in the real price of meat was observed (the highest value of 4.33 constant 1750 leva was attained in 1997). Similarly to the cases of bread and other foods, however, the EU accession of Bulgaria strengthened supply and pushed real prices well below their pre-1989 levels. Throughout the whole period 2007–2020, it remained in the range of 1.54 – 2.21 constant 1750 leva.

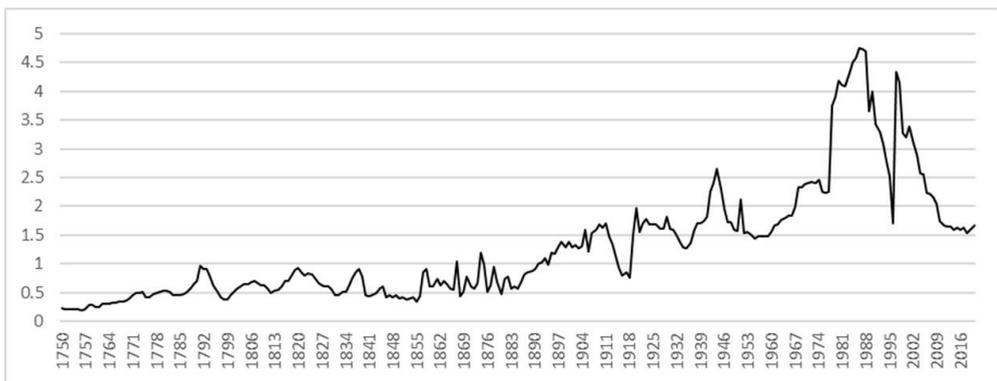


Figure 6. Meat price, per kilogram, constant 1750 leva

Source: Own calculations

Tobacco and Alcohol

Similarly to meat, goods like tobacco and alcohol followed a long period of relatively low and stable prices. They started to pick up only ca. 1900 (Fig. 7, Fig. 8). The upward trend observable in the early twentieth century most probably reflects the relative improvement in the overall standard of living and the associated growing demand of (semi-) luxury goods. It is worth mentioning that the basic varieties of both commodities were (and to some extent still are) domestically produced (home

distillation of rakiya or tobacco growing).

The shortages of World War II, and the post-war austerity in the first years of the communist regime led to considerable peaks in the real prices of alcohol and tobacco. By the mid-1960s, however, under the controls of central planning, they started falling, reaching their pre-World-War-II levels during 1980s.

This downward trend continued after the fall of the Berlin wall, and in 2020, the real prices of alcohol (rakiya and wine) equalled those recorded in 1893 and 1916. Due to the alignment of excise tax rates in Bulgaria to the minimum EU levels and the abolishment of tobacco-growing subsidies, from 1998 onwards prices of cigarettes have reversed their downward trend, reaching unprecedentedly high levels in 2020.

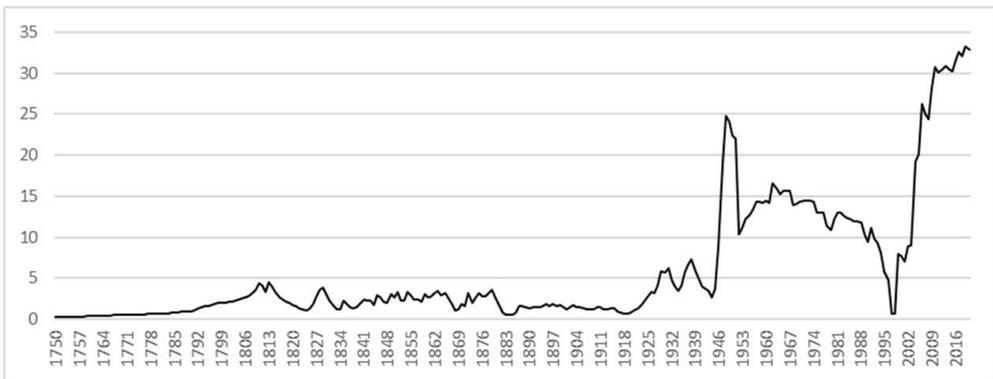


Figure 7. Tobacco prices, per kilogram, constant 1750 leva

Source: Own calculations

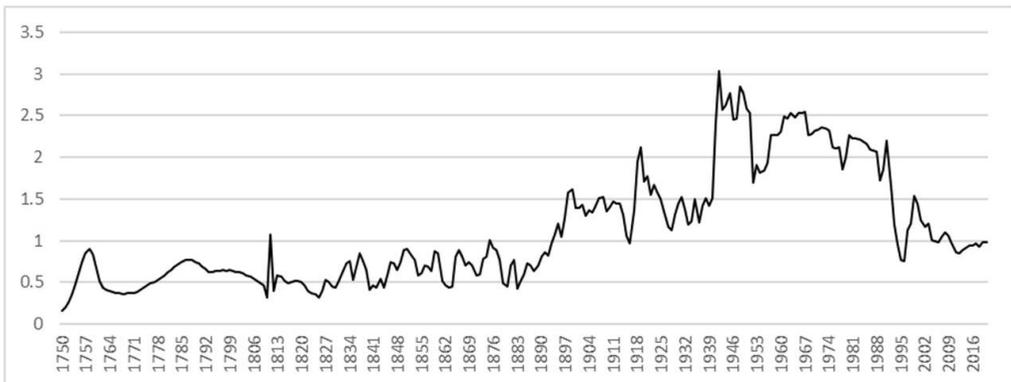


Figure 8. Alcohol prices, per litre, constant 1750 leva

Source: Own calculations

Construction Goods

The real price of construction goods¹⁶ used by households is the best available proxy for the historical developments of real estate value over the last 270 years. Broadly speaking, in 1750–2020, the development of that real price suggests the presence of cyclicity of roughly fifty-year periods. In total, five-and-a-half cycles can be identified, with peaks during the 1770s, the 1820s, the 1860–1870s, the 1910–1920s, and the 1960–1970s, and troughs during the 1750s, the 1790s, the 1850s, the 1880s, the 1940s, and the 1990–2000s (Fig. 9). Although the data limitations do not allow a detailed cycle analysis, it is worth noting that that most of these cycles coincide with exogenous events like the Russo-Turkish Wars (1768–74, 1928–29), the Crimean War (1853–56) and the two World Wars.

Over the entire period, the two instance in which construction goods seemed to be most unaffordable were the beginnings of the nineteenth and the twentieth centuries. In the years of communism, and in particular after the beginning of the 1950s, a downward trend in the real price of those goods can be identified. Still, their overall values are more or less in line with the prices observed before World War II. It worth also pointing out that, contrary to the public beliefs, EU accession brought a decline, rather than an increase in the real prices of construction goods.

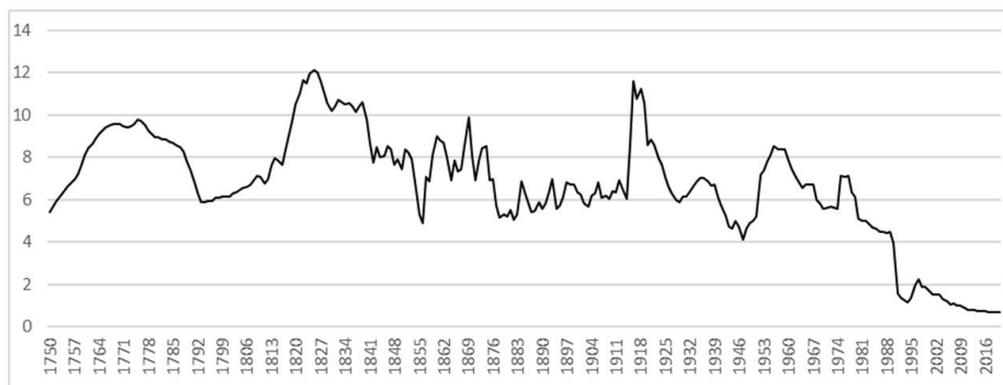


Figure 9. Construction goods price, per tonne, constant 1750 leva

Source: Own calculations

Conclusions

This paper presents a consistent picture of the long-term price dynamics of a set of selected consumer goods. Both an overall price level (approximated by computed

¹⁶ Lime, until 1926 and cement from 1927 to the present.

index numbers) and individual real price developments are considered.

Concerning the development of nominal price levels, two major inflationary episodes in Bulgarian economic history are observed. First, the price hikes of the two World Wars and the interwar period (1914–1944), and second, the period of post-communist transition (particularly, the 1990s). In the first episode, galloping inflation led to an enormous increase in the price level of about 46 times. In the second one, the intensity of the inflationary processes was immensely higher: for about three decades, prices increased by more than 3800 times (according to our component-based index)! This provides an indirect measure of the magnitude of inflationary pressures that accumulated during the period of central planning and administrative controls over prices, and which were unleashed in the 1990s.

In this respect, an insightful result appears to be that during the communist regime, the price level increased almost four times. This finding contradicts the contemporary propaganda about a no-inflation socialist economy. Still, central planning managed to control and suppress the prices of certain goods and services, and the overall inflation for this entire period was lower than the one observed in other countries (for example, during the same period, 1944–1989, the price level in the U.S. increased by 7.1 times¹⁷, and that in the U.K. rose by 14.5 times¹⁸). Nevertheless, this price suppression came at a high cost: external indebtedness, shortages, distortion in relative price levels, lagging behind with price convergence to the Western markets, etc. From a different perspective, considering the liberalization of markets, and the opening of the economy towards the West, the scale of the resulting figures suggests the inevitability of the adverse developments that were observed in the beginning of transition.

Regarding the real prices of individual commodities, an interesting finding is that there is a well pronounced decline observed for them in the years of EU membership – contrary to the popular beliefs of real price movements closely matching nominal price increases. This finding is fully in line with the development of markets and competition during the last three decades and supports the claim of increased affordability of key commodities.

Our discussion of real price fluctuations suggests that they reflect political decisions, market developments, and exogenous influences throughout the reviewed span of Bulgarian economic history. The availability of our results makes it possible to further explore and deepen the existing knowledge on the economic and historical phenomena of those times.

¹⁷ See the online CPI calculator based on the data from the Bureau of Labor Statistics here: <https://cpiinflationcalculator.com/>.

¹⁸ See the Bank of England online inflation calculator here: <https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator>

In the introduction of the paper, we raised two curious questions, the answers of which could be a small step in this direction. The first question related to whether bread was cheaper during communism compared to the preceding and the succeeding decades. The answer is simply “no”. In the best possible instance, the real price of bread was at par with the levels in those two other periods. The second question concerns the present value of one of the largest private donations to higher education in Bulgaria made over a century ago by Evlogi Georgiev (for the establishment of the present-day Sofia University). Based on the fact that the Court estimated the value of that donation at 13 million 1911 leva, using our calculated price index, we arrive at a present value of 602 million 2020 BGN.

REFERENCES:

- Znepolski, I., Gruev, M., Metodiev, M., Ivanov, M., Vatchkov, D., Elenkov, I. & Doynov, P. 2019, *Bulgaria under Communism*, London: Routledge.
- Edvinsson, R., & Söderberg, J. 2010, ‘The Evolution of Swedish Consumer Prices, 1290–2008’, in: Edvinsson, R., Jacobsson, T. & Waldenström, D. *Exchange Rates, Prices, and Wages, 1277-2008* Stockholm: Ekerlids Förlag & Sveriges Riksbank, pp. 412–452.
- Edvinsson, R., & Söderberg, J. 2011, ‘A Consumer Price Index for Sweden, 1290–2008’, *Review of Income and Wealth*, 57 (2), 270–292.
- Eurostat. 2012, *Essential SNA: Building the basics*, Luxembourg: Publications Office of the European Union.
- Fritsch, F. N., & Carlson, R. E., 1980, ‘Monotone Piecewise Cubic Interpolation’. *SIAM Journal on Numerical Analysis*, 17, 238–246.
- Ivanov, M. 2021, *Against the Current: Bulgarian Textile Industry, 1800–1912*, Sofia: Ciela. [Иванов, М. 2021, *Срещу течението: Българската текстилна индустрия, 1800–1912*, София: Сиела].
- Ivanov, M. 2012, *Gross Nation Product of Bulgaria, 1870–1945*, Sofia: Ciela. [Иванов, М. 2012, *Брутният вътрешен продукт на България, 1870–1945*, София: Сиела].
- Ivanov, M., Simeonova-Ganeva, R. & Ganev K. 2022, ‘Consumer Price Indices for Bulgaria, 1750–2020’. Working Paper.
- Klovland, J. T. 2014, ‘New Methods for Construction of Historical Price Indices, with an Illustration from Norway, 1777–1920’, *European Review of Economic History*, 18 (3), pp. 277–305.
- Lampe, J. R. 1975, ‘Varieties of Unsuccessful Industrialization: The Balkan States before 1914’, *The Journal of Economic History*, 35 (1), pp. 56–85.

Lopez, J. A., & Mitchener, K. J. 2018, 'Uncertainty and Hyperinflation: European Inflation Dynamics after World War I', Working Paper 2018-06, Federal Reserve Bank of San Francisco.

Maddison Project Database, 2018, <https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2018?lang=en>

O'Donoghue, J., Goulding, L. & Allen, G. 2004, 'Consumer Price Inflation since 1750', *Economic Trends*, 604, pp. 38–46.

Officer, L. H. 2006, 'What Was the Consumer Price Index Then? A Data Study' (tech. rep.).

Özmucur, S., & Pamuk, S. 2002, 'Real Wages and Standards of Living in the Ottoman Empire, 1489–1914', *The Journal of Economic History*, 62 (2), pp. 293–321.

Pamuk, S. 1986, *The Ottoman Empire and European Capitalism, 1820–1913; Trade, Investment, and Production*, Cambridge: CUP.

Pamuk, S. (ed.) 2000, *500 Years of Prices and Wages in Istanbul and Other Cities*, Ankara: State Institute of Statistics.

Radu, C. 2019, 'Real Wages, Labour Conditions and the Standard of Living in Denmark: 1500-1900', *Discussion Papers on Economics* No. 2/2019, University of Southern Denmark, Department of Economics.

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