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Abstract

We challenge the view that Centrally Planned Economies functioned well until the early 1970s, delivering high economic growth and better living standards. Judged by real wages as the most widely used historical living standard indicator, only in the 1970s did Bulgarian living standards surpass levels achieved already four decades earlier. Our findings are particularly discomforting for the rural population which was the big loser of collectivization and forced industrialization policies after 1947. Wages increased throughout the 1970s and the 1980s, but far less so than Maddison's GDP per capita estimates which are often used as a proxy for living standards.

JEL Codes: E01, N14, N54, N64, P2, P51

Keywords: real wages, state socialism, structural transformation

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1. Introduction

Living standards in Central, East and South-East Europe (CESEE) during the period of state socialism remain the subject of popular discourse as well as of academic debate (Tomka 2020, van Leeuwen&Foldvari 2021). Indeed, it constitutes or, to be precise, it should constitute one of the main research questions of 20th-century European economic and social history. From the 1930s onwards, and driven by an exceptionally strong late demographic transition, for the first time in history, Eastern Europe was home to the larger part of Europe's population; a development reversed only by the mass emigration from the region since the early 1990s (Morys&Ivanov 2021, Foldvari&van Leeuwen 2021). With this study, we seek to uncover how the – slightly larger – half of Europe fared during the second half of the 20th century.

This important debate is dominated by two narratives. The first drives the public discourse in Eastern Europe today; the second predominates in the academic literature. Let us begin with the public discourse in many – though by no means all – CESEE countries. Here, the centrally planned economies (CPEs) are credited with delivering considerable living standard improvements by the 1970s and 1980s. The initial harshness of the 1950s and 1960s, both in terms of the modest living standards of the bulk of the population and in terms of repression of political opponents, is not denied. Rather, it becomes part of the narrative and is portrayed as unavoidable to remove roadblocks to economic development; obstacles which the previous capitalist order had been unable to overcome. Such sentiments are well captured in the interviews which Brunnbauer et al. (2022) conducted with workers from the now-defunct shipyards in Gdańsk (Poland) and Pula (Croatia), two flagship companies from the state socialist period. In a similar vein, a Gallup poll conducted in 2023 showed that Bulgarians view the 1980s as the best decade in the country's recent history, followed by the 1970s; only then, and with some distance, come the 1990s, the 2000s and the 2010s (in this order).[1]

The second narrative dominates Western academic literature. In this perspective, the CPEs functioned relatively well until the early 1970s, delivering high economic growth and better living standards. The inherent contradictions of the economic system showed only later, leading to lower growth rates and the political collapse of 1989–1991 (Bergson 1987, Easterly&Fisher 1995). The economic logic is simple: CPEs are good at "extensive growth" (i.e., growth based on increasing capital and labour) but poor at "intensive growth" (i.e., growth based on using factor inputs more efficiently). Since intensive growth becomes more important relative to extensive growth, as economies mature, a growth slowdown over time was unavoidable. Please note that the academic discourse is primarily concerned with economic growth rather than living standards. Yet, to the extent that growth is benchmarked per capita, and GDP per capita is used as a living standard indicator – which was common practice in the 1980s and 1990s – the two approaches amount to the same in actual research practice.

[1] When was the Best?, *Society and Values*, *Gallup International Center for Public and Political Studies*, 8.2.2023, at <https://www.gallup-international.bg/en/47455/when-was-the-best/>, Last accessed on 13th September 2024.

The two narratives partly concur, partly contradict each other. They overlap in that they both subscribe to the idea of rising living standards. Yet, they disagree on when such improvements materialised. The academic discourse views the 1950s and 1960s as crucial (essentially, the period until the first oil price shock of 1973). A Golden Age of Western European economic growth is mirrored by a Silver Age in Eastern Europe. By contrast, the public discourse focuses their positive appraisal on the 1970s and 1980s. Both cannot be true at the same time.

We shed new light on living standards by broadening the historical context in two dimensions. First, we extend the analysis by including the interwar period. It would be ahistorical to begin an enquiry into living standards under state socialism only in the late 1940s, when the communists began reorienting the economic system according to their own models. We agree with the popular discourse in at least one aspect: evaluating living standards requires knowledge of what came before and after the period we are primarily concerned with. The public discourse looks towards the 1990s and what it perceives as a significant erosion of living standards. In our case, we propose to go further back in time. The collectivisation of agriculture and the forced industrialisation policies were a fundamental break with the past. Assessing this new world requires an analysis of what preceded the fundamental changes of the late 1940s.

The collectivisation of agriculture, a hallmark policy of state socialism, leads to the second area where we transcend earlier research: how did living standards in the countryside develop? In their magisterial survey of the quantitative economic history of Russia – by far the best researched Eastern European country – , Zhuravskaya et al. (2024: 57-59) list only a single case of establishing an agricultural wage series (Allen 2003). Typically, living standard studies for state socialist economies are exclusively concerned with workers in urban areas (most recently by Allen&Khaustova 2019). The reasons for this self-limitation remain elusive. We cannot find any justification for it given that the vast majority of people in Eastern Europe were working in agriculture when state socialism arrived. Indeed, it often took decades for the majority of the population to reside in towns. If the claim to fame of state socialism was to improve living standards by moving them from “farm to factory” (in the words of Robert Allen’s eponymous 2003 monography on Soviet industrialisation), then we need to know what life on that farm looked like. Moreover, there is a fundamental difference between industrialisation and urbanisation under capitalism as opposed to state socialism. Under capitalism, we can safely assume that life in the countryside was worse than in the cities; why else would people have moved to the towns? Yet, under state socialism, the decision to move was not taken by the individual but by the Communist Party. There is the distinct possibility that life on the farm was in fact better.

There are four good reasons to use Bulgaria as a case study. First, being the epitome of a peasant nation, Bulgaria developed an early scholarly interest in all aspects of social life and economic conditions in the countryside. In stark contrast to other Eastern European countries, we can track not only city life a long time in the past (Daux and le Play, 1855), but also possess numerous quantitative and qualitative accounts of living conditions in towns, villages and in the countryside. Scholars like

Mollov (1911, 1927, 1940), Mocheva (1938, 1946), Kalapchiev (1941) or Totev (1943), all clustering at the Institute for Agricultural and Economic Research in Sofia, as well as K. G. Popov (Popov and Penchev 1909) and Kiranov (1946), two heads of Bulgaria's General Directorate of Statistics, laid the statistical foundations for research on both rural and urban standards of living. Scholars such as Mocheva had lived and studied in the United States (Cornell University in her case) and they implemented the state of the art in their native Bulgaria. Such collaborations also created academic interest from abroad, and foreign academics such as the Cornell sociologist Irwin Sanders (1949) and the Canadian anthropologist Gerald Creed (2005) embedded themselves in Bulgarian villages for extended periods of time, leaving behind invaluable accounts of daily life in the Bulgarian countryside from the 1930s to the 1980s.

Second, Bulgaria was the most "economically backward" country when state socialism arrived in the mid-1940s, to employ Gerschenkron's well-known typology of European economic development Gerschenkron, 1962). It was the least industrialised country at the onset of the communist period and had one of the highest shares of rural population in Europe. This conventional wisdom has not gone completely unchallenged, but the relevant discussion largely centres on the reliability of the data for Romania and Yugoslavia (Schulze&Kopsidis, 2021; Morys, 2021). In the Western academic narrative, then, state socialism should have worked particularly well for Bulgaria. Should this not be the case, as we will show, such a finding would undermine, by extension, any claim of state socialism's suitability for more advanced COMECON economies such as Czechoslovakia. Third, Bulgaria remained the COMECON country most committed to "classical" state socialism when the economic and political system was increasingly challenged after the 1973 oil price shock. Other countries liberalised (Hungary), revolted (Poland) or went their own way (Romania), and many took out Western loans to increase consumption and investment in the new, harsher macroeconomic realities of the 1970s. Foreign credits excluded, Bulgaria did little or none of that and kept the original model largely unchanged until 1989 (Lampe, 1986). Fourth, recent research has shown that inequality within social groups (i.e., peasants and workers in our case) was low in the Bulgarian case both before and during state socialism compared to other Eastern European countries (Nikolic et al., 2024). This implies that operating with one single series for each group can deliver meaningful results when comparing the two groups with each other.

The remainder is structured as follows. Section 2 outlines Bulgarian political, economic and social developments from the 1920s to 1989. In providing the historical context, it sets the stage for our empirical analysis of living standards. Section 3 explains our data which are a combination of published and archival sources from Bulgaria and abroad. Section 4 forms the centrepiece: we will show how limited living standard advances were for much of the state socialist period. It was not until the 1970s that living standards unequivocally exceeded interwar levels. Our findings are particularly discomforting for the rural population which was the big loser of collectivization and forced

industrialization policies. Wages increased throughout the 1970s and the 1980s, but far less so than Maddison's GDP per capita estimates which are often used as a proxy for living standards. Chapter 5 summarises and concludes.

2. The political, economic and social background in Bulgaria, 1920s – 1989

The interwar period

Modern Bulgaria came into existence in 1878 after nearly 500 years of Ottoman rule. Not surprisingly, the economic and political development became the key priority of the country's political elite from the outset (Crampton, 2007: 96-107). A new administration had to be created from scratch and increased attention was paid to the integration into the international economy. To meet these objectives, subsequent Bulgarian governments invested heavily in railroad construction and shouldered the creation of national industry until the Balkan Wars (1912-1913) and the First World War. A system of increasing state protection took hold since the mid-1890s to assist the fledgling industry. The results of this policy were dubious at best, giving limited strength to a small urban sector in a still predominantly rural economy (Lampe, 1986: 41; Lampe, 1975: 83). Bulgaria remained a peasant nation with dwarf, subsistence farming and universal franchise (Lampe and Jackson, 1982: 159-195). Unlike neighbouring Romania or Tsarist Russia, Bulgarian farmers owned their plots of land, small though they were. Farmers arranged their production to meet the family needs and to pay taxes. As late as the second half of the 1930s, only 40 to 50 percent of peasant produce ended up for sale on the market, in a clear sign of the weak connection between the agricultural sector and the wider economy (Chakalov, 1946: 59). With such poor fundamentals, all Bulgaria could achieve was extensive growth to keep pace with the fast-growing population.

The Balkan Wars and the defeat in the First World War dealt a devastating blow to the Bulgarian political system. After nearly a decade in the trenches, Bulgarian peasants would no longer acquiesce into the prewar political economy in which the small urban sector held the political clout and generously subsidized the feeble mechanized industry (Crampton, 2007: 157-158). Armed with universal franchise since the late 1870s, Bulgarian peasants could afford a more peaceful approach and avoid the extremes of Russia's October revolution. They voted in large numbers for the Agrarian Party, installing a first peasant government in 1919. This signalled the beginning of a major shift in economic and political priorities that set the tone for the entire interwar period. Although Stamboliiski's radical government was overthrown in a bloody military coup in 1923, many of his pro-peasant policies survived. They remained unchanged and were even extended in the late 1920s and throughout the 1930s (Lampe, 1986). By the mid-1930s, the new paradigm had replaced the previous one in full. Industrial

protectionism gave way to the encouragement of agriculture (Ivanov, 1999: 65). Modernization of the primary sector not only meant economic growth but, of equal importance, also improvements in the standard of living that would keep peasants and the nascent working class away from Bolshevism. Most interwar Bulgarian governments, irrespective of their political and ideological agenda, made consistent efforts to assist peasants from the calamities of the First World War and then the Great Depression.

How successful these policies were, remains a matter of heated discussion. Following in the footsteps of Gerschenkron (1962), most scholarship is dominated by pessimistic accounts of Bulgaria's "failed modernization". In his thoughtful account of collectivization in Bulgaria's North-West, Gruev (2009: 33) extends Palairet's (1998) verdict about "evolution without development" to the interwar period. He believes that by the early 1940s the Bulgarian countryside was trapped in two "fundamental problems": increasing land property fragmentation and "overpopulation," a popular term at the time for the "excessive" peasant labour that is prevented from migrating to towns due to poor job opportunities there. The "hidden unemployment", which some contemporaries estimated to amount to about 1 million people, made villages "pregnant with poverty, social problems and… discontent" (Gruev, 2009: 28). Gruev's "pregnancy" metaphor is borrowed from Avramov (1998: 23; 2007, III: 432-434), who forcefully insisted that "in 1944, in many respects, Bulgaria was pregnant with socialism… due to its deep-rooted egalitarian and communitarian economic tendencies and the organic rejection of capitalist rationality" (1998: 23). "These facts combined more organically in Bulgaria than in many other countries in Eastern Europe, and explain why here the forcibly imposed communism was accepted with considerably smaller resistance" (2007, III: 433). Please note that Avramov refers here to the period from the communist take-over (September 1944) to ca. 1947, when the communist party was already in the driver seat but still in a coalition government with more centrist parties. Crucially, the flagship policies of state socialism, namely collectivisation of agriculture and forced industrialisation, were not yet being implemented and hence could not spark the mass opposition of the Bulgarian population. While Avramov emphasises longer-term continuities between the 1930s and the mid-1940s in terms of leaving behind the liberal political order and a market-based economy, his work – which had a profound intellectual impact on Bulgaria in the 1990s and early 2000s – should not be read in any way as a justification for the human rights abuses associated with the establishment of the planned economy after 1947.

Yet the critical assessment of the 1930s provided by Avramov (1998, 2007) and Gruev (2009) conflict with contemporary accounts of the 1930s as well as with more recent academic voices (Ivanov & Tooze 2007, Ivanov 2012, Morys & Ivanov 2021). We will develop our own position on this issue in the fourth section. The wage series we reconstruct not only speak to the living standard of Bulgarian peasants and workers, but are also insightful on the fundamental, and positive, changes which the Bulgarian economy underwent in the 1930s.

The (questionable) rise of state socialism

Drawing on the decisive military support by the Soviet Union, the Bulgarian communist party quickly established a close grip on power after September 1944 (Brown, 1970: 9-16). Brutal political repressions were unleashed since the first hours of the new coalition government in which the communists controlled all key ministries. Figures vary between seven and 30 thousand killed without a trial in September and October 1944 alone, making this the largest wave of political terror in the history of Bulgaria. The new communist-dominated government put their coalition partners increasingly under pressure and began to model the Bulgarian political and economic system after the Stalinist prototype. Private industries were nationalized beginning in December 1947, preparing the ground for the full implementation of the Soviet economic system (Marcheva, 2016: 68-69). According to this paradigm, Bulgaria had to develop heavy industry through the nationalization of production, forced industrialization, suppression of consumption, and diverting resources from the primary to the secondary sector (Dobrin, 1973: 150-154).

The standard-of-living – which had already come under pressure after Bulgaria joined the active war-hostilities in September 1944 – was further squeezed to finance the new economic policy objectives. Party propaganda praised the new "ascetic morality", a sacrifice that everyone was asked to make for a better future of society. To fulfil ahead of schedule the two-year plan (1947-1948) and then the first five-year plan (1949-1953), private savings were "nationalized" in two steps by means of the 1947 and the 1952 currency reforms, an expropriation in all but name (Marcheva, 2016: 97). Conversely, the small but politically important working class received a substantial improvement in their incomes. Workers' nominal wages increased as soon as October 1944 and then again in January 1945. A thirteenth monthly salary and additional family allowances were introduced for workers. Taking all measures together, the average industrial salary increased by 65 percent within less than two years (Ludjev, 2005: 341, 343). Simultaneously, food prices were suppressed through administrative measures, especially when compared to those of industrial commodities (Gruev, 2009: 99-101).

The communist regime forced the collectivization of farms as early as 1949, partly in an attempt to crack down on any possible political opposition. About half of peasant households had enrolled in the new collective farms by 1951, giving in to open repressions if softer economic tools such as food requisitions, forced deliveries, pricing and tax policies proved insufficient (Gruev, 2009: 92-95). Tensions increased everywhere in the countryside and erupted into open protests in the North-West of Bulgaria which spilled over to other regions. In many villages peasants loudly demonstrated their dissatisfaction with the new collective farm and "plundered back" their livestock and agricultural equipment that had recently been nationalized together with their farms. Local administrations were flooded with tens of thousands of written declarations for withdrawal from the collective farms. The state retaliated with brutal repressions but had to significantly slow down and even pause the process of collectivization until 1955-1956 (Gruev, 2009: 155-212, 262). The campaign was finalized only in

1959, achieving almost full collectivization with nearly 100 percent of agricultural land handed over to collective farms.

The dramatic squeeze on the standard of living during the late 1940s and the collectivization of land that gained momentum in the early 1950s brought Bulgaria on the verge of a civil war. If official figures are to be trusted, the anti-communist guerrillas (known as *goryani*) constantly grew in numbers. From 173 fighters in 1945 and 780 by the end of 1948, they reached 1,520 in 1950. The Bulgarian security service referred to 3,130 "bandits" that operated throughout the country in 1952 and 1953. Altogether, between 1945 and 1953 more than 7,000 people enlisted at the *goryani* resistance (Znepolski et al., 2019: 151, 153).

Deprived of their land, peasants flocked to the cities, following "the path of investments" in industry, as the Canadian anthropologist Gerald Creed (2005: 138) described it. Slightly more than 50% of Bulgarians lived in cities by 1970, a number which increased to 67.6% in 1989. The transformation from the erstwhile peasant nation to an industrial society becomes even clearer when looking at measures for structural change. The combined secondary and tertiary sector employment grew from 29% to 86% between 1946 and 1985. Rapid structural change posed problems to the standard of living that slowly picked up again since the early 1950s. Free medical care was introduced in 1951 (Dellin, 1957: 251-54) and price reductions in essential food items followed in 1952, the year when food rationing was finally discontinued (Brown, 1970). Rapid urbanization, however, created severe housing shortage in towns and cities that was never fully tackled until 1989.

The fall of state socialism

Administratively set prices paired with the central planning of production came to plague the economy with constant shortages. In fact, "the "economics of shortages" became the defining element of state socialist economies (Janos Kornai). Probably most biting for the population were the deficiencies of particular food items. Collectivized agriculture found it difficult to keep pace with the rising demand for fruits, vegetables, meat, and dairy products. To remedy this, Bulgaria launched a first programme for economic reforms in 1963 that would facilitate its shift from extensive to intensive growth. In the assessment of Vogel (1975: 205-206) and Brown (1988: 200-201), the so-called New Economic System introduced only "mild corrections" to the planning mechanism, rather than a genuine decentralisation and liberalization of economy. In any case, it was hastily abandoned following the Prague Spring of 1968. Instead, various surrogates of reforms were introduced, such as a programme for technological innovations and consolidation of factories and collective farms into new gigantic production units (Ivanov, 2007b: 78-91).

The 1970s oil shocks pushed the Bulgarian economy out of balance. Foreign debt grew quickly, and debt default seemed unavoidable by 1976-1977. Yet the risk of default pushed the Bulgarian leadership back on the reform track. A new progamme for liberalisation was prepared in 1979 that became known as the "New Economic Mechanism". It was less ambitious than the first wave of reforms

in the 1960s and was abandoned after the arrival of generous Soviet economic assistance (Ivanov, 2007b: 98-101). Unlike the first debt crisis of 1956-1964 – when Bulgaria sold its gold reserves to continue the service of its liabilities to Soviet banks (Vachkov and Ivanov, 2008: 103-126) – , this time Moscow opened its famous "debt umbrella" and came to the rescue of the comrades in Sofia. The Soviet Union agreed to provide 400 million rubles as an annual subsidy to top-up the prices of agricultural produce that was exported to the Soviet Union. Furthermore, the Kremlin increased its oil-shipments to Bulgaria to quantities considerably exceeding local needs. This generous policy allowed the Bulgarian government to venture into large scale re-export of Soviet crude oil to Western Europe. These oil shipments constituted more than half Bulgarian hard currency export earnings in the early 1980s (Vachkov and Ivanov, 2008: 187).

Yet the loosening of debt constraints – which were nothing but the external manifestation of the serious imbalances and the low growth of the Bulgarian economy – faded away after some years and the country entered a new spiral of economic downturn. With Mikhael Gorbachev at Moscow's helm, Sofia could no longer count on Soviet generosity (Ivanov, Todorova&Vachkov, 2009, v. 3: 275). The old reform packages of the 1960s and the late 1970s were dusted off and given the new name of the "July Concept" (that is, the July of 1987).

The proposed "July concept" was old wine in new bottles. In their substance, the three reform packages outlined in this section were almost identical; a clear sign that very little of the earlier reform blueprints had been implemented. The "New Economic System" of the 1960s, the "New Economic Mechanism" of the late 1970s and the 1987 "July Concept" all envisaged the decentralization of planning and the reduction of mandatory indicators; the decentralization in management and decision-making processes to individual production units; establishing a closer link between labour remuneration and economic result of the production unit; the application of "economic levers" (i.e. economic tools): salary, profit, prices, credit, interest, etc., in order to create "a strong interest of economic producers to look for specific optimal solutions" (Ivanov, 2007b: 65, 97-98, 112-113).

The half-hearted implementation of all three reform packages is probably best explained with the natural fear of the communist leadership that economic changes would inevitably reduce its political power and control. Consequently, the Bulgarian government made all efforts possible to propose and discuss reforms but never to implement them. It's impossible to say it better than the protagonist himself, namely Todor Zhivkov who was the leader of the Bulgarian communist party from 1954 to 1989: "the main problem is how to decentralize [the economy] and at the same time for the [political] center to maintain its control" (Ivanov, 2007b: 23).

The inability to reform in the mid-1980s translated into another cycle of mounting foreign debt. Yet this time, the Soviet Union under Gorbachov stood firm and proved unwilling to rescue the sinking Bulgarian economy. Poor debt management and contradictory reform policies pushed Bulgaria into a downward spiral that ended with the toppling of the communist regime in November 1989 and a unilateral debt default in March 1990.

3. Reconstruction of real wages; sources and methodology

The real wage is the amount of money a person receives in exchange for his/her labour after factoring in the effect of inflation. It provides a good measure for the command over commodities enjoyed by ordinary people. In our context, it serves as a simple-yet-powerful benchmark for "who earned more": cities or countryside. Two pieces of information are required: nominal wages and a robust measure of inflation.

Nominal wages

Two sets of nominal wages are available for pre-World War II Bulgaria. Starting in 1887, the country's General Directorate of Statistics (GDS) observed the daily incomes of three different categories of labour: ploughman, day-labourer and mason. The ploughman and the mason were seen as representative of rural and urban work, respectively. By contrast, a day-labourer was unskilled and was used in both settings. Until the mid-1920s, the wages of factory workers were recorded only during industrial censuses (1904, 1909, 1911, 1912 and 1920). Starting in 1928, national statistics began with regular observations of industrial wages, slowly increasing the number of the industrial branches covered. With the onset of the Great Depression, the collection of industrial wages received more attention. The ploughmen wage series was discontinued in 1934, but we see detailed information on secondary sector wages appearing which was broken down by sex, age group (below and above 18 years), and industrial sector.

We owe the second set of nominal wages to the pioneering work of Chakalov (1946) on Bulgarian GDP 1924-1945. Chakalov reports the annual income of the various social groups (peasants, factory workers, artisans, civil servants etc.), which Chakalov obtains by dividing the net income of the respective sector – both in cash and in kind – by the number of its employees. For our purposes, we are particularly interested in his estimates for the primary sector because of the sudden stop of ploughmen wages in 1933. Due to the specific nature of the Bulgarian smallholder agriculture, in the case of peasants, Chakalov's series represents the household (and not the personal) cash and kind income. For the overlapping years of 1924-1933, both sets of rural wages deliver almost identical results (average difference: 7.8%). As the Chakalov series is slightly lower for most observations, we choose the Chakalov series with a view towards biasing our results against our own hypothesis.

The regime change in 1944 opened a whole new chapter in wage studies. Following a decade in which wages were not reported systematically and on time (we could find wages for 1948, 1950 and 1952 being published only with a delay more than ten years), the Central Statistical Office (the new name for the GDS) launched detailed observations of annual salaries. The nationalization of industry in 1947 and the collectivisation of land (achieved in 1959) offered the government and its statistical agencies unparalleled command over the economy, including its statistical material. Regretfully, the

data were published only in highly aggregated form. Nominal salaries were broken down into three categories – workers, peasants, white-collar (third sector employees) – representing the ideological understanding of the class structure of the new socialist state. Additional divisions by industries were available only in the case of the secondary sector. A distribution of salaries by age or sex was not published.

Deflating the nominal wage series

Measuring inflation is arguably more difficult. The literature presents us with three options: (1) divide the nominal wages with a standardized basket, which hitherto we will refer as the "basket approach"; (2) deflate the wages with a CPI index, the "domestic approach"; and (3) convert the nominal wages into USD and then deflate the resulting US-wage series, the "international approach".

We begin with the basket approach which draws on the subsistence basket of Allen&Khaustova (2019), but adapts it slightly to Bulgarian consumption patterns. To measure consumption, we use four different food items, representative of the Bulgarian diet at the time (Mocheva 1938, 1946): 280 kg of low-quality bread, 11.5 kg of beans, 7.7 kg of cheap meat (mutton), and 3 kg of butter. We exclude potatoes, which became widely used only in the 1960s and 1970s, and put instead greater weight on second quality wheat bread (unlike in the Soviet Union where rye bread was used instead). Just like Allen&Khaustova (2019), our basket provides roughly 2,100 kcal per person on a daily basis. The non-food segment of the basket is identical with Allen&Khaustova (2019) and consists of 1.3 kg of soap, 4 meters of cheap cotton cloth (the so-called *amerikan*), 3 litres of lamp oil/5.2 kg of tallow candles, and the equivalent of 3 million BTU equal to 108 *Pernik* sorts of Bulgarian black coal. Electricity and central heating became the main source of heating in the early 1960s, however, official statistics fail to provide their price per kilowatt or megawatt hour; hence our preference to coal.

In our second approach, we deflate nominal wages with the newly constructed Bulgarian CPI index that stretches from 1750 to 2020 (Ivanov, Simeonova-Ganeva and Ganev 2022). Their consumer basket consists of twenty items (bread, rice, beans, meat, olive/sunflower oil, cheese and butter, onion, apples/grapes, barley, sugar, salt, wine and *rakiya* brandy, tobacco/cigarettes, woollen/cotton cloth, candles/lamp gas/brown coal, lime/cement, soap, and cart/railway transport) which are deemed representative of the consumption patterns of Bulgarians before and after World War II. In this way, the authors obtain a constant-basket CPI. In order to double check the accuracy of their own findings, the authors use a second index they compile: composite CPI that links together existing official price indices published by the national statistical office from 1887 until present. The constant-basket CPI and the composite CPI values are highly correlated for the 1888-2020 period in which they overlap (Pearson's correlation coefficient equals 0.9254). In a final step, the authors combine the constant

(basket) CPI and composite CPI into a single chain index series, which can be easily transformed into base-year index. We use this series to obtain wages in Bulgaria in 1924-constant prices.

Bulgarian exchange-rates 1924-1989, official rates and black-market rates

Finally, in our "international approach," we convert nominal wages first into USD and then deflate with a US CPI (from the Taylor-Schularick data base). This approach is beset with considerable methodological problems, as the Bulgarian lev was freely convertible only for three out of 65 years under observation, namely from 1928-1931. Bulgaria lifted wartime capital controls in 1928 in exchange for obtaining an international loan under the auspice of the League of Nations, but closed the capital account again in 1931 in the wake of the European financial crisis (Avramov, 2023). Yet in the process, we have produced two exchange-rate series for state socialism – one official and one black-market – the latter, to the best of our knowledge, being the first such data set for any state socialist economy.

Just like prices, under centrally planned economies exchange rates had almost exclusively an accounting function. Resting on an obsolete gold parity, they carried little economic information (IMF, 1990). The notion of an official exchange rate was constantly undermined by the Bulgarian National Bank by means of operating several additional preferential rates that differed according to the exported commodity and the market it was directed to. This system carried strong echoes of the currency controls introduced in 1931 and operating during the Great Depression. The main difference was the additional feature that under communism even the "illegal" possession of foreign currency by Bulgarian residents was incriminated.

One of the few legal ways to obtain U.S. dollars or Deutschmarks was to work in Third World countries with friendly regimes. Tens of thousands of Bulgarian engineers, architects, agronomists, and teachers went to Iraq, Libya, Angola, Mozambique and Nicaragua during the 1970s and 1980s. They received their salary abroad in hard currency which could then – after a considerable percentage was seized by the Bulgarian state - be spent at home in *Corecom* stores for western consumer durables or fashion clothes otherwise unavailable in Bulgaria.

The chronic shortage of such items coupled with their ready availability in *Corecom* stores against hard currency resulted in Bulgarians jokingly referring to the *Corecom* stores as "Correction of Communism." It also encouraged many Bulgarians to turn to the black market. With the growing international tourism along the Black Sea coast, illegal trading with hard currency proliferated. Fearsome Bulgarian secret police managed to intercept only the tip of this iceberg, yet, thanks to recently declassified secret files, we were able to collect black market dollar rates from 1964 to 1989 almost on annual basis (the secret police punished the offender harshly but indicated in their reports at

which exchange-rate the uncovered illegal transaction had taken place). For the late 1940s and the early 1950s, we acquired information from the then classified Annual Report of Bulgarian National Bank. Finally, we draw on a unique source for 1942, namely the court proceedings of the trial against the Central Committee of the then secret Communist Party. A wartime investigation revealed that the Soviet Union had regularly funded communist guerrilla with considerable sums in hard currency. The U.S. dollars and the Swiss francs employed in this context by Soviet agents were exchanged for levs on the black-market at a rate recorded later in the court proceedings (Alexandrova, 2022: 353).

4. Real wages in Bulgaria, 1924 – 1989

4.1 Real wages prior to communism

Figures 1 and 2 show real wages of Bulgarian peasants and workers between 1924 and 1989 based on the two approaches explained in the previous section. Figure 1 presents real wages as multiples of subsistence baskets for a family of four. Figure 2 offers real wages in constant 1924 prices. The results differ in the detail but concur in the broad message. First, peasants enjoyed higher living standards than workers in the interwar period. Second, a reversal of fortunes between city and countryside occurred almost instantaneously with the advent of communism. Third, living standards advanced under state socialism but at low pace.

[Figures 1 and 2 about here]

We focus first on the interwar period. Three results stand out. First, the basket approach delivers wages consistently above unity. Second, earnings in the countryside were higher than in the cities, and often by a wide margin. Third, the income difference in the 1930s grows rather than falls. Basket wages were consistently above unity, with values ranging between 1.1 (workers in 1929) and 4.1 (farmers in 1941). Values are typically between 1 and 2 for workers and between 2 and 3 for farmers. Such a range of values is plausible and boosts confidence in our results. Values below unity are difficult to interpret, as they imply a wage earner was unable to purchase a consumption basket which aims at no more than ensuring subsistence.

The real wages of peasants were considerably higher than of workers throughout the interwar period. This finding questions the conventional wisdom of an "immiserized countryside" that is often encountered in the literature on Bulgaria (cf. above), but also a mainstay in the literature on Soviet industrialization (Allen 2003). The negative view on peasants and their living conditions goes back to

Karl Marx's "Communist Manifesto" (1848) in which he called for the "rescue [of] a considerable part of population from the idiocy of rural life".[2]

Wages reflect (marginal) productivity. The question then is why productivity in agriculture was so high and why it even increased in the 1930s. Figures 1 and 2 are more in line with the recent, more positive assessment of the interwar period by authors such as Tooze & Ivanov (2007) and Ivanov (2012). Their work is not iconoclastic per se. After many decades of historiography inspired by Marxist interpretations of economic development (cf. section 2), their work reconnects to an older literature by researchers such as the Cornell sociologist Irwin Sanders (1949: 186-187, 215), the agronomist Yanaki Mollov (1940) and the economist Toshev (1937). They all emphasized the "visible progress" in the Bulgarian countryside, and argued that the "achievements in agricultural transformation deserve serious attention" (Toshev 1937: 148-149).

These observations by contemporaries are best explained by the fundamental changes which occurred in Bulgarian agriculture in the 1930s. Ivanov & Tooze (2007: 693-694) showed that both output per land and output per worker increased in the 1930s, as farmers needed to make a virtue out of necessity. The Great Depression and the falling food prices further raised the pressure on Bulgarian peasants to hasten the ongoing transformation to cash crops and to more progressive agronomical practices. Therefore, the economic calamities of the early 1930s served as a catalyst, amplifying pre-existing trends in agriculture (intensification), demography (fertility transition) and education (literacy). The pre-war "extensive growth" model had reached its limits already by the 1920s, as all available land had been put under the plough by the time of the Balkan Wars (1912-1913). The new land-saving intensification rested on low-cost improvements like drought-resistant seeds, metal ploughs, and green manure with clover, alfalfa, and beans fields that reduced fallow lands by factor 2.5 (Ivanov, 2007a: 308-311). Intensification also meant a growing share of cash-crops like tobacco, fruits and, vegetables, drifting slowly away from the self-subsistence grain agriculture and increasing the cash at peasants' disposal.

While farming became more productive in the 1930s and increased wages in turn, there was little reason to expect similar dynamics in the cities. Being a late-comer to industrial development, Bulgaria pursued an industrialization policy that competed with foreign exports based on low labour costs. Factories preferred women and children to men. Early specialization in light-industry branches such as textiles and tobacco processing, in which less physical effort was required, also contributed to such sex and age distributions in the nascent Bulgarian secondary sector (Ivanov, 2021: 129–137). Given the high-income levels of subsistence farmers, adult males in their prime age flocking to the cities were mainly the sons of peasants who did not inherit the family farm (as there was no

[2] Quoted after https://www.marxists.org/archive/marx/works/download/pdf/Manifesto.pdf. Last accessed on 13th September 2024.

primogeniture in Bulgaria, the birth order played little role in this process). Yet given exceptionally high fertility levels in the early 20th century, there were still significant numbers of them making their way to the growing urban centres. Secondary education in near-by market towns as well as apprenticeships were among the easiest exits for adolescents – predominantly male but some also female. After completing their education or training they would remain in towns taking up secondary or tertiary sector employment. Furthermore, in areas with shortage of arable land, like in the mountainous hinterlands of many industrial centres (Gabrovo, Samokov, Plovdiv and Sofia), many female adolescents and young adults joined those already enrolled in local tobacco or textile factories. Last but not least, domestic service proved another possibility for village girls to move to towns where they could save for dowry and send some money to their family members remaining on the countryside (Ivanov, 2021: 130).

[Table 1 about here]

Tables 1, 2 and 3 document these dynamics. Table 1 shows that the urban population grew at the same rate as the rural population until the First World War, but at about double the speed in the interwar period (2.3% vs. 1.2%). As this process lasted a quarter of a century in the Bulgarian case, the share of the urban population – which had been stagnant at ca. 18–19% for as far back as Bulgarian statistics allow us to see – grew by at least five percentage points. There was no "overpopulation" in the countryside, as the literature used to argue; rather, they were channelled slowly, but surely into the growing cities. Contemporary experts on agriculture such as Dolinski (1937: 101-112) were well aware of these developments.

[Tables 2 and 3 about here]

Consequently, urban employment grew. The rural population which made their way to the cities took up new jobs in the secondary and the tertiary sectors. Table 2 shows dynamics reminiscent of table 1. While employment growth in the primary sector was highest before the First World War, it fell behind the secondary and the tertiary sector in the interwar period by more than one percentage point per year (1.5% vs. 2.7% vs. 2.8%). As a result, the secondary and the tertiary sector combined picked up from 18.5% in 1920 to 24.2% in 1946. Within the two modern sectors, industry and domestic services grew particularly rapidly. The same duality – agriculture dominates until the First World War, but then falls back – is also visible in table 3 where the interwar growth rate of the secondary and the tertiary sector combined exceeded agriculture by more than one percentage point (3.8% vs. 2.7%).

If the findings presented above are correct, then by the late 1930s Bulgaria had begun to shift gear towards modern economic growth. Despite the considerable political, economic and military turmoil during the 1930s and the early 1940s, Bulgaria succeeded to break with the previous stagnation phase and venture into structural change, of course without completing it. Yet the foundations had been

laid. To use Rostowian terminology, we can think of the interwar period, and certainly the 1930s, as a preparation phase for the take-off.

4.2 Collectivization of agriculture and forced industrialization: the reversal of fortunes between city and countryside

Peasants had earned better than workers for as long back in time as the available statistics allow us to ascertain. Yet all this changed quickly and decisively with the arrival of communism in 1944. Two observations stand out in figures 1 and 2. First, the drop observed for the peasant population was substantial. By 1952, wages had fallen to a quarter of their late 1930s level; basket wages even came close to subsistence at 1.1. Second, wage growth was very limited under state socialism. The objective of the forced industrialization policies was to engineer structural change, i.e., turning the interwar farmers into socialist workers. Consequently, the most appropriate comparison is between interwar *rural* wages and post-war *urban* wages. On this basis, Bulgarian wages reached in 1941 (basket approach) and 1938 (1924 real wages) were surpassed only in 1963 and 1975, respectively.

We can rationalize the sizeable drop in rural livings standards by explaining in some detail the specific policies pursued after 1944. The communists implemented all elements of the Stalinist economic playbook within a relatively short time period after assuming office. Forced industrialization and the collectivization of land were the main tools for the intended swift structural transformation. An important link between the two policies was the so-called forced delivery system which seized a growing part of the harvest and channelled it into towns to feed the growing working class. On the one hand, the forced delivery system, together with the new pricing and the taxation policies, enabled the compulsory resource transfer from the countryside to the cities which is a hallmark of forced industrialization (Allen 2003). On the other, it also weakened the opposition of the farming population - i.e, ca. 75% of the Bulgarian population at the time – to collectivization: farmers could choose between the expropriation of their farm (i.e., collectivization) or the seizure of the largest part of the harvest generated on their farm. It was no palatable choice.

The speed at which forced deliveries and collectivization operated were remarkable and account for the large drop in wages in the first decade of communist Bulgaria. A system of forced deliveries had already been introduced in the early 1940s as a wartime measure (Gruev, 2009: 92). The new regime could build on these purely administrative measures and expand them significantly after 1944, now with a view towards syphoning off rural resources for the purpose of forced industrialization. Lampe (1986: 148) estimates that by 1950, 75 percent of the grain harvest was seized by the state and redirected to feed the growing working class and pay for new industrial investments. An increasing number of

farmers gave up and joined the newly formed collective farms (Trudovo Kolektivno Zemedelsko Stopanstvo, colloquially known by its abbreviation TKZS or Labour Collective Agricultural Farm).

Peasants remaining outside the new system were left with a meagre 600 grams of wheat and 200 grams of maize per person per day after delivering their forced procurement. Such numbers were below even the lowest wartime rations (950 grams of wheat in 1943-44, cf. Gruev, 2009: 92-94). To make matters worse, families remaining outside the new system of collective farms received an obligatory crop plan which determined what should be grown on their land. Such plans were designed in a manner to limit the crop output to a level barely exceeding what was required for the forced deliveries. The intention was clear: peasants were meant to join the TKZS as soon as possible. Starting from a low base of 110 collective farms in 1945, the number increased within two years to 549 TKZS which combined held 10 percent of the arable land (Gruev, 2009, 78, 85). By 1951, 56% of peasants had joined the *kolhoz* and full collectivization was eventually achieved in 1959 (Marcheva, 2016, 102). Once a farmer succumbed to the economic (and sometimes political) pressure and enrolled at the TKZS, he became a hired worker on the farm he had once owned. It is precisely these wages which we pick up in figures 1 and 2.

Deprived of their family land and only paid "symbolic wages" (Creed, 2005, 137), peasants flocked to towns. The rural exodus began immediately with the forced collectivization, reaching its peak during the next two decades when nearly 70,000 peasants left the countryside annually at a time when the total Bulgarian population was 7.5 million (Brunnbauer, 2010, 188). By 1969, more than half (51.7%) of Bulgarians lived in cities, namely 4.37 million people. Urbanisation increased to ca. 65% by 1983 and then stagnated.

Figures 1 and 2 suggest that it was much easier for the communists to lower wages in agriculture than to raise them in industry. Given their (almost) total control over the economy, they could order by government fiat what was politically desirable: the urban proletariat should earn more than the peasant population. Yet they could not overcome the very real obstacles which prevented productivity growth in industry and, in turn, urban wage growth. It is worth noting some of these constraints.

First, collectivizing agriculture was easy compared to planning cities and building up industry. At first, communists supported migration in such large numbers, partly to undermine any remaining rural opposition, partly to secure an abundant workforce for the new factories. Yet migration soon reached destabilizing levels. Bulgarian towns were increasingly unable to absorb the population inflow, causing structural unemployment (Marcheva, 2016, 115-116) and a growing housing crisis (Brunbauer, 2010, 191) in a situation where industrial growth would not keep pace with city growth. Consequently, the state began with measures to slow down the rural exodus as early as the mid-1950s. E.g., administrative restrictions on settlement in the five largest Bulgarian cities were enacted in 1955

(Brunbauer, 2010, 192). A decade later these limitations spread to practically all cities and most of the towns.

Such policies were also warranted, because the primary sector increasingly suffered from a shortage of agricultural workers. Mechanization of agriculture and the increased application of artificial fertilizers substituted only partly the former labour force, and by the 1960s the primary sector was short of workers. The Bulgarian communist party was urban by ideology. Yet as time went on, the authorities reassessed the importance of the countryside on the basis of three interrelated deficits: first, the lack of agricultural workers and, second, the lack of food for the growing urban population. A third, and possibly even more damaging, deficit developed in the form of convertible currency (cf. section 2). In a harsh verdict of Western markets on the success of Bulgaria's forced industrialization, few of the industrial items could be sold against hard currency. Yet the 19th century export staple of agricultural produce never went out of fashion. Marcheva (2016: 404, 410) quotes official estimates that food accounted for 60% of Bulgarian convertible currency exports in the 1960s and for 45% during the 1970s. As economic conditions worsened and the country accumulated large foreign debts (Bulgaria was one of many Eastern European countries which took out sizeable Western loans after the 1973 oil price shock), the countryside's ability to generate hard currency suddenly gave it a strong position in the internal bargaining process.

Faced with this triple deficit, Bulgaria embarked on what the Canadian anthropologist Creed has labelled the "domestication of the revolution" (Creed 2005: 27, 90-92, 283). The brutal extraction of rural resources of the immediate postwar years was increasingly replaced with a velvet-glove policy towards the countryside. The rural sphere "domesticated" the communist party with its urban bias and extracted important concessions for the countryside. Such concessions could take various forms. In practice, they often centred on aligning wages and pensions in the agricultural sector with the higher paying industrial sector, as happened in various stages during the 1970s (Marcheva, 2016, 404, 413). We see this political economy dynamic working out in our data. While maintaining the wage gaps between the two sectors, the authorities paid attention to the gap not exceeding ca. 10% at any given time.

In sum: While living standards picked up again in the mid-1950s, the earlier drop had been such that only by the 1970s the living standard of the average Bulgarian unequivocally exceeded interwar levels. Ye, wages then continued to increase throughout the 1970s and the 1980s, reaching new heights. Do these findings support the public discourse which credits CPEs with delivering considerable living standard improvements by this period in time? We reserve our judgment to our sub-section devoted to putting Bulgarian wages into international perspective (section 4.4) and first address two potential objections against our findings so far.

4.3 Two potential objections

There are two potential objections against our findings. First, socialist peasants and workers might have received the salaries we claim they did, but this revenue stream did not translate into a command over commodities given the economics of shortage associated with state socialism. Second, the real salary was much higher, as so-called social spending formed an important part of the actual salary under state socialism.

The first objection is serious but unproblematic in our context. There is strong anecdotal evidence for long waiting periods for consumer durables such as cars, kitchens, washing machines etc. under state socialism. Yet we were neither able to find any reliable statistics on the precise length of waiting, nor can we think of a straightforward way of discounting our wage series for the waiting period associated with the purchase of a certain number of items in the consumer basket. We can only say that the wages presented amount to upper bound estimates of the command over commodities; which is enough for the purposes of our main argument, namely that wages were and remained low.

The second objection is more fundamental. "Social spending" under state socialism comprised cash benefits and direct in-kind provision of goods and services. In centrally planned economies they were seen as a major tool to "further raise the standard of living of the working class" by toping up their nominal wage (Brunnbauer, 2010: 225-226). "Social spending" involved government transfers for free education and healthcare as well as for subsidized vacations, factory canteens, sportive and cultural events.

Should such spending be included in our wage calculations and how would we calculate them? The first question cannot be answered with a straightforward "yes", as the West European welfare state emerging after 1945 – i.e., the implicit reference point for our living standard comparisons – also involved payments akin to social spending which we would exclude from a real wage series: e.g., free healthcare in the U.K. under the National Health Service (or the 50% contribution to healthcare by employers in West Germany); free primary, secondary and tertiary education; and a heavily subsidized cultural sector in countries such as France, Italy and West Germany. Even subsidized vacations were a common feature in large West German companies in the car manufacturing industry, the media (Bertelsmann), and many other companies (Quelle) committed to the post-war rapprochement of capital and labour. Moreover, political conformity was required to benefit from social spending in state socialism: e.g., a subsidized vacation might come with your workplace in a specific company, but it could be denied if the political credentials were missing. Yet on balance, and in an attempt to bias the results against our own hypothesis, it is worth including the social spending into our analysis.

Important though they were, Bulgarian statistics at the time published "social spending" only in highly aggregated form. Little can be inferred on the exact shares within the "social and cultural needs" item in the state budget, i.e., whether they were used for free education and healthcare, for subsidized vacations, factory

canteens, maternity leave, raising a child or other welfare benefits. The only exception to this rule relates to "pensions" which is singled out as an item on its own. We therefore proceed as follows: We deduct "pensions" from the total of "social and cultural needs" and benchmark it per capita.

[Figure 3 about here]

Figure 3 shows our results. Social spending was consistently below 10 percent of the nominal wage in the 1950s and 1960s. It then rose to values between typically 10 and 15 percent in the 1970s and 1980s, not exceeding 18 percent at any given point. Our numbers are reassuringly close to the numbers estimated by contemporaries (Dimitrov and Dimov, 1973: 49) and quoted by Brunnbauer (2010: 235). We can therefore conclude that including social spending does not change our overall findings on wages in state socialist Bulgaria.

4.4 An international perspective on Bulgarian wages

We have so far evaluated Bulgarian living standards from a domestic perspective based on two different, yet related and widely used approaches. However, the true meaning of real wages often emerges only when put in comparison to living standards elsewhere. Figure 4 converts Bulgarian wages into U.S. dollars and compare our wages series to the GDP per capita data provided in Maddison (2010, 2013).

The first question relates to the year of conversion into U.S. dollars. Maddison (2010, 2013) chooses 1990, but this year falls outside of the state socialist period. 1989 is impractical, as the Bulgarian exchange-rate(s) collapsed together with the communist regime. We therefore choose 1988 as the year closest to Maddison's reference point of 1990 yet falling entirely in the period of heavy restrictions to the flow of capital and people which lied at the heart of the dual exchange-rate system described in section 3.

[Figure 4 about here]

Results for 1924-1940 are plausible, with Maddison's figures nicely between our two series. Wages for 1931-1940 converted into US-dollar might be somewhat inflated, as we are left with no other choice than applying the gold parity between the two currencies, even though Bulgaria operated stringent capital controls. With this caveat in mind, we move on to developments after 1945 which are the focus of this section.

Maddison provides annual data from 1950-1989. Our annual series starts in 1964, plus one observation for 1950. The Maddison series begins in 1950 at a value almost identical to our rural series. Yet the Maddison series then grows substantially faster, outperforming both wage series by 1965 and

reaching approximately twice their value in 1989. Owing to the lacunae in the exchange-rate data, we cannot make any definite statements on Bulgarian US-dollar wages for the decade 1951-1963. But given that Maddison's and our estimates are remarkably close for 1950 and 1964, it is reasonable to assume that GDP p.c. and wages initially moved along the same lines.

Yet what explains the vast discrepancy for the last quarter century of state socialism? To begin with, wages and GDP p.c. are different economic concepts. Wage is compensation for only one factor of production, namely labour. By contrast, GDP p.c. remunerates both factors of production. An explanation might therefore be that the Bulgarian economy became more capital intensive over time and GDP p.c. grew more rapidly than wages; this was the raison d'être of forced industrialization after all. However, such an interpretation relies on "capitalists" collecting "rents" for providing their "capital" to entrepreneurs and companies; a distinctively capitalist approach. The basic idea of state socialism was to abolish "capitalists" and to give workers the full share of their work. In theory, the state owned the means of production; but this never translated into the state collecting any rents. It is our contention that in state socialist economies GDP p.c. and wages should move along similar lines.

It is more likely that Maddison's GDP figures overestimate economic growth after the mid-1960s. GDP calculations of state socialist economies are all plagued by the same problem, namely what prices and exchange-rates to apply. State socialist economies attached little importance to prices and, by extension, to exchange-rates. However, if the objective is precisely to make GDP figures comparable to Western economies, the issue cannot be evaded. Typically, such calculations apply Eastern quantities and Western prices (Vonyo&Markevich 2021); in this case, they apply unrealistically high prices, as Western prices for any given product prices in the higher quality. Alternatively, a GDP reconstruction can use Eastern quantities and Eastern prices; but then the resulting GDP series needs to be converted into Western currency, and the – unrealistically high – official exchange-rate will overestimate the GDP (cf. section 3). In sum, the exchange-rate conversion issue looms large for state socialist economies and suggests that any estimates we obtain are upper bound estimates rather than mid-point estimates.

Crucially, as quality differences between West and East grew over time, price differences grew in tandem. This might explain why the two series in figure 4 begin at similar values but then diverge. The same argument holds for the exchange-rate between the Bulgarian lev and the U.S. dollar. The official parity became increasingly unrealistic when compared to the black-market exchange rate. The bottom line is that our wage series are almost certainly the better indicator for the life of the average Bulgarian.

Drawing conclusions from the Maddison series, by contrast, seriously overestimates the living standard achievements of state socialism. In other words, while living standards clearly improved in the 1970s and 1980s, they improved far slower than Maddison's GDP per capita estimates might suggest. Using the latter as a proxy for living standards would be erroneous in our assessment.

[Figure 5 about here]

Figure 5 takes this logic one step further. Arguably, our results presented in figure 4 – lower though they are than Maddison's numbers – are still biased upwards, as calculations rely on the official exchange-rate. Addressing this concern, figure 5 replaces the official exchange-rate with the black-market exchange-rate when converting Bulgarian wages into Western currency.

We possess fewer observations for the black-market exchange-rate given the patchy nature of our sources (cf. section 3), yet arguably enough to elaborate on the rise and fall of state socialism in Bulgaria. Figure 5 shows an inverted U-shaped curve, beginning and ending at around 400 US-dollars and reaching their maximum value in both 1969 and 1970 at around 2000 US-dollars. The World Bank defines poverty as living on less than a dollar a day, or 365 dollars in a year. In this perspective, Bulgarian state socialism began and ended at values not much higher than the internationally accepted poverty levels! Such low numbers may surprise, as they seem to deny any material achievements to state socialism. Yet they are consistent with the collapse of the political and economic system in November 1989 and the debt default in March 1990.

We would not want to read too much into figure 5 seen in isolation, yet it is worth drawing some insight from figures 4 and 5 where they convey the same message. Both figures suggest that Bulgaria did not see any meaningful improvements in living standards in the 1970s and the 1980s, and possibly even experienced a reversal. Growth was confined to the 1950s and 1960s and then petered out. This finding, here derived from wage data, is consistent with a large and diverse research body which has emphasized the growth slowdown in state socialist economies in the early to mid-1970s (Vonyo & Markevich 2021). Coming from different approaches and argued for by researchers of very different persuasion and methodological approaches, they have highlighted that the deficiencies of state socialism had become abundantly clear by this point in time.

5. Conclusion

We challenge the view that Centrally Planned Economies functioned well until the early 1970s, delivering high economic growth and better living standards. The central part of our work is a reconstruction of real wages in Bulgaria from 1924 to 1989, differentiating between rural and urban dwellers, that is, between peasants and workers. Livings standards as judged by real wages did not rise anywhere near as strongly as proposed by the apologists of state socialism. Only in the 1970s did Bulgarian living standards unequivocally surpass levels achieved already during 1930s. Our results are

particularly discomforting for the rural population which was the big loser of collectivization and forced industrialization policies after 1947.

We are also critical of a view widespread in many Eastern European countries today, according to which the CPEs delivered considerable living standard improvements by the 1970s and 1980s. Wages increased throughout the 1970s and 1980s, leading to new heights. Yet we also show that wage growth remained limited; in fact so limited that our results tend to undermine the credibility of Maddison's GDP per capita series for Bulgaria for the 1970s and 1980s, as least if used as a proxy for living standard developments.

So was state socialism then a failure? The question might not pose itself for Bulgaria in this form, as the country had little choice other than accepting the political and economic model imposed by the Soviet Union after 1944. A better way to approach this thorny issue is to point out that, in purely economic terms, an alternative path of development was available to Bulgaria at the time. We showed that structural transformation was well underway in the 1930s, as evidenced by a growing secondary sector focused on light industries as well as rising urbanization levels. There was simply no need for forced industrialization in a country that underwent the process naturally. In fact, recent evidence suggests that structural change left to market-driven processes proceeds more quickly than if imposed by government fiat (Cheremukhin et al. 2013, 2017; Castaneda Dower & Markevich 2018). Left to its own devices, Bulgaria might have developed like Greece, its Southern neighbour, which developed along similar lines until the Second World War (Schulze&Kopsidis 2021, Morys 2021) but sharply diverged thereafter (Vonyo&Markevich 2021).

So why then did state socialism not reform itself? Starting from very similar levels in 1945, Greece grew nearly two percentage points per year more than Bulgaria until the end of the Golden Age of European economic growth in the early 1970s (i.e., the period for which we have more trust in Maddison's data for Bulgaria given our own reconstruction efforts, cf. section 4.4). By the end of this period, Bulgarian per capita income stood at less than 70% of Greek level. The country needed impenetrable border defences to prevent its citizens from fleeing the country. The problems of state socialism were glaringly obvious, as evidenced by the profound economic reform proposals discussed at the highest level of the Bulgarian communist party in the 1960s and the 1970s.

Yet little changed. Why? There is probably no economic answer available to this question, only a political one. Todor Zhivkov, the leader of the Bulgarian communist party from 1954 to 1989, said it himself: "the main problem is how to decentralize [the economy] and at the same time for the [political] center to maintain its control" (Ivanov, 2007b: 23). The Bulgarian "political center", in turn, relied on the leadership in the Soviet Union which would support only foreign leaders committed to the same state socialist economic model. In our view as developed from the Bulgarian experience, state socialism is an economic model and its functioning can be analysed in economic terms. Yet the advent of state

socialism at the end of Second World War, its continuation for several decades despite its obvious drawbacks and deficiencies, and its eventual demise in 1989 can only be understood in political terms. The Soviet Union had to change first before Bulgaria could choose a more suitable economic model.

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Table 1

The Growth of Cities in Bulgaria, 1887-1946 (000 people)

	1887	**1892**	**1900**	**1905**	**1910**	**1920**	**1926**	**1934**	**1946**
Urban population	593.5	652.3	742.4	789.7	829.5	966.4	1,130.1	1,302.6	1,735.2
Growth rate			*1887-1910*		*1.5%*	*1920-1934*		*2.2%*	
						1920-1946			*2.3%*
Urban population as % of total	*18.8%*	*19.7%*	*19.8%*	*19.6%*	*19.1%*	*19.9%*	*20.6%*	*21.4%*	*24.7%*
Rural population	2,560.8	2,658.4	3,001.8	3,245.9	3,508.0	3,880.6	4,348.6	4,775.4	5,294.1
Growth rate			*1887-1910*		*1.4%*	*1920-1934*		*1.5%*	
						1920-1946			*1.2%*
Total population	3,154.3	3,310.7	3,744.3	4,035.6	4,337.5	4,847,0	5,478.7	6,077.9	7,029.3
Growth rate			*1887-1910*		*1.4%*	*1920-1934*		*1.2%*	
						1920-1946			*1.4%*

Note: Following the contemporary practice, division of settlements into rural and urban is based on their administrative status rather than on their size.

Sources: Statistical Yearbooks (various years).

Table 2

Urban Employment in Bulgaria, 1900-1946 (in thousands)

	1900	**1910**	**1920**	**1926**	**1934**	**1946**
Secondary sector	168.9	190.2	214.3	300.6	293.9	432.9
Growth rate (1900-'10, '20-'34, '20-'46)		*1.2%*			*2.3%*	*2.7%*
Industry	116.5	147.0	175.4	218.1	230.1	357.6
Growth rate (1900-'10, '20-'34, '20-'46)		*2.4%*			*2.0%*	*2.8%*
Tertiary sector	180.1	206.4	235.4	268.6	318.1	481.8
Growth rate (1900-'10, '20-'34, '20-'46)		*1.4%*			*2.2%*	*2.8%*
Domestic services		1.8	4.1	3.5	64.6	65.4
Growth rate (1920-'34, 1920-'46)					*21.8%*	*11.2%*
Total population, active population and primary sector employment as reference points						
Population	3744.3	4337.5	4846.9	5478.7	6077.9	7029.3
Growth rate (1900-'10, '20-'34, '20-'46)		*1.5%*			*1.6%*	*1.4%*
Active population	1862.4	2186.9	2562.8	3071.6	3278.4	4066.1
Growth rate (1900-'10, '20-'34, '20-'46)		*1.6%*			*1.8%*	*1.8%*
Primary sector	1496.9	1774.3	2088.3	2457.4	2612.7	3078.9
Growth rate (1900-'10, '20-'34, '20-'46)		*1.7%*			*1.6%*	*1.5%*

Note: Employment numbers refer to people aged 15 and above.

Sources: Bulgarian Population Census (various years).

Table 3

Sectoral GDP and growth rates in Bulgaria, 1900-1946 (in billions of constant 1939 Leva)

		1900	1910	1921	1928	1934	1943
Primary sector		14.9	18.5	16.7	20.7	22.3	30.1
Growth rate	*1900-1910*		*2.2%*		*1921-1943*		*2.7%*
Secondary sector		*3.9*	*4.4*	*5.1*	*6.2*	*6.2*	*10.1*
Growth rate	*1900-1910*		*1.2%*		*1921-1943*		*3.2%*
Tertiary sector		7.6	10.1	10.4	12.2	12.4	25.1
Growth rate	*1900-1910*		*2.9%*		*1921-1943*		*4.1%*
Secondary and tertiary sector combined		11.5	14.5	15.5	18.4	18.6	35.2
Growth rate	*1900-1910*		*2.3%*		*1921-1943*		*3.8%*

Note: Mining is included in the secondary sector. The numbers above are adjusted to the territory of present-day Bulgaria.

Sources: Own calculations based on Ivanov (2012).

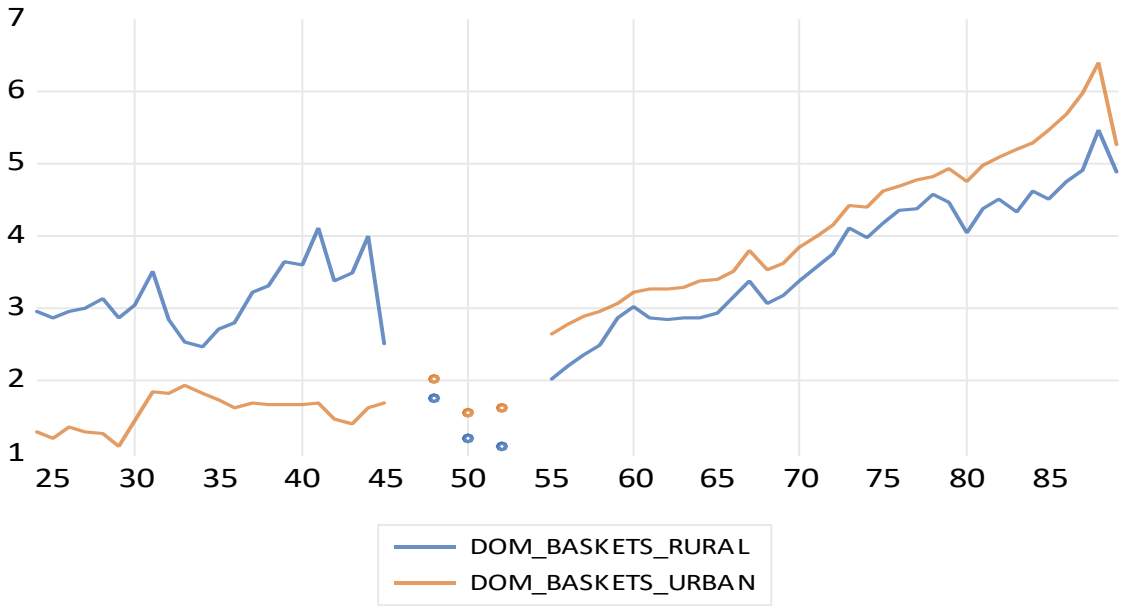

Figure 1: **Real wages of Bulgarian peasants and workers, 1924-1989.**

Unit: Allen-baskets, with minor adjustment for Bulgarian consumption patterns.

Sources: Own calculations based on methodology and sources explained in the main text.

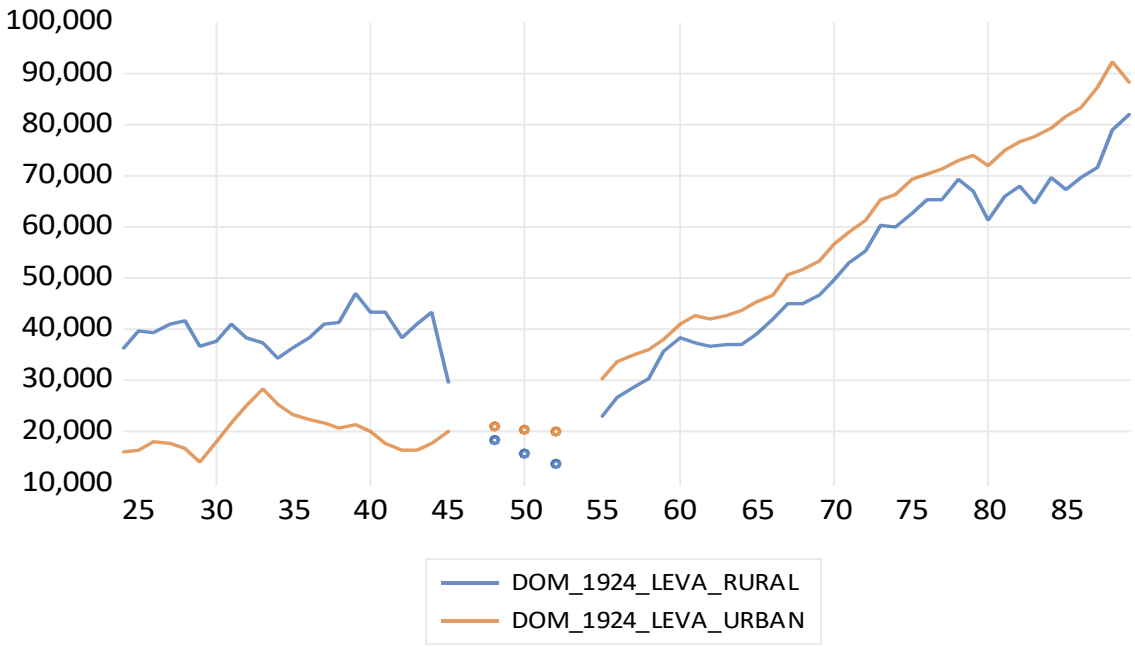

Figure 2: **Real wages of Bulgarian peasants and workers, 1924-1989.**

Unit: Annual wages expressed in 1924 Bulgarian leva (1924: currency stabilisation).

Sources: Own calculations based on methodology and sources explained in the main text.

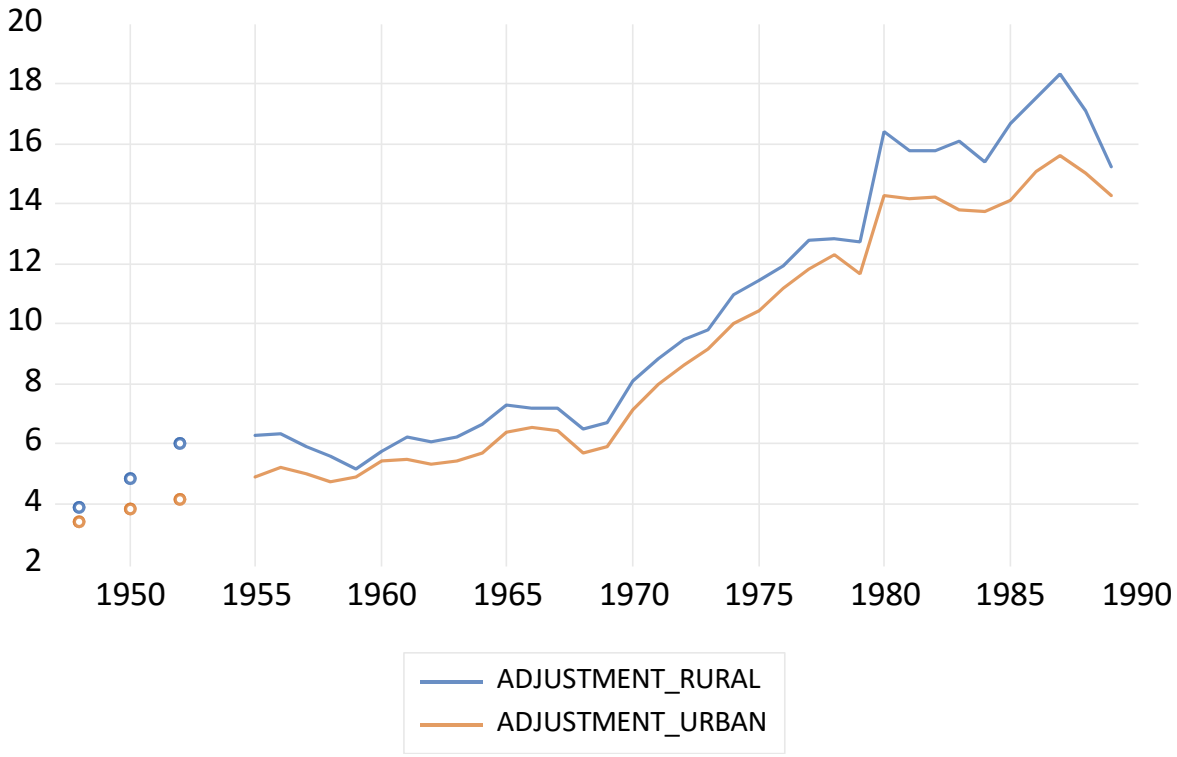

Figure 3: **Possible upward adjustment for wages due to so-called social spending.**

Unit: In percentage of the wages reported in figures 1 and 2.

Sources: Own calculations based on methodology and sources explained in the main text.

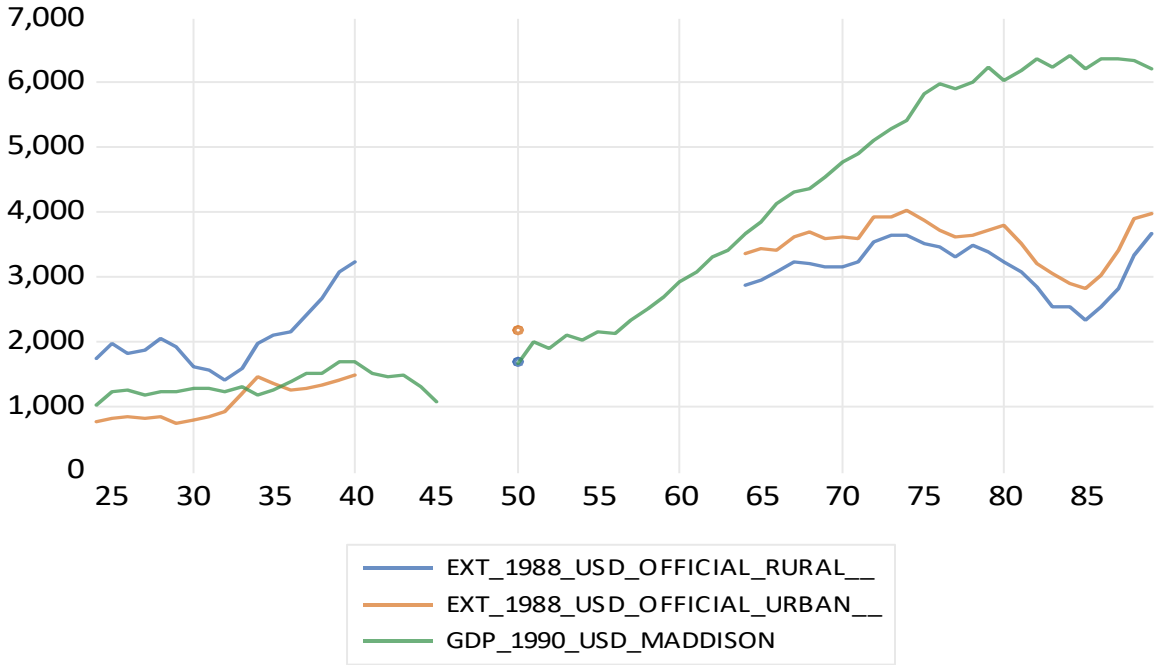

Figure 4: **Wages of peasants and workers versus GDP per capita, 1924-1989.**

Unit: Wages: 1988 US-dollar; GDP per capita: 1990-Geary-Khamis US-dollar

Sources: Wages: Own calculations as explained in the main text. GDP per capita: Ivanov (2012) for 1924-1940 and Maddison (2010, 2013) for 1950-1989.

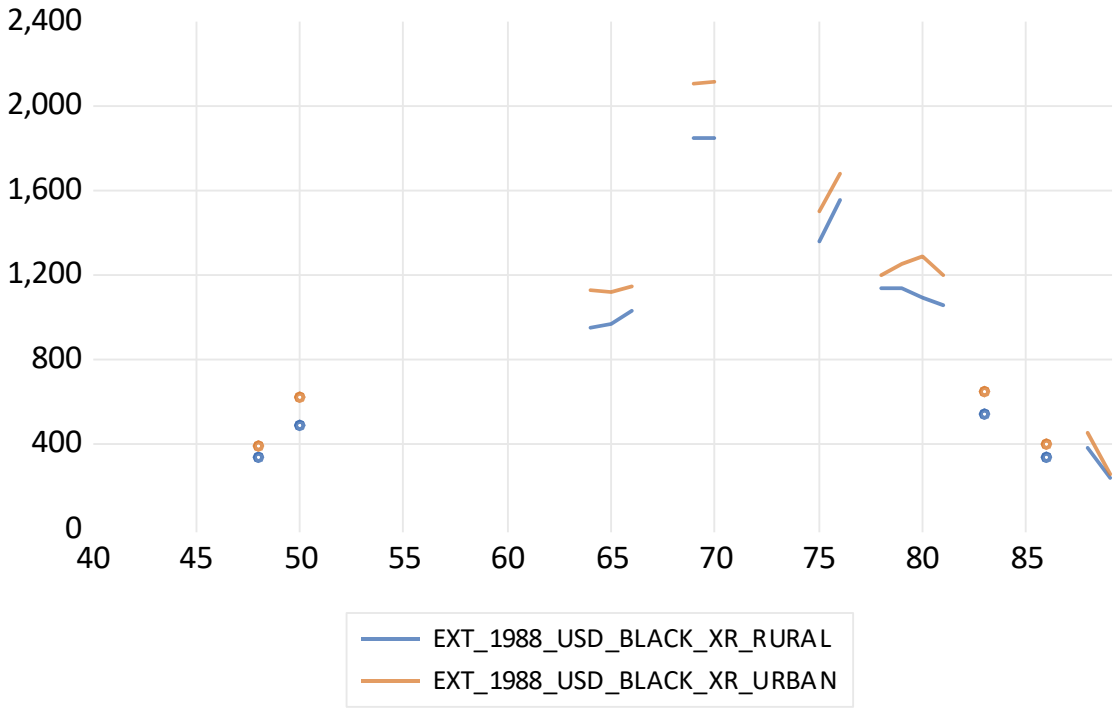

Figure 5: **Bulgarian wages expressed in US-dollar based on black-market exchange-rates, 1948-1988.**

Unit: 1988 US-dollar.

Sources: Own calculations as explained in the main text. Black market exchange-rates are mainly based on illegal-yet-detected trading activity of domestic residents with foreign tourists on the Black Sea Coast. Cf. the main text for details.

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