GÁBOR DEMETER

Essays on Ottoman Modernization

Industrialization, Welfare, Military Reforms

PUBLICATIONS OF THE BULGARIAN-HUNGARIAN HISTORY COMMISSION

2.

A MAGYAR-BOLGÁR TÖRTÉNÉSZ VEGYES BIZOTTSÁG KIADVÁNYAI

ИЗДАНИЯ НА БЪЛГАРО-УНГАРСКАТА ИСТОРИЧЕСКА КОМИСИЯ

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Institute for Historical Studies, BAS
Institute of History, RCH, HAS

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Dedicated to György Kövér

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Preface

The reforms initiated by the Ottoman Empire in the 1820–30s and the changes it triggered in the political-administrative and social sphere and economic system are topics that deserve special attention of both Balkan and foreign scholars.

The comparison of numerous researches shows, that social-economic processes induced in this period in the Empire offered opportunity for interpretations and analyses on broadened, deepened basis, which can lead even to new theses sometimes. This opens new fields and aspects securing new arguments to answer important questions – namely, to what level the modernization of the Empire advanced, how efficient the reforms of institutions and administrative system were, how the reforms changed the living standard of different layers, whether the economic development decreased the distance between the Empire and the West, what perspectives these changes offered to the local population and how these triggered new social movements leading to the further transformation of the Empire. And these are only some of the numerous questions, which broaden the topic of modernization in the Ottoman Empire. Among the numerous relevant literature dealing with such questions, we have to mention the book of the young Hungarian scholar Gábor Demeter.

The booklet contains 4 studies already published in different scientific journals and all investigate different aspects of the Ottoman Empire's socio-economic development from the Tanzimat to the last decades of the 19th century. Using a quantitative approach this work analyses the cost-efficiency and long term socio-economic consequences of the Ottoman Tanzimat. Instead of focusing on bureaucratic and financial questions providing a macro-level approach, the essays focus on the local-regional level of socio-economic phenomena induced by the changes between the 1840–70s. Among these one can find the problem of industrialization, the costs and social consequences of military reforms, the change in welfare of different urban layers, the analysis of the economic driving force of the changes – the grain prosperity – and

its contribution to the temporal mitigation of socio-economic tensions in different regions of the peninsula.

Using a wide range of statistical material derived partly from published sources while comparing the views and data of leading historians, the author sketches up a quite broad picture of the socio-economic life in the Ottoman Empire during the investigated period. Good research methodology proper selectionand deep analysis of facts offers a possibility for Gábor Demeter to reach important results and make significant statements, generalizations. Especially successful and valid parts of the work are those where the author compares the results of reforms between different regions or investigates the effect of modernization on social and ethno-religious classes, thus where regional or comparative approach dominates.

In this respect both comparisons applying temporal and spatial approach of modernization processes in the Empire as well as the structure is worth appreciation. Although the 19th-century results look impressive compared to the previous historical period, this is not the case when they are compared to the achievements of the developed European nations.

The comparative approach also makes it possible for the author to draw a picture on micro-level: how modernization influenced the general situation of the population, who were the winners and losers during the transformation processes in the Empire. When analyzing the historical materials and especially defining the conclusions the distanced view of one researcher - though perfectly familiar, but still external to the Balkan region – turns to be very useful. With this book the Hungarian historian Gabor Demeter proves to be a thorough researcher of the socio-economic history of 19th century Southeastern Europe.

Assoc. Prof. Dr. Daniel Vachkov

Sofia
June 2017

Introduction

This volume contains several essays highlighting the crucial economic questions of the Ottoman modernization. (1) The integration of the Ottoman economy into the international division of labour during and after the great grain prosperity and the impact of these global processes on local industrialization is a key process in understanding the sustainability of the Ottoman state. The effect of the 'first globalization', the development of the 'wheat for artifacts' system hindered local industrialization, thus the central budget (and modernization efforts) had to be financed from the agriculture, which created discontent among the overloaded producers and made economy vulnerable to external processes. (2) The increase of welfare (like social stability) can be a good indicator of reforms and it can provide legitimative power for the state as well. The Balkan historiography traditionally claims that the reforms were unsuccessful regarding social aspects, as many strata did not profit from the changes. But it is undeniable that there was some – although regionally and socially uneven – economic progress, thus the strata benefiting from the reforms (fuelled by the grain prosperity induced by external processes) can be identified and their welfare can be compared to the living standards of the pre-Tanzimat era. Nonetheless, if growing welfare generates growing inequalities, it also increases social tensions instead of eliminating them. (3); Finally, creating a modern army without substantial financial resources to defend the state is a great challenge to cope with.

The first study aims at investigating the reasons why industrialization in the Ottoman Balkans – contrary to the upswing in Bulgarian lands – failed in the mid-19th century. Compared to general interpretations focusing on global, transnational processes and relations we used a different approach. By analyzing the profit rates, capital demand, wages, living standards and retail prices of semi-processed and processed materials in the case of different agricultural and industrial activities we try to highlight – using local-scale data – how the often generally interpreted international division of labour really

took place in the peninsula (thus testing the thesis of 'first globalization'), and what effects it had on the local economies. In order to trace the general or specific character of the circumstances and consequences we traced both the regional differences (between Syria and the Balkans) and also applied a temporal comparative approach (for Bulgaria and Macedonia before and after 1878).

The second study deals with the social transformations among the landlords, producers and other strata comparing pre-Tanzimat landlocked urban communities with rural communities of the Anatolian countryside and with urban communities in the 30-year later Balkans, analyzing intra- and interregional differences and changes in welfare. Our hypothesis is that increasing welfare – owing to the external factors – could prolong the existence of the Ottoman Empire even when it lacked any ideological cohesive forces.

The third study investigates the social and economic consequences of the spahis' pensioning and traces the utilization of the new financial resources stemming from pensioning and the sale of spahi estates after 1858. The key question is whether these resources were substantial enough to support the creation of a new army or extra income was needed for this.

Finally, the last chapter investigates the effects of the grain prosperity on the economic performance of the Balkans based on local scale data (commercial registers). We have attempted to decompose the aggregated data down to producer-level, thus beyond the general, macroeconomic effect of grain prosperity, its local socio-economic impact on the Balkan peninsula can also be analyzed. Comparing the different land-tenure systems we have measured the involvement of producer layers in grain exports in several regions during the Napoleonic era and after it, and we have tried to quantify the surpluses and assess their role in mitigating social tensions using the observations of contemporary travelers, like Sax, Kanitz, etc.

Why Did Initial Industrialization Fail?

Measuring Profit Rates, Productivity of Different Activities and the Change in Purchase Power in the Ottoman Empire in Regional Comparison

The increasing demand for food in Western Europe parallel with its increasing purchase power resulted in growing grain prices and made exports of cereals – either legal or illegal – profitable for the Eastern basin of the Mediterranean. The destruction of the janissaries, propagators of protectionism and defenders of small-scale industry in 1826, the Balta Liman agreement in 1838, that deprived the Ottoman state of monopolizing the trade, putting an end to the provisionist economic policy, and finally the abolition of Corn Law in England in 1846 created a new economic order in the region enhancing the international division of labour. The almost free influx of industrial goods and the welcome of Eastern cereals turned the attention of the Ottoman Empire towards the agrarian sector, resulting in the so-called de-industrialization of the 'first globalization'[1] in the 1840s–1870s.

Although this concept of international division of labour is generally accepted, it is rather based on regional (or macroeconomic) observations or on economic theories[2] than on local evidence or data series. Our goal is to test this thesis at local scale, by investigating the profitability of different economic activities throughout the 19th century. Our hypothesis is that the profit rate can serve as an indicator of (de)-industrialization. If de-industrialization really took place, industrial activities could not be more rewarding than agrarian activities, in other words, the profit rate of industry could not exceed that of measured in other sectors.

1 *O'Rourke, K.–Williamson, J. G.: Globalization and History*. Mass. Cambridge, 2009. This study is the extended version of conference speeches delivered at IBAC conferences in Sofia (2015 Nov.) and in Belgrade (2016 Dec.).

2 *Pamuk, S.–Williamson, J. G.: Ottoman De-Industrialisation 1800-1913: Assessing the Shock, Its Impact and the Response*. NBER publications, 2009. http://www.nber.org/papers/w14763

Using a comparative approach we have analyzed (1) the differences in profit rate of *agricultural, industrial and business activities* such as *chifliks*, smallholdings, husbandry, textile manufacturing, Verlag-system, banking, ore-mining, silk-reeling etc. (2) We have also compared the profitability of these activities *in different regions* using examples from Bulgaria, Macedonia, Lebanon and Palestine, etc. based on the material collected by Todorov, Issawi; (3) We have attempted to trace the changes in profit rate *over time*. Furthermore, we have compared agrarian income (surplus) with that of those employees who earned their living from industry. This also gives us an opportunity to measure the changes in purchase power of different worker classes (industrial and agricultural) throughout the century.

Concerning Bulgaria Lampe generally speaks about 8% yearly profit rate in industry after 1878[3] which is low compared to the interests of industrial credits starting at 10%. This means that industrial activity on the Balkans was considered risky, where investments hardly returned within few years, therefore it was not recommended for investors. The lack of capital accumulation (capital outflow towards the central part of the empire was substantial during the Ottoman era)[4] and the shortage of favourable credits (which could solve the former problem) failed to trigger a self-sustaining industrialization.

Low profit rates could have been overcome either (a) by low wages – but this hindered the restratification of population into industry, thus decelerated general industrialization processes; or (b) by mass production that needed engines for which the required capital was missing. This resulted in a vicious circle for industrialization, while agriculture was suffering from low incomes per capita owing to the

3 *Lampe, J. R.–Jackson, M. R.: Balkan Economic History, 1550–1950. From Imperial Borderlands to Developing Nations.* Bloomington, 1982.

4 More than 50% of the provincial revenues was transferred to the centre that time and only 25% of the provincial revenues were spent on public affairs (the army was financed from the central budget). See: *Draganova, Sl.: Les Dépenses du vilayet de Janina et du Danube pour L'Année Budgetaire 1870–1871.* In: Relations et Influences Réciproques entre Grecs et Bulgares XVIIIe-XXe Siécle. Institute for Balkan Studies, 1991. 152. (This changed in the case of Macedonia after the uprising in 1903, when high military costs made the maintenance of Ottoman rule unprofitable at macro-level).

overpopulation. According to Egoroff overpopulation in agriculture had reached 800 000 persons in Bulgaria by the 1930s, in other words 33% labour force remained unexploited.[5]

In the forthcoming paragraphs we analyze how the *profit rate*, *accumulated capital, wage levels, wages measured to production* and *output per capita* measured to other countries – determining the profitability of different economic activities – varied in different sectors of economy prior to 1878, and which branches were the most competitive.

During the great grain prosperity induced by the previously mentioned changes in international division of labour, investing into agriculture was a profitable activity: during the Crimean War the Kisimov merchant house collected a capital of 1.2 million kurush.[6] The *chorbadji*s in Ljaskovec made 80 000 grosh surplus by exploiting the possibilities of compulsory transportation. But – despite the increasing grain prices and the profitability of trade – the amount of capital accumulated in the hands of Balkan merchants remained low. In Svishtov the available free capital was not more than 40 000 francs for larger trade houses, which equalled to the value of 300-400 hectares of cropland – a larger *chiflik* (*chiftlik*) indeed. In 1876 in Ruse, another centre of grain trade, the Jewish Rozenec family could not mobilize more than 20 000 francs of capital. The Rachkov, Sahatchiyski and Arnaudov families had some 250-300 000 grosh capital (50-60 000 francs).[7] Neither of them were match for the great merchants in Saloniki (whether be Jews, Greeks or English), whose capital reached 100 000-1 000 000 francs.[8]

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5 *Egoroff, P.: Die Arbeit in der Landwirtschaft.* In: Die sozialökonomische Struktur der bulgarischen Wirtschaft. Hrsg.: *Molloff , J.* Berlin, 1936. 131–159. esp. 151–153.

6 *Kosev, D.: Otrazhenieto na Krimskata voina (1853-1856) v Balgariya.* Istoricheski Pregled, 1946–1947/2. 185.

7 *Berov, Ly.: Ikonomicheskoto razvitie na Balgariya prez vekovete*. Profizdat, Sofia, 1974. 78. In 1803 the total capital of Hristo Rachkov was 73 000 grosh from which he lent 42 000 grosh. His total wealth was around 146 000 grosh (the grosh then equalled to the franc). *Kosev, D.: Kam izyasnyavane na nyakoi problemi ot istoriyata na Balgariya prez XVIII i nachaloto na XIX v.* Istoricheski Pregled, 1956/3. 34**.**

8 For this see: *Damianov, S.: French Commerce with the Bulgarian Territories* from the Eighteenth Century to 1914. In: Vacalopoulos, A. E.–Svolopoulos, C. D.–Kiraly, B. K.: Southeast European Maritime Commerce and Naval Policies from the Mid Eighteenth Century to

Thus, great differences – determined mainly by geographical advantages – existed even within the same branch of trade. The amount of money was enough to buy large estates and thus intensify the merchants' interest in grain trade, but it was inefficient for investments in large-scale industry. Installing a large factory – like the one operated (but not owned!) by Dobri Zhelyazkov – required at least 1 million kurush (200 000 francs) initial capital. Hardly anyone could fulfill this condition in Bulgarian lands: Tapchilestov in Istanbul and the Georgiev brothers in Bucharest had such amount of capital,[9] but even they did not limit their activity to industrial investments, since other activities showed similar rate of return.

As the available amount of free capital abled merchants to invest into agriculture, but the lack of capital concentration hindered investments in industry, when the wheat prosperity was over (due to the dumping of the American, Russian and Argentinian wheat onto the markets), many of these middle-scale merchants could not respond to the challenge by transferring their capital into other sectors. They were suffocating compared to those who were able to diversify their activity.

Merchants also had the choice to invest into imports (besides export) or simply deal with transportation without being involved into the production of crops (comprador capital). Importing goods could produce a 15-30% profit compared to the value of the stock even at the end of the 18th century in Russian-Ottoman relation.[10] In the first half of the 19th century, after the fall of transport prices British textile export had a 20% return rate measured to the value of goods. And even if the profit rate in industry was lower, the low rate of return could be counterbalanced by mass-production, which increased the *total amount* of profit (although not its rate). Imports thus became profitable

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1914. War and Society in East Central Europe. Thessaloniki, 1988. In Saloniki Argiri Matheos had 100 000 francs capital and 250 000 francs income. The Jewish merchant houses like the Allatini, Modiano and Fernandez had more than 1 million francs, the yearly turnover reached 2 million. The English Abbots had 1.5 million francs capital, while Theagenis Kharissis had 0.25 million.

9 *Davidova, Ev.: Balkan Transitions to Modernity and Nation States: Through the Eyes of Three Generations of Merchants (1780s–1890s)*. Leiden, 2013. 73.

10 *Mihov, N.: Prinos kam istoriyata na targoviyata na Turciya i Balgariya*. Tom. 6. Sofia, 1971. 45.

compared to the local industrial products, that might have similar profit rates, but the small amount of output simply hindered the purchase of engines, in order to make a step towards mass-production and profitability. Thus, low rate of return cannot be considered as the sole reason for decreasing competitiveness.

We have data on the profitability of transportation itself. Although the era of compulsory delivery of goods at low fixed prices was over, wheat prices at ports were still much higher than in the centre of the peninsula: the difference could range from 20-30% to 50-100%, only partly as a result of transport costs. In 1853 1 kg of wheat equalled to 0.77 grams of silver in Saloniki and 0.65-0.80 in Varna, while in Berkovica and Sofia the unit price of grain bought from producers was 0.33 grams in silver. By 1870 the ratio between the export and local prices had increased to 2:1,[11] while raw transportation costs had been decreasing – Berov states that freight rates fell from 40% of prices at the end of the 18th century to 25% then to 13% by the 1840s' in the case of wheat. This enables us the estimate the profits of transportation towards the large harbours.[12] Subtracting this 13-25% from the grain prices one can get a profit rate in transportation exceeding 20-25% measured to the value of transported stock. This was significant compared to other regions and centuries: in Poland the profit rate of traders using had mainland roads decreased from 14-17% to 5-15% by the 18th century.[13]

Data also show that beside transportation merchants tended to *invest into grain production* as well. The following data illustrate the differences in profitability between smallholdings and large estates, organised as *chifliks*. Near Plovdiv a land of 200 ha (of which only 80 ha was cultivated) produced 80 000 kurush income (200 francs/ha), of which *'chista pechalba'* was 40 000 (profits after the deduction of tax, seeds, land rent, labour price, etc.)[14] Although the fallow land decreased the profit

11 *Berov, Ly.: Parvite tsiklichni krizi na evropeyskiya kapitalizam i stopanskata konyunktura v balgarskite zemi prez XIX. v.* Istoricheski Pregled, 1978/6. 22–36.

12 Interregional freight prices were even lower after the invention of steamships, and goods carried on water were cheaper than those carried on roads.

13 *Berov, Ly.: Transport Costs and their Role in the Balkan Lands in the 16–19th centuries.* Bulgarian Historical Review, 1975/4. 75.

14 Ibid.

to 40 francs/ha, this still surpassed the per hectare profits of a smallholding ranging to 5-10 ha, which – according to the calculations of Palairet – did not produce more than 50-100 francs net profits (10 francs/ha) in Serbia in 1910 (when the wheat prosperity was over; compare data with *table 26* for other regions).[15] This meant a 10-15% profit rate measured to total income from wheat (and only 1-2% return rate measured to the value of the estate).

Another *chiflik* rented by the merchant Brakalov – who borrowed money from Tapchileshtov – reached 700-1000 ha and produced 20 000 kile (1500 tons)[16] of wheat, which meant 1500 kg/ha, so its output was greater than that of smallholdings in Berkovica or Kyustendil (under 1000 kg/ha). The rent was 400 000 kurush for 6 years (yearly average: 70 000), which was hardly more than 10% of the production.[17] After paying the workers' wages and deducting state tax and seeds, the estate was still prosperous. The land of Brakalov was cultivated by 60 chifts + 30 buffaloes and 100 men on 1000 ha. Animal fodder meant an expense of 130 000 grosh. Further 350-400 part-time workers were needed from the regions of Strandzha and Elena, who earned daily wages.[18] The 100 permanent men meant 0.8 million grosh expenses, labourers got 4-5 grosh daily, which meant 1400-2000 grosh for 350-400 workers and 0.15-0.2 million grosh for 100 days. Adding up these and the rental price the total costs reach 1.1 million grosh (+seed for next year). So this estate was only profitable, if the averagely 1500 tons of wheat produced more income than this. If wheat prices exceeded 700 grosh/ton (140 francs), the estate was prosperous. Wheat prices reaching even 1000 grosh/ton (200 francs/ha), as in 1868, meant a 25% profit rate. But after 1878 the wheat prices fell from 160 to 110 francs/t (1882–94) making the estate unprofitable. The limits of profitability for such a huge estate are

15 *Palairet, M.: Fiscal Pressure and Peasant Impoverishment in Serbia before World War I.* The Journal of Economic History 39, No. 3, 1979. 719–40.

16 Burgas kile is three times bigger than Constantinople kile.

17 Calculating with 800 piasters/ton price during the price upswing, it is only 90 tons of wheat, calculating with 500 piasters/ton normal price it is 150 tons. *Tonev, V.: Balgarskoto Chernomorie prez Vazrazhdaneto*. Sofia, 1995. 73–74.

18 Ibid.

calculated in *table 2,* while the same constraints for a chiflik of only 60 ha are given *in table 1.*[19]

As the tables prove, not all of the operating chifliks were in favourable situation: besides external circumstances, like price fluctuations, profitability was also limited by labour wages (as these estates were rarely mechanized). While wage labourers received only 2 grosh daily in the 1820s and 4-5 in the 1850s (meaning stagnating wages in terms of silver), by 1877 in Stara Zagora daily wages had increased from 10 grosh/day to 15-17 grosh. In Gabrovo harvesters received 5-12 grosh in 1877, but asked for 40 in 1885.[20] Furthermore, after 1873/1878, wheat prices also began to fall. Under these circumstances the profits of large estates were eliminated. The establishment of the third Bulgarian state and the distribution of estates abandoned by Muslim inhabitants created a temporary oversupply of land. As most of the peasants had his own smallholding of 5 hectares that made self-subsistence possible and they were not compelled to work for others any more, this caused a shortage of labour force in large estates and resulted in increasing agricultural wages. These triggered an increase of wages in industry too (to hinder the further restratification of population in agriculture). The excess of wheat on international markets and the diminishing landless labour force put an end to the prosperous chiflik estates.

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19 In 1864 a chiflik of 60 ha needed 3 workers in winter and 9 in summer. A *chifchi* (chitlik peasant) working on the fields received 1000-1200 grosh cash and crop while cultivated 3-5 hectares by a pair of oxen. For such an estate 10-20 workers were needed permanently and this meant 10-24 000 grosh expense. The 150 harvesters meant further 6000 grosh. The 60 hectares produced 90-100 tons of wheat, the 1500-1800 kg/ha output exceeded that of the smallholdings, where 1000 kg/ha was general and the proportion of harvested and sown seed was not above 5:1. (After 1878 there was a fallback in the output / hectares on smallholdings). At that time 1 ton of wheat was worth 100-130 francs, this meant 10 000 francs (25-50 000 grosh) income, while the expenses reached 7000 francs (16-33 000 grosh), making the profit rate to 30%. If we use prices from 3 years earlier, this profit is eliminated. *Hristov, Hr.: Nyakoi problemi na prehoda ot feodalizma kam kapitalizma v istoriyata na Balgariya.* Istoricheski Pregled 17, 1961/3. 83–107. Original data were cited by *Todorov, N.: Novi danni za agrarnite otnosheniya…*

20 *Mollov, Y.–Totev, Yu.: Tseni na zemedelskite proizvedeniya u nas prez poslednite 54 godini 1881–1934*. Sofia, 1935. 90. and *Palairet, M.: The Balkan Economies, 1800–1914. Evolution without Development, 1800–1914.* Cambridge, 1997. 181.

Table 1. Profitability of a large estate (chiflik) with 600 dönüm arable land (sown area) in optimal and deteriorating case (1870s–1880s)

	Wheat price in francs (t)	**Daily wage of labourers (grosh)**	**Yield /ha (kg)**	**Income (grosh)**	**Expenses (grosh)**		**Income/Expense ratio**
Maximum value	160 (before 1880)	*16 (after 1880)*	1800	80-90 000	*40 000*		Optimal case (cca. 1870): 3 : 1
Minimum value	*100 (after1880)*	5-10 (prior to1880)	*1500*	*50-60 000*	20-30000		*Worst case (cca. 1880) 5 : 4*

Based on: Todorov, N.: Novi danni za agrarnite otnosheniya u nas ot 60-te godini na XIX. vek. Istoricheski Pregled, 1958/5. 102–113.

Table 2. Limits of profitability in the chifliks of Brakalov (1000 hectares with 1500 kg/ha yield)

Wheat price (francs/t)	**Expenditure** (million grosh) land rent + wage labourers+permanent workers+other cost, seed	**Income** (million grosh)
100	0,07+0,2+0,13+0,8=1,2	0,75
160	***0,07+0,2+0,13+0,8=1,2***	***1,2***
200	*0,07+0,2+0,13+0,8=1,2*	*1,5*
Wheat price (francs/t)	Expenses in case of doubled wages (million grosh)	Income (million grosh)
200	*0,07+0,4+0,26+0,8=1,5*	*1,5*

Based on the data of Palairet, Kosev, Tonev, Todorov, Mollov, Razboynikov and Berov.

Could mechanization be a solution for these estates? Maybe. In 1869 Zafiropul bey bought a threshing machine that produced 4 times greater amount of grains than 70 horses and 24 men at the same time.[21] But this implied huge costs. According to the Hungarian statistician, Károly Keleti, in 1885 such an engine cost 10 000 francs. Such expenses were not eligible within few years for a *chiflik* ranging to 60 hectares (as the example given in *table 1*) since the yearly profit was not more than 20 000 grosh (3-4000 francs).[22] But even larger estates could not afford to buy engines: in Thrace in 1908 the chiflik of Büyük Kaluçli ranging

21 *Tonev, V.: Balgarskoto Chernomorie…* 74.

22 *Keleti, K.: A Balkán-félsziget némely országai- és tartományainak közgazdasági viszonyai*. Budapest, 1885. 169–170.

up to 450 hectares produced 300 TL in 1908 and 480 in 1912,[23] which was 7000-11 000 francs – equalling to the cost of a threshing machine or tractor. Even buying modern a plough was a risky enterprise: this cost 370 grosh (70 francs) and calculating with 5 hectares/chifchi for 300 hectares it meant altogether 22 000 grosh (4500 francs).

As for per capita productivity of different economic activities, while textile industry with its 4900 tons of wool as raw material and 65-75 million piasters of output[24] employed 70 000 persons with an average output of 1000 piasters per worker, a smallholding of 5 ha could produce 3000 piasters in Pleven in the 1840s, 3000-4000 in Berkovica in the 1870s and the same in Kazanlik, Stara Zagora in 1859 (*table 3*).[25] Therefore industry could be attractive for those, who did not have sufficient land (less than 5 ha), and needed supplementary earnings – like in N-Bulgaria prior to the 1860s.

Table 3. Income per peasant household in different regions

Region	**Kazanlik kaza, 1859**	**Stara Zagora kaza, 1859**	**Kyustendil kaza, 1864–1874**	**Berkovica, 8 villages, 1874**	**N-Bulgaria, 1850**	**N-Bulgaria, 1867**	**Sanjak of Plovdiv, 1874–1875**
Income per household in piasters	3050	3700/5000	1070–1700+520**	4240	1000 (+ industry, appr. 1000)	3700	4600

***

As we could see, the profit rate of large estates could reach 20-25% under favourable circumstances, so it was similar to the profit rate of the transport. But what about other agricultural activities? The

23 Data: *Razboynikov, A.: Chiftlitsi i chiftligari v Trakiya predi i sled 1878 g.* Izvestiya na Instituta za Istoriya 9, 1960. 143–187.

24 *Palaré, M.: Balkanskite ikonomiki 1800–1914.* 81–83.

25 *Draganova, Sl.: Documents of the 1840's on the Economic Position of the Villages in Central North Bulgaria.* Bulgarian Historical Review, 1988/2. 87–100; *Draganova, Sl.: Berkovskoto selo v navecherieto na Osvobozhdenieto: statistichesko izsledvane spored osmanskite danachni registri.* Sofia, 1985; *Poyet, C. F.: IIé lettre du docteur Poyet á la Société de géographie contenant la description du kaza de Eski-Zagra (Bulgarie).* Bulletin de la Société de géographie. IVé série. Tome 18. Paris, 1859. 145–179; *Poyet, C. F.: IIIé lettre du docteur Poyet á la Société de géographie contenant la description de Quezanlik Turquie d'Europe (Thrace).* Bulletin de la Société de géographie. IVé série. Tome 18. Paris, 1859. 179–200.

Hungarian balkanologist Adolf Strausz analyzed the chances of diversification in agriculture based on output ratios and prices after 1878 in Bulgaria. Phylloxera ruined the *grape production*, outputs per *dönüm*s decreased from 350–700 to 120 kg. As incomes from grape decreased, and became similar in terms of money to the income from wheat production (13 francs/dönüm), this labour intensive culture became neglected. *Sesame* produced 11.5 francs/dönüm output, thus it was also not profitable. *Sheer/flax* could give 55 francs/dönüms, but the decline of the Bulgarian textile industry made its cultivation futile. Flax, like potato was uncommon in the Balkans. *Tobacco and poppy seed* had similar yields/ha (over 50 francs/dönüm), but due to climatic conditions it was more frequent in Macedonia.[26]

There were also late examples on *profitable large estates* from Macedonia, Kočani. The cultivation of 1 dönüm riceland cost here 100 grosh,[27] while the rice output was 240 okes at 30 paras, producing altogether 180 grosh income. Thus the return rate measured to the expenses exceeded 40%. It is not surprising that 1 dönüm of riceland was worth 15-20 Ottoman liras, while wheatlands cost only 0.5-2 liras.[28] In 'traditional' wheat-producing large estates the expenses were smaller, estimated to 63 grosh, but incomes were also lower: 120 oke of wheat on one dönüm (150 kgs) produced 90 grosh. This meant a 33% return rate for grains. The more profitable, but capital and work-intensive *rice* was not frequent in Bulgaria, as the cultivation of ricelands here was prohibited by Russians, because it resulted in the spead of swamps and malaria, although the sewage of drinking water could have solved the problem.[29]

Animal husbandry was also profitable, because the wool was used by textile firms supplying the Ottoman army prior to 1878 and sheep were also to supply the meat markets of the capital, Istanbul. Nonetheless, until population pressure remained low and intensification in cereal

26 Income/ha from tobacco was 700-1500 francs around 1900! Data: *Strausz, A.: Grossbulgarien*. Posen–Leipzig–Budapest–Konstantinopel–Sofia. 1917. 64–66.

27 Tilling: 10 grosh, seed: 9 grosh, tithe 30 grosh, transport 15 grosh, reaping 10 grosh.

28 *Central State Archives (CSA)*, Sofia, Fond. 321. Inventory. 1. archival unit 1616. 2–13.

29 *Strausz, A.: Grossbulgarien…* 122.

production took place, there was no conflict between animal husbandry and grain production. Since the proportion of fallow land reached even 40% in the 1850s, and decreased under 20% only to the 1920s, this offered plenty of space for animals, which also produced manure to fertilize arable lands. But as circumstances changed, the rivalry grew: in Serbia the conflict between the profitable pig exports and the urge for new ploughands owing to the relative overpopulation (without much technical advance) caused the decline of animal husbandry. After the loss of Istanbul and the army as main purchaser, a similar process took place in Bulgaria.

But in 1846–47 husbandry was still prosperous. That year 623 thousand sheep arrived from Transylvania to Bulgarian grazing lands. Calculating with 45 grosh per each they were worth 25 million piasters. These animals gave 1.2 million okes of wool, which meant 5 million piasters (calculating with 4 grosh/oke), with an added value of 20%! If we deduce the rental costs of pastures, which was 2-3000 piasters for 1000 sheep, still remains at least 3.5 million grosh profit, making the profit rate over 17% or 7777 piasters per shepherds. This wool worth 4 piasters in Ottoman Turkey was sold at 10 piasters/oke in the Viennese market, since transport costs from Brasov to Vienna meant only a 10% extra burden, so it was still profitable.

As population grew, pastures were abandoned and turned first into arable land producing *fodder* for animals, because corn was more productive than wheat. In Bitola the cultivation of one dönüm wheatland (seeds: 22-30 oke, tilling 50 grosh, harvesting 20 grosh) cost 100 grosh in 1908, while the expenses for one dönüm cornfield were estimated to 170 grosh.[30] But the latter produced 500-800 grosh, while the wheatland produced only 450-650 grosh even at 12:1 output ratio, which was quite rare in the Balkans.[31]

Food processing takes us to the world of industry. Our hypothesis that the profit rate of industrial activities was not higher than that of

30 Only 8 oke seed owing to better output ratios, tilling for 60 grosh, hoeing twice for 60 grosh, harvesting 30 grosh.

31 *Istoriya na Balgarite 1878–1944 v dokumenti*. Tom. I–II. Eds.: *Trifonov, S.–Georgiev, V.* Sofia, 1996. I/2. 97.

agricultural or other economic activity was tested here first. This is also a good example to investigate how the size of enterprises influenced the profit rate. (As we have already seen, estate size was not a negligible factor in wheat production.) Food processing was rather of small scale. In a *salhane* (slaughterhouse) of Gabrovo 30 workers produced 11 000 grosh net profits meaning a 20% profit rate and only 336 piasters profit/worker (or 1800 piasters output/worker). This is quite low compared that of *mokan* shepherds (or to that of the large estates, where maximum 1000 piasters/worker was measured as profit). 4 similar slaughterhouses were operating in that town butchering 2500-2500 larger and 20-20 000 smaller animals yearly.[32]

In other branches of industry the size of the enterprises also influenced the income and profits. In *leather industry* small enterprises with 10-12 workers had a profit of 4-5000 grosh, larger units over 30 workers had a profit of 30 000 gros, which meant 500 and 1000 grosh profits per worker respectively. In the textile enterprises of Gyumyushgerdan per capita profits were not exceeding 600 grosh in 1853.[33] So the rate of productivity measured to workers was not high either in factories or in manufactures (see *table 5* for comparisons).

Although the exploitation of iron ore produced higher output values per capita, labour costs were also high. Thus, imported iron soon became cheaper than local, putting an end to the profitability of this activity. While 1 ton of Bulgarian iron cost 400 francs,[34] the English iron was only 200 francs/ton. Although the Bulgarian production reached 2000 tons in the 1860s,[35] the value of the British import was about 800 000 piasters, which means 800 tons imports early in the 1840s. In Samokov 770 workers were involved in ore mining (output: 5200 piasters/worker), but even the knife-workshops in Gabrovo used Austrian iron because of its better quality: 50% of Bulgarian ore was thrown away when processing to iron owing to quality problems and

32 *Demeter, G.: A Balkán és az Oszmán Birodalom. Társadalmi és gazdasági átalakulások a 18. század végétől a 20. század közepéig.* Budapest, 2014. Vol. I. 261.

33 *Istoriya na Balgariya*, Tom. 6. Sofia, 1987. 52–53. See also as: Gümüşgerdan.

34 *Keleti K: A Balkán-félsziget…* 217. and 243.

35 *Istoriya na Balgariya*, Tom. 6. 52.

the lack of technical advance. One *centner* of Bulgarian raw iron cost 160 piasters in the markets, while its production cost 122 piasters. Thus, the profit rate can be put to 25-30%, which is not low, but at the same time the similar amount of English nails (as a processed end-product) cost only 110 piasters, clearly marking the limits of sustainability of the Bulgarian ore production.[36] Although the profits per worker exceeded 1500 piasters, surpassing the profits measured in the textile industry, the external circumstances hindered the further extensification of production.

The problems of industry can be illustrated on the example of the activity of the Jewish Arie entrepreneur clan. They gave up their interest in ore mining because of the low profit rate and unfavourable conditions to buy engines, and rather invested in land: their chifliks produced 20-30% profits measured to expenses, while the textile works of Gyumyushgerdan did not exceed 20% (see below)! According to Palairet the profit rate in textile industry only exceeded the profit rate in agriculture around 1885. In both industrial branches conditions were similar: wages were increasing owing to the previously mentioned phenomena in agriculture producing a shortage in labour force, while product prices were decreasing from the 1840s (in agriculture only after the 1870s), due to external circumstances (competition of imports). Therefore, it is evident that higher profit rates in textile industry could be achieved only by the installation of engines (mass production, in case of higher wages)[37] or by low wages characteristic for Macedonia, where agrarian wages were still below industrial wages and Bulgarian agrarian wages even up to 1910.[38]

Even *tax-farming* was profitable: the same Arie family – instead of investing into direct production either in industry or agriculture – bought the right to collect the tithe in Niš and this produced a 10%

36 Data: *Hilberg, A.: Nach Eski-Djumaia. Reise Skizzen aus Bulgarien*. Wien, 1876.

37 As we have already indicated this is not necessary: mechanization made possible the survival of firms even in the case of decreasing profit rate owing to mass consumption.

38 In Bulgaria industrial wages exceeded remarkably agrarian wages only after 1920. Prior to 1840 industrial wages were higher, in the 1860–1880s agrarian wages were higher, then the temporary shortage of labour increased industrial wages as well up to the 1890s, then came a fallback till the 1910s.

profit rate. Tax-farming was usually considered easy money for those who had enough capital to invest.[39] In this case they used up their good contacts with the government, especially with Midhat Pasha, to win the bid.[40] This connection was also used to change the terms of contracts with ore miners, if the price of ore changed in favour of workers. The repeatedly occurring phenomenon reveals that we cannot speak about free competition: the market was distorted owing to government intervention, guarranteed state purchases and the uneven availability of juristiction for the actors of economy.

Loans could also produce similar profit rate: the Georgiev brothers were lending money for an interest rate of 12-25%. Although their capital increased from 2.6 million grosh (1859) to 11.5 million (1877), their activity involved industry only indirectly, in forms of lending money, for which the profit rate was between 7% (1859) and 15% (1870).[41] After their withdrawal from direct production and commercial activity they turned to banking and their profit rate began to increase.[42]

Summing up the mentioned (*table 4*) we come to the conslusion *that the profit rate of almost all forms of economic activities were similar to that of industrial activities, or even surpassed that, while the latter required definitely much capital*, which was missing. The first factory of Zhelyazkov cost only 140 000 piasters, the second one 1 000 000!

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39 Brophy and St Clair writes that the tax of a village was sold for 400 pounds, but 970 was collected. In the *chiflik* of Küchük Seymen in 1911 tax farming produced 40% surplus for the tax-farmer measured to the investment, while at the end of the 18th century at state level only 4 million £ were collected yearly in the central treasury, while around 20 million £ was expropriated from producers! See: *St. Clair, S. G. T.–Brophy, Ch.: Residence in Bulgaria. Twelve Year Study of the Eastern Question in Bulgaria*. Chapman and Hall, London, 1877. 178; *Razboynikov, A.: Chiftlitsi i chiftligari…* 143–87; also *McGowan, B.: The Age of the Ayans, 1699–1812*. In: An Economic and Social History of the Ottoman Empire. Vol II. Eds.: *Inalçik, H.–Quataert, D.* Cambridge, 1994/1997.

40 *Eskenazi, E.: Za nachina na sabiraneto na nyakoi danaci v Zapadna Balgariya prez XIXv. do Osvobozhdenieto*. Izvestiya na Instituta za Istoriya 16–17, 1967. 339.

41 *Koen, D.: Bankerskata deynost na kashtata „Evlogi i Hristo Georgievi" v balgarskite zemi do Osvobozhdenieto*. Istoricheski Pregled, 1975/6. 67.

42 Ibid. 63–75.

Table 4. Profit rate of some economic activities (measured to income or to initial capital)

Textile industry of Gyumyushgerdan, 1853 (measured to income)	20–22%
Verlag system of Gyumyushgerdan 1840 (measured to income)	12–15%
Butchery in Gabrovo in 1860 (measured to income after the deduction of costs on animals and wages)	20%
Georgiev brothers, banking (measured to base capital)	7–18%
Textile factory of Ivan Kalpazanov 1860 (measured to output)	70%
British merchant, 1829 (measured to value of imported goods)	**20%**
Average profit rate of industrial activity in Bulgaria around 1900 according to Lampe (measured to invested capital)	*8%*
Export of wool to Austria, 1863	**20%**
Smalholdings of 5 ha-os (monoculture, measured to output, measured to total investment, between 1880-1900)	1–2 or 15%
Large estates around 1860 during the wheat boom (measured to output)	25–30 %
Textile processed for the army in Kotel (1850-60) (measured to output, guarranteed state purchase)	*25–30%*
Tax-farming (minimal profitability, Arie family)	2, 10, 18 and
Tax-farming (maximum, 1912, Küchük Seymen)	40%
Russian export trader in 1786 (measured to value of goods)	**12–30%**
Samokov iron	25%
Husbandry (measured to value of herds)	17–20%

Demeter, G.: A Balkán és az Oszmán Birodalom I. 261. Table II.28.

In the forthcoming pages we are investigating the profitability of textile industry as main contributor to/indicator of the industrial (industrious) revolution and its change over time, and the regional disparities in the profitability of different activities within the Empire.

The increasing prices of labour force and the falling prices of industrial goods owing to the mass imports after 1838 was another challenge beyond the lack of capital that had to be tackled with. In 1847 Gyumyushgerdan paid 75 piasters for 25 days, which was then smaller than the salary of agricultural wage-labourers (4-5 piasters daily), but it had increased from 0.5 francs to daily 2.5 francs by 1868.[43] Finally the

43 *Palairet, M.: The Balkan Economies…* 81. 2.5 grosh and 13 grosh.

factory bankrupted owing to falling product prices (see *table 7*)[44] and declining profit rate (similarly to large estates!).

Table 5. Profits per labour force for different economic activities (in grosh)

Large estate	600-2000
Sheep	7500
Slaughterhouse	350
Iron ore	1500
Leather industry	500 for small scale 1000 for large scale units
Textile industry (1853)	600

Table 6. Prices, wages and purchase power of workers

	1845	**1847**	**1860–1870**	**cca. 1900**
Wheat price (piasters/t)	400	800	600–900	600–700
Wheat price in grams of silver	400	800	600–900	600–700
Price of cotton cloth (francs/kg)	24	10	8–10	
Price of woolen cloth (francs/kg)	26	24	17–22	16**
Daily wage in agriculture (grams of silver)	*2*	*4**	*10*	*12.5–14*
Industrial daily wage (in grams of silver)	4	5	12–14	10–12
Purchase power on cotton stuff for agricultural workers (index)	*1*	*4*	*10–15*	
Purchase power on woolen stuff for agricultural workers (index)	*1*	*2*	*5.8–7.5*	*10*
Purchase power on grain for agricultural workers (index)	*1*	*1*	*2.2–3.3*	*3.4–4*
Purchase power on cotton stuff for industrial workers (index)	1	3.1	7–9	
Purchase power on woolen stuff for industrial workers (index)	1	1.35	3.8–5	5
Purchase power on grain for industrial workers (index)	1	0.6	1.7–2.3	1.7–2

Industrial products' prices are from Michoff, N.: Contribution a l'histoire du commerce de la Turquie et de la Bulgarie III. Rapports consulaires français. Svichtov, 1950. *cca. 1860 **In 1892, Sariivanov. For detailed sources see: Demeter, G.: A Balkán és az Oszmán Birodalom… Vol. I. Appendix. 762–66.

44 In 1815 one top of aba was sold at 18-20 grosh by Atanas Gyumyushgerdan, in 1850 for 35 grosh by Mihail Gyumyushgerdan, but the silver content of grosh was halved in this period.

Table 7. Differences in agricultural and industrial wages for the centre and the periphery

Year	Daily wage of harvester	Bulgarian industrial daily wage unskilled/skilled	Ratio of industrial/ agricultural wage	Daily wage of unskilled industrial worker in Istanbul	Daily wage of skilled industrial worker in Istanbul
1840	2	4	2 = favourable for industrialization	5.9	10.1
1850	4	5* / 7	1.2	7.8–8	13.3
1870	10	10 / 14	1.2	7.8	16.6
1883	15	8 / 10	0.5 =critical for industrialization	7.9	17.2
1900/1905	12.5–14	10 / 14	1	8.9	17.9

See: Ta Van Long: Evoluciya na propadashtite zanayati v Balgarija (ot kraya na XIX v. do 1910 g.) Istoricheski Pregled, 1990/5. 33–44; and Ta Van Long: Razvitie na naemniya trud v zanayatchiystvoto v Balgariya (1888-1910). Istoricheski Pregled, 1991/12. 54–69; Özmucur, S.–Pamuk, S.: Real Wages and Standards of Living Living in the Ottoman Empire, 1489–1914. The Journal of Economic History 62, 2002/2. *Smaller values in Bulgaria are equal to Macedonian average.

Table 8. Productivity of different economic activities measured to wages

Activity	Output per capita (grosh)	Own wage of worker (prior to taxation)	Proportion of own wage
Gyumyushgerdan factory worker, 1853	3000 minus raw material = 2000 grosh	600-700 net profit per worker: 550 grosh	20-30%
Factory of Zhelyazkov, 1865	2800-4500 grosh	900 grosh	20-33%
Verlag worker of Gyumyushgerdan, 1839	800 (industrial)+1000 (agriculture) minus raw material in industry = 400 grosh	130+800 net profits per worker for owner: 90 grosh	50%
Smallholder peasant with 5 ha (3 sown) (depending on grain price)	900-3000 minus 180-600 grosh for seeds	600-2000	60% (taxes and seed deduced, but consumption not)
Chiftchi, 1864	2000-2500 minus seeds	600-1200	35-40%
Samokov miner, 1870	7000 (minus 2700 grosh of raw material trading profits equal to: 1800	2000 net profits per capita: 1500	30%
Sariivanov textile factory, Sliven, 1892	4200 leva, minus 1900 for raw material	wage: 900-1000 leva net profits per worker (for owner) 1450 leva	20%
Kantardzhiev textile factory, Sliven, 1892	7000 leva, minus raw material: 3000 leva	salary: 900-1000 leva net profits per worker (for owner): 3000 leva	10%

Husbandry can mean an extra 20-30% in revenues. See: Demeter, G.: A Balkán és az Oszmán Birodalom… Vol. I. 263.

In order to measure the profit rate in different forms of textile industry we may rely on the well documented activity of the Gyumyushgerdans. In the 1830s in *Verlag system* they produced twice as much yearly income as in the 1850s. But the expenses were also greater in the 1830s, thus the profit rate remained around 20% in both periods. It is also worth mentioning that the output was higher in the 1830s than during the industrialized forms of production (10 000 *top* vs. 2-3000 *top*), because they employed 300 part-time workers, while in the 1850s they had only some 40 permanent employees. Thus, up to the 1850s per capita output increased from 33 *top* to 50-75 *top*, while expenses were halved (from 150 000 to 80 000 grosh).

In 1851 the firm (now a factory) created 2000 *top* aba worth 68 000 grosh from 6100 *oke* wool bought at 8 grosh/*oke* unit price (48 800 grosh altogether).[45] Although the unit price of the processed product was 4-5 times valuable than that of the raw material, but if we calculate with weight-equivalent (3 okes of raw wool was needed for 1 oke aba) the difference is not remarkable. Furthermore, if we deduce the wage of workers earning 50 grosh monthly reaching altogether 20 000 piasters (calculating with 40 workers), then the wage totally eliminated the profits. Although one worker dealt with 150 *oke* of wool and produced 50 *top* of aba, which was better than the 30 *top* for a worker working in Verlag system, but was more expensive – regarding expenses per capita (although total expenses decreased). In the Verlag system processing one top cost only 4 grosh in 1839, in the factory with engines it was 10 grosh! So is it surprising that industrialization was simply not worth under these circumstances?

Few years later (1853) the situation ameliorated a bit – mainly due to war circumstances and guarranteed state purchases. 8800 okes of wool were processed (raw material cost 81 000 grosh, increasing to 10 grosh/oke unit price similarly to the Viennese value mentioned earlier), the workers' wage was 18 500 grosh reaching 18-20% of all expenses (see comparisons in *table 9*), but the income was 122 000 grosh making 22 000 grosh profits at 20% profit rate. This rate of return was not

45 *Todorov, N.: Balkanskiyat grad v XV-XIX v.* Sofia, 1972. 275–78.

exceptional, it was the lower boundary of profits which made the activity sustainable: credits were issued at 12-15%, other merchant firms like Minchoglu and Tapchileshtov also operated at 24-30% profit rate.[46] The merchant company in Varna reached 10% profit rate in its first year, and 25% in its second year.[47] The retail price of the produced 3000 top aba was thus 40 grosh per each, while the labour costs of processing fell back to 6 grosh/top. This seems to be a remarkable development (compared to 2000 top total output, 34 piasters/top unit price, 10 grosh/aba labour costs and 0% profits in 1851), but since Gyumyushgerdan was able to reach 15% profit rate in the Verlag-system as well in 1839, the change was not significant indeed. Especially not, if we take into consideration that the price and purchase quantity was guarranteed by the Ottoman state (without this the total expenses on – or the price of – 1 top aba would have been the same, 34 piasters as in 1851!). So, the 25% profit rate was reached among distorted market conditions and not in free competition: the industry was able to produce profit rate similar to other sectors, but only under special circumstances.[48] The only advantage was that the firm required less persons and less yearly expenses (the capital demand was decreasing), but it was not more efficient than the Verlag system regarding expenses per 1 top or profit rates! This is a great difference measured to western factories, where efficiency exceeded the efficiency in Verlag-system.

If we compare these results with another branch of – traditional – textile industry, one may come to the conclusion that *profit rates at guilds* interested in clothing were not smaller than in factories. Indeed, their profits were around 50% between 1810–78 – which was as high as in the 1890s in the case of factories – despite the doubling of daily wages and

46 *Todorov, N.: Za naemniya trud v balgarskite zemi kam sredata na XIX. v*. Istoricheski Pregled, 1959/2. 14.

47 *Tonev, V.: Balgarskoto Chernomorie…* 133–34. In the 4th year the base capital reached 45 000 grosh, too small compared to that of the above mentioned merchants.

48 The low return rate can be illustrated by the Greek numbers as well. Here 26 million drachmas were spent on establishing factories, raw material and wages cost 48 million drachmas, while processed material was worth some 60 million and energy costs reached 3 million. Summing up, these the 7500 workers produced hardly any profits. *Babanászisz, Szt.: A görög ipar kialakulása és fejlődése.* In: Gazdasági elmaradottság, kiutak és kudarcok a XIX. századi Európában. Eds.: *Berend, T. I.–Ránki, Gy.* Budapest, 1979. 378.

prices of raw material. (This also implies that the prices of processed products, dresses, clothes produced at Gyumyushgerdan and in Varna also increased, doubled indeed – due to state support of prices). Artizans of guilds representing small scale industry were able to produce 700–1000 dresses yearly (200 per person) during the Napoleonic boom, and this was not higher even in 1878 without engines in Varna (*table 14*). With the absence of mechanization it was the number of employees that mainly determined the output. (In the early stages costs and profit rates were not affected by mechanization, it was the quantity of output – thus share from the total market – that could be influenced by the application of engines).

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The consequence of integration to world market is evident from the aspect of industrial wage labourers: although industrial wages were increasing (*table 7*), this did not follow that of the grain prices, therefore the purchase power on wheat decreased in the case of industrial workers (*table 6*). At the same time the price of cotton products fell (*table 6*), thus the purchase power on textiles tripled after the 1840s! It meant especially favourable conditions for the agricultural smallholders, who did not suffer from the increase of wheat prices as being self-subsistent, while they were able to buy more industrial goods. Improving purchase power of the markets meant favourable condition for enterprises, which were – on the other hand – forced to implement mass-production: for these firms investments into mechanization became inevitable to compensate the decrease of profits. Profits were decreasing owing to falling prices after the end of imperial price support and due to increasing wages. As agricultural wages were still higher after the early years of liberation in Bulgaria (*table 7*), this hindered the accumulation of labour force in industry, triggering a reverse movement (de-industrialization), which increased industrial wages too and urged for mechanization. (Engines required skilled, thus better paid staff, while at the same time substituted workforce).[49] Furthermore, the price gap between processed products and semi-processed material was

49 As the operating costs in case of mechanized factories were not higher than in manufactures, it was the high initial capital of engines that limited their presence.

decreasing in the case of wool and cotton, which – together with the increase of wages – threatened the profits of local producers (*table 9*). Both phenomena urged for the substitution of labour force with engines, but due to the lack of capital concentration, this was difficult. The loss of Ottoman markets and state purchases, the implementation of real market circumstances in a region where small-scale peasant economies dominated, severely affected the textile industry. The number of craftsmen in Samokov fell from 426 to 53 between 1878–88. In Stara Zagora it was 493 in 1877, and 186 in 1879. Wool production in E-Rumelia dropped back to 40% compared to a decade earlier. The share of textiles from export fell from 20–30% to 5% of the total (*table 14*).[50]

Table 9. The price ratio of processed and raw products (added value)

Year	Woolen cloth (franc/kg)	Thread (francs / kg)	Ratio	Cotton cloth (francs/kg)	Thread (francs / kg)	Ratio	Silk cloth (francs / kg)	Raw silk and cocoon	Ratio
1846	26	1.33	19.5	24.5	1.2	20.4	110	38–40*	2.9
1851	24	1.1	21.8	10.1	1.37	7.3	140–150**	33–36**	4.2
1856	26	1.8	14.4	9.7	1.45	6.6	166	48	3.4
1860–70	17–22		10	8–10			105–115	30–35	3–3.5

Selected from and calculated based on Michoff, N.: Contribution a l'histoire du commerce de la Turquie et de la Bulgarie III. *1845–48; **1851–55.

Table 10. Ratio of wages and raw material

Year	Woolen thread (francs/kg)	Cotton thread (francs/kg)	Raw silk (francs/kg)	Daily wage (grosh)
1846	1.33	1.2	38	4
1851	1.1	1.37	33	5
1856	1.8	1.45	48	6-7

Year	Index of woolen thread	Index of cotton thread	Index of raw silk	Index of daily wage
1846	1.00	1.00	1.00	1.00
1851	0.83	1.14	0.90	1.25
1856	1.35	1.21	1.26	1.5-1.75

Selected from and calculated based on Michoff, N.: Contribution a l'histoire du commerce … Vol. III.

50 *Lampe, J. R.–Jackson, M. R.*: *Balkan Economic History …* 246.

Owing to the above mentioned problems of industry around the 1870s, the shift in local production from processed stuff to semi-processed goods (textiles-thread) was therefore a common practise (in Ottoman Turkey as well). As the increase of wages was not greater than the increase in prices of semi-processed material (*table 10*), these products could not contribute to the increase of the living standard of industrial workers on the long run!

Table 11. Productivity rate of Bulgarian textile industrial forms and units I

Cloth	**Factory of Gyumyush-gerdan, 1851**	**Factory of Gyumyush-gerdan, 1853**	**Gyumyush-gerdan, Verlag, 1839**		***Sariivanov, 1892***	***Kantardzhiev, 1892***
Expenses on raw material (grosh)	**48 800**	**81 000**	150 000	*leva*	**105 000**	**75 000**
Expenses on wage (grosh)	**20 000**	**20 000**	40 000	*leva*	**50 000**	**25 000**
Woolen raw material (oka)	**6100**	**8800**	30 000	*kg*	60 000–70 000	**50 000**
Processed (top)	**2 000**	**3 000**	**10 000**			
Workers	**40**	**40**	**300**		**55**	**30**
Raw material per worker (oka)	150	220	100	*kg*	1400	1666
Processed material per worker (top)	50	75	33			
Wage /worker (grosh)	500	500	132	*leva*	1000	900
Revenues (grosh)	**68 800**	**122 000**	240 000	*leva*	**230 000**	**210 000**
Revenue / worker (grosh)	1 720	3 050	800	*leva*	4 200	7 000
Profit rate before taxation (measured to income, %)	0	22	21		33	50
Profits / worker (grosh)	0	570	166	leva	1300	3000

Data indicated by bold are from sources, others are calculated based on analogies and the text of Demeter, G.: A Balkán és az Oszmán Birodalom I. Budapest, 2014. Appendix, 762–766. Data from 1892: Doklad za sastoyanieto na okruga i hoda na raznite v nego dosti sluzhbi za vremeto ot 31 avg. 1891 do 31 avg. 1892. Sliven, 1892, 32–35. Data for 1851–53: Todorov, N.: Za naemniya trud v balgarskite zemi…

Table 12. Productivity rate of Bulgarian textile industrial firms II.

Indicator	**1839, state owned factory, guarranteed prices**	**1839, state owned factory, guarranteed prices (grosh)**	**1839, local price (grosh)**	**1839, Istanbul local price (grosh)**	**Gümüş-gerdan factory, 1851**	**Gümüş-gerdan factory, 1853**	**Kantardzhiev factory, 1892**
Price of raw material (3 okes of wool)	12	15	15	15	24	27	32 grosh (at 1.5 leva unit price)
Wage / top (grosh)	4	4	4	4+1 (transport)	10	6	14
Price of processed material	19	19	24	28	34	40	4.2 leva/kg, 20 leva/4kg, or 100 grosh
Profit rate / income (%)	*16*	*0*	*21*	*30*	*0*	*20*	*50*
Raw material / income (%)	*63*	*75*	*62*	*53*	*66*	*66*	*38*
Wage / income (%)	*21*	*25*	*17*	*14*	*30*	*15*	*12*

Data are from Demeter, G.: A Balkán és az Oszmán Birodalom… Vol. I. Appendix. Data for 1892: Doklad za sastoyanieto na okruga… 32–35. Data for: 1851-1853 from Todorov, N.: Za naemniya trud v balgarskite zemi … 1 top aba = appr. 10 m / 4.5 kg / 5 m^2 / 2 dresses. 1 grosh = 1 gram of silver.

Table 13. Productivity rate of Bulgarian textile industrial forms and units before and after 1878

Textile industry in Eastern Rumelia (Sliven, Plovdiv)	**1883**			**1867**		
	aba	sayak	factory clothes	*aba*	*sayak*	*factory clothes*
Altogether (1000 kg)	121	70	54	*500*	*300*	*80*
Produced value (1000 leva)	**860**	**960+560= 1520**		***4 000***	***3 700***	
Unit price (leva/kg)	7.11	13.71	10.37	*8*	*11*	*9.1*
Unit price of raw material (leva/kg)	**1.6**	**1.6**	**1.6**	***1.5***	***1.5***	***1.5***

Year	**Textile *factories* of Eastern Rumelia (output in t)**	**Output in 1000 leva**	**Unit price (leva/kg)**	**N- Bulgaria (output in t)**	**Output in 1000 leva**	**Unit price (leva/kg)**
1867	1500	7000	*4.67*	540	2000[51]	*3.70*
1883/1903	610	3100	*5.08*	500	2650	*5.30*

Source: Palairet, M.: The Balkan Economies…

51 While the production of textile factories, manufactures were 9 million francs in 1867, total textile production (including home-spun textiles) reached 15 million.

Table 14. Productivity rate of Bulgarian textile industrial firms III (clothing)

Dress	Gyumyush-gerdan, 1806	Gyumyush-gerdan, 1809	Gyumyush-gerdan, 1815	Varna, one unit 1878	Varna, 1878 20 units with 80 workers
Raw material (1 top aba, cca 2 dresses)	**365**	**963**	**380**	400	8 000
Total costs of raw material (in piasters)*	6 570	19 250	6 840	16 000–32 000	320 000–640 000
Unit price of raw material (in piasters)*	18	20	18	40–80	40–80
Labour force (1 master with 1 apprentice, yearly 250 days, max. 500 dresses)	4	10	4	**4**	80
Dress (pieces)	**720**	**2 000**	**720**	**800**	**16 000**
Total value of dresses (in piasters)	15 000–30 000*	40 000–80 000	15 000–30 000*	100 000**	2 000 000
Total wage (without the master/owner)	5 000	5 000	8 000	13 000	250 000
Daily wage for 1 person (grosh)	5	5	8		10–13 (yearly 2 500)
Profits (piasters)	min. 3 000	min. 15 000	0–15 000*		1 000 000
Profit rate measured to income (%)	20–50	40	50	55	50

Data from 1878: Tonev, V.: Balgarskoto Chernomorie… Data for cca. 1800: Todorov, N.: Balkanskiyat grad… Data indicated by bold letters are from sources, the others are calculated.
*At 1839 prices (with decreased silver content compared to 1809). Unit price of dress: 20 and later 40 piasters (devalvation). **Unit price of dresses after 1878 based on the data of Keleti, K.: A Balkán-félsziget… 25 francs/piece, equalling to 125 piasters after the devalvations (1790–1840).

How did the reborn Bulgarian textile industry perform after the liberation? After the early stage of decline (*table 13*) the Bulgarian textile industry showed similar *productivity rate* in 1892 as England did in 1814 (!) (*table 16*), or a western guildsman who produced 1 m of textile per hour. Compared to the western guildsmen the employees of the Bulgarian Verlag-system produced only 0.33 m textiles/hour in the 1850s, but there were also factories in 1892 that could not produce more (firm Gyaurov in *table 16*).[52] The per capita productivity of (post-)

52 The Bulgarian efficiency in the 19th century exceeded that of the Hungarian in the 18th century. In Sopron between 1776–86 1 m per capita was the daily average. In Esztergom (Gran) between 1780–86 0.8 m/day was normal. Silk-spinning reached daily 1 m per capita in Italy, but 3-5 m in India using traditional spinning-wheels. The theoretical maximum

Ottoman era reached only one-fifth of a factory in the USA. Compared to the 1850s the productivity increased, but so did the *wages*. Owing to the relative oversupply of land between 1878–90s noone wanted to work in a factory for smaller wages that the land of 5 hectares could produce (600–1000 francs) until relative overpopulation became a problem a generation later. The *costs of wage* measured to production was still great in Bulgaria compared to western countries (*table 16*). The output per capita was similar to the Russian values in the 1890s (*table 15*) and did not ameliorate significantly over the century.

Although the wage costs/m and outputs were similar in 1892 to the values measured in 1853, the *profit rate* improved remarkably. The firm of Sariivanov produced a 33% profit rate, the Kantardzhiev factory in Sliven operated under 50%. What was the reason for this difference, if many of the major indicators were similar? The first reason was that these products were still sold at the Ottoman market, western markets remained unavailable for the Balkan quality. The second reason is that the installation of engines increased the output per capita. (Since the price of raw material was fluctuating, while prices of products were stagnating, the only possibility to influence profitability was to influence the wages or to increase the output). This was to balance the increasing wages. The *output per worker* was still weak in western comparison, but the improvement is undeniable compared to the last 50 years.

Table 15. The productivity of Bulgarian weaving industry in international context I

Factory	Productivity for one worker
Moscow, Vladimir, 1892 (14 hours daily)	456 rubles =1825 leva*
St. Petersburg 1892 (12 hours daily)	1102 rubles = 4410 leva
Estonia, 1892 (12 hours daily)	1327 rubles = 5308 leva
Dobri Zhelyazkov (12 hours daily) 1850	*2800 - 5500 leva **
Sariivanov, 1892	*4500 leva (wage: 900-1000 leva, raw material: 1500 leva)*
Kantardzhiev, 1892	*7000 leva (wage 800-900 leva, raw material 1500 leva)*

*1 rubel equals to 4 leva prior to 1897 and 2.66 leva after. ** 120 000 okes of washed wool, 40-50 000 top at 18-20 grosh unit price or at 40 grosh unit price. Data from: Istoriya na balgarite v dokumenti, I/1.

under these circumstances (without mechanization), supposing continuous supply of thread was daily 4 m/capita or 0.5 m/capita/hour (see *table 16* for comparisons!). *Endrei, W: A textilipari technikák termelékenységének története.* Budapest, 1993. 181. 113–15. 52–53.

Table 16. The productivity of Bulgarian weaving industry in international context II

Region, year	Working hours / week	Productivity m / person / week	m / person / hour	Weekly wage	Wage costs for a meter of product
1814, England	80	131	1.5		
1832, England	72	220	2.8		
1890, England	54	540	9		
Germany, Switzerland 1890	68	466	6.8	11 s 8d*** (50-60 piasters)	0.3 d/m (under 0.2 piasters/m)
Lancashire, 1890	54	706	13	16 s 3 d (80 piasters)	0.27 d/m
USA, 1890	60	1200	20	20 s 3 d (100-120 piasters)	0.2 d/m
Plovdiv, Gyumyusgerdan-factory without machines, 1850, aba clothes	80	30	0.33	2 leva (10 grosh)	2.5 piasters/m
Plovdiv, Gyumyushgerdan 1853, aba factory	80	40	0.5	2 leva (10 grosh)	0.6 piasters/m
Dobri Zhelyazkov, 1865 250 thousand oke or 100 000 top aba, textiles and dress	72	30-60	0.5-0.8**	18 grosh	0.3-0.6 grosh/m
Abadjis of Samokov with peasant smallholdings, 1876, aba			0.6 m /day	cca. 100 grosh for a year, at 666 grosh / person / year productivity	0.6 grosh/m
Sliven, 1892: Sariivanov, yearly 150 000 m* 50 workers +50-100 spinners	60	60	1**	20 leva (100 piasters)	0.33 leva/m (1.5-1.65 piasters)
Sliven, 1892: Tanev és Kantardzhiev, 30 workers, yearly 140 000 m	60	100	1.6	16-18 leva (80-90 piasters)	0.25 leva/m (1.25 piasters)
Sliven, 1892: Balgarija, 100 workers, yearly 50 000 m	60	10	0.2		
Sliven, 1892: Gyaurov, yearly 50 000 m, 30 workers	60	33	0.5		

* clothes of 45 cm and 135 cm width are recalculated to 45 cm width; **total vertical integration with spinners, so total production can be doubled; *** 1 pound sterling = 20 shilling = 240 pence (d)
Demeter, G.: A Balkán és az Oszmán Birodalom… Vol. I. 267.

The Bulgarian textile industry remained underdeveloped. There had been 12 thousand weaving machines in England already in 1812, the British had invested 1 million pounds (22 million francs) to the textile industry by 1790, while in Bulgaria the value of *total* industrial investments had reached 100 million francs by 1910.[53] In India 1000 spindles was handled by 25 persons (1:40 ratio), while in Bulgaria this ratio was 10. After the spread of potato as foodstuff English entrepreneurs were complaining that the workers earned their weekly foodstuff within 2 days, therefore in the other days of the week their productivity decreased. Therefore the interest of entrepreneurs was to cut back salaries.[54] But in Bulgaria salaries could not be cut back under agricultural wages (not only because potato was not a common foodstuff), because it would have triggered a reverse stratification into agriculture (until there was enough land). The lack of capital concentration can be observed in the selection of machines as well. A manual weaving machine cost 8-10 pound sterlings in England, while a 'mule' machine was 30-35 pounds. The previous lasted for 20-30 years, the latter for 15 years. The previous had an output of 1m/hour at 1.5 shilling, the latter produced 20 m/hour at 0.66 shilling unit price. 4 Bulgarians rather bought 4 manual weaving machine than one 'mule' for the same total amount of money because of the lack of capital concentration, although the productivity of the 'mule' was 40-50 times greater (or 20-25 times, if amortization is calculated with).[55]

Prior to the industrial revolution in Bulgaria, Bulgarian guilds have similar output to that of English guildsmen. That is why factories did not push out guildsmen from the market immediately. In Saloniki the spinning factory produced 1 kg/spindles/day = 4000 m/spindles/day = 300 m/spindles/hour in 1850, while in England and Switzerland the similar value was reached already in 1793, and in India the same production rate was measured – using the traditional spinning wheel.[56] In Chemnitz, the factory owner Kreissing bought 50 Spinning Jennies in

53 *Endrei W.: A textilipari technikák termelékenységének története…* 160.
54 Ibid., 34.
55 Ibid., 14–15.
56 Ibid., 103–104.

1800, thus substituting 300 workers, reaching an output of 38x8150 m early, which was exactly 170-200 m/spindles/hour, or 300 m/capita/h,[57] just slightly worse than the output of the firm in Saloniki in 1850.

The following example reveals how vulnerable the Bulgarian textile industry was after 1878. In 1892 the Sariivanov textile factory in Sliven produced 120 000 x 0.45 m textile at 1.5 leva/m unit price and and 10 000 x 1.4 m textile at 5 leva/m unit price with its 55 workers. This meant an income of 230 000 francs. The workers' wage reached 55 000 leva (1000 francs/capita – compare it with the 600 grosh or 120 francs paid by Gyumyushgerdan in 1853). This output needed 50 000 kg raw, unwashed wool bought at 1.5 leva/kg unit price, so the cost of raw material was 75 000 francs. The revenues exceeded the expenses by 100 000 francs meaning a 40% profit rate measured to expenses. This exceeded the profit rate of firms analyzed prior to 1878. Thus, it seems to be a profitable investment: the added value exceeded 3 times that of the raw material, and the investment (without buildings and engines) showed a three-year rate of return, which is similar to the return rate of the large landholdings (also measured without the costs of buying the land).[58] But taxes modified this favourable situation. Surtax on profits reached 15 000 francs, the tax on income was 23 000 francs (10%). If the entrepreneur did not have enough initial capital to invest, he needed a credit to run such an enterprise: 200 000 francs loan for 10 years at an interest rate of 10% means yearly 50 000 francs deduction from the profit. And the remainder is not too much: 100 000 – (15 000 + 23 000 + 50 000) = 12 000 francs! If there was a 10% decrease in the price of the textiles (or increase in prices of raw material), while the wages remained constant, it meant that the income would fall to 200 000 francs (expenses remained around 130 000). In this case the profit rate (measured to income) was still above 25%, but taxes took away 20+12 thousand leva (the state also loses 6000 francs tax-income owing to price fluctuations). The remainder was only 42 000 francs, thus the yearly payment of credits could not be fulfilled in this case! This means that under these circumstances both the state and the entrepreneur and even the creditor

57 Ibid., 67.

58 *Doklad za sastoyanieto na okruga …* 32–35.

(bank) had a clear interest to cut back industrial wages in order to increase the rate and amount of profit! [59] (Not to mention the workers, who could lose their jobs in case of bankruptcy). Thus at the end of the 19th century wages in textile industry began to stagnate.

Certainly these conditions and the lack of capital meant that Balkan textile factories could not compete with the western firms, only with the Russians (*table 19-21*). The Serbian, Greek and Bulgarian firms were similar regarding their output indicators.[60] In Macedonia it was the cheap labour force that maintained the profitability of the production (as in Syria). Low industrial wages here were still attractive enough compared to the even lower earnings in agriculture, as in Macedonia the chiflik dominated (extending to more than 50% of lands) after 1878. Landlords (and the state) tried to deprive the surplus of the producers in order to compensate the losses in revenues (due to the decrease of wheat prices) through the increase of exported volume and taxes. Akarli proved that between 1890–99 per capita agricultural taxes increased by 70%, while the grain prices fell by 15% (*table 21*): thus *the outbreak of the Ilinden revolt in 1903 can be explained by economic reasons as well*. The decrease of wheat prices and the increase of taxes resulted in a decline in agrarian population (although per capita output volumes increased, but the incomes did not, as grain prices fell) and *a relative industrialization in rural Macedonia* too (*table 17*). The number of spindles increased eightfold in the countryside within 20 years, and the productivity per one spindle also doubled in the next 10 years reaching

59 Under these circumstances the factory could only survive if the interest to be paid was not more than 35 000 francs, so the loan could not exceed 140 000 leva, thus at least 100 000 leva own capital is needed for the first year of operation.

60 Per capita output was 2800-5500 leva at Zhelyazkov, 4400 leva in St. Petersburg, 5300 leva in Estonia, 4500 leva in the Sariivanov factory. The Polish center, Łódz had 569 industrial units in 1913 with 1 539 000 spindles, 36 384 looms and 81 000 workers. The total product of silk industry was 16 441 000 rubles, while industrial output of textiles was 187 million rubles (2300 rubles/person). In 1910 other forms of industry produced only 10 million rubles with 8000 workers (1200 rubles/capita; steel industry was leading among them with 4 million). 13% of workers was children, the proportion of adult males reached only 55%. The salaries reached 29 675 000 or 333 rubles per person (16% of the output). *National Széchényi Library, Budapest (Országos Széchényi Könyvtár). Néhai Dr. Thallóczy Lajos osztályfőnök hátrahagyott iratai sztenographalt részének átírása*. Fol. Hung. 1677. Bosniaca, IX/3. 608–09, 613.

the average of Saloniki (160 pounds/spindle). (The Prince Boris factory in Varna produced 223 pounds in 1902, Niš 138 pounds/spindle).

Table 17. Industrial deconcentration and increase of productivity in Macedonian textile production, 1879–1912

Year	Saloniki			Countryside			Altogether		
	Spindles	Production in million pounds*	For one spindle	Spindles	Production in million pounds*	For one spindle	Spindles	Production in million pounds*	For one spindle
1879	12 000	0.7	58.3	1500			13 500		
1891	18 800	3	159.5	4200	0.8	190.5	23 000	3.8	165.2
1908	18 000	3	166.3	33 000	3	90.9	51 000	6.5	127.4
1912	22 800			47 200	6.4	135.6	70 000	8.5	121.4

Own calculation after Palare, M.: Balkanskite ikonomiki… 370. * Pound is a weight unit here.

Table 18. Comparison of indicators of textile (thread) production between Saloniki and Paraćin

Place	Spindles	Looms	Production (meters)	Production (dinars)	For one spindle (m)	For one spindle (dinars)	Worker	Production per worker
Paraćin 1891	3400	96	250 000	2 000 000	73.5	588.2	400	625 m* (weekly 15 m)** 5000 dinars
Paraćin 1897	3400	96	170 000	1 108 000	50	325.9	400	425 m and 2770 dinars
Saloniki 1910	23 000		3 000 000 pound weight				2800	1071 pounds*** (weekly 22 m)

*Wage costs/meter equal to 1 dinar which was high: in Bulgaria it was about 0.25-0.33 leva/m. In Serbia 1 m of cloth cost 8 dinars, thus the ratio of wage costs was only 12% while in Bulgaria it was 12-20%.
**In Sliven at Gyaurov's factory in 1892 it was weekly 33 m, in the Balgariya factory weekly 15, at Sariivanov's weekly 60 m clothes were produced by one worker, at Zhelyazkov's firm it was 30-60 m.
***As 1 kg of clothes equals to 2 m x 0.5 m thus 1 pound is cca. 1 m x 0.5 m. The factory in Saloniki produced only thread and not cloth, that is the reason for the higher output values.

Table 19. Productivity of textile factories in the Balkans

Factory	Spindles	Production (in pounds / or in meters)	For one spindle (in pounds)
Prince Boris, Varna, 1902	11 200	2 500 000	223
Niš	*3600*	*500 000*	*138*
Saloniki altogether in 1879	12 000	700 000	58
Saloniki altogether in 1891/1908	19 000	3 000 000	166

Data from: Demeter, G.: A Balkán és az Oszmán Birodalom. Vol. III. 287–88. (0.5 kg = 1x0.5 m^2)

Table 20. Productivity and efficiency of Balkan and western textile factories

	USA, 1831	England, 1833	Saloniki, 1879	Saloniki, 1900
Cotton spindles / capita	22	39	10–12	10–15
Capital / capita (USD)	33	18		
Cotton (pound) / spindle	62	28	58	130
Cotton (pound) / person	1364 (610 kgs)	1100 (500 kgs)	700	1200–1400

Endrei W.: A textilipari technológiák … 60. Supplemented with the data of Palairet.

Table 21. Tithe incomes in Macedonia

Year	Tax incomes (francs)	Rural population	Tax per capita (francs)	Wheat price index	Grain output (million tons)	Output / capita (tons)
1888–1890	41.5 million	2.04 million	20	100	1.1	0.5
1901–1903	58.3 million	1.7 million	34	85	1	0.6

After Akarli, A. O.: Growth and Retardation in Ottoman Macedonia 1880–1910. In: The Mediterranean Response to Globalisation before 1950. Eds: Pamuk, S.–Williamson, J. G. Routledge, 2000. 121.

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It is also worth making a comparison between the return rate of different economic activities *in different regions*. A mediocre landholding of 30 hectares (under dry cultivation by 5 adult males, so land/male worker was similar to that measured in Bulgaria) in Hebron (Palestine) produced 3500 francs revenue (incuding income from animals, which totalled 600-700 francs) at the turn of the century after the deduction of the tithe, 277 francs. This means only 100 francs/ha revenue, lower that came in either from the smallholdings (over 150 francs) or large estates in Bulgaria. Among the expenses one could enumerate the taxes on estates, altogether 56 francs, tax on goats and sheep, altogether 200 francs + the tithe, altogether 530 francs. Taxes altogether constituted 16% of the income, similar to the value in Rumelia prior to 1878 (when it decreased to 11 %). Further 344 francs should be deduced as wage for assistant workers. Expenses on clothing were estimated to 170 francs. Foodstuff (that the estate was unable to produce) cost further 150 francs. Altogether 340 francs were spent on needs. Thus total costs reached 900 francs, while the net gain was 2500 francs, or 17-20% of the total value of the estate (14 500 francs = animals, 3200 francs + house for 3600 francs +

1.5 ha of wineyard for 3000 francs + 30 ha land for 4500 francs).[61] This means that the rate of return was quicker than in case of a silk-reeling factory in Lebanon, which produced only 10% profit rate measured to base capital. For one male workforce 480 francs net profit was calculated (5 males were working on the lands one for each 7 hectares), which is remarkable, but not unique compared to other activities (see *table 5*, and seeds and consumption should be deduced from this sum, thus consuming half of the profit).[62] If we compare these data to the inquiry of Daux and Le Play on Bulgarian conditions around 1850 in a household that partly gained incomes from industrial activity (the head of the family was a smith) we found 400 francs income and 285 francs expenses (the value of the estate was 400 francs), which is similar *percentage* value to that measured in Hebron. Per capita expenses were similar (60 francs), while the income/male workforce remained under the value measured in Palestine (700 vs. 400 francs). However, later Bulgarian examples with one adult male worker settling on an estate of 5 hectares also suppose 600–1000 francs income, which is similar to that measured in Hebron.

If we compare this basic landholding with dry-cultivation to the intensely cultivated, irrigated estate of similar extent in Sarona we may find significant differences including total income or the structure of products and profitability rate. One hectare of orange orchard was 4 times more expensive than a wineyard and 15 times more expensive than a hectare of ploughland. Although the cultivation was capital-intensive, the income from this orchard showed 33% rate of return. Other products like milk, grape showed similar profitability (calculated without the cost of water and drainage). The agricultural labour force earned 4-500 francs yearly, which was a bit lower than in Bulgaria, but was similar to that measured in Macedonia. Since this amount represented the *net income of the worker*, it was similar to those working

61 cca. 150 francs/ha (similarly to Bulgaria prior to 1878. Uncultivated fallow land was valued at 50 francs/ha.

62 *Issawi, Ch.: The Fertile Crescent 1800–1914. A Documentary Economic History*. New York, 1988. 330–335. Calculating with 1:5 seed : crop ratio, from the net output of 2700 francs further 550 should be deduced. The 20 inhabitants consumed 250 kg wheat/capita, altogether 5 tons, meaning further 700 francs.

on the farm around Hebron. The *composition of products* was favourable, as many were exempted from tithe, thus this tax reached only 5% of the total income compared to the 12% in Hebron. The wage of labourers constituted 25% of the expenses (in Hebron it was 10%), while the *total profit rate* was around 10–13% (measured to total investment). This seems to be a low value compared to the former example (17%), but the absolute value of profits was high, 8000 francs.[63] (The value of the estate itself was estimated to 85 000 francs compared to the 14 500 francs in the former example). Per hectare profits reached 260 francs (4 times higher than in Hebron), and although the *costs of labour force* were also higher measured to the total expenses than in Hebron, one male workforce produced 2900 francs income in Sarona (and 1200 francs profit) – three times greater than in Hebron. But the *income/expense ratio* was only 1.8, while in case of dry economy it was 3. It seems that both forms had certain advantages (small investment with small absolute profits and quick return rate in Hebron; labour and capital intensive, but diverse and high-producing agriculture in Sarona, with smaller return rate, but with low taxes). Comparing this intensely used orchard of 30 ha with the investment costs and profits of a silk-reeling factory, the latter still seems to be an inadequate form of investment with its 200 000 francs of initial costs (2.5 times greater) and yearly profits rated at 8-28 000 francs (similar to, or maximum 2.5 times greater than measured in Sarona).

Alternatives in agriculture should be also considered. Animal husbandry was rewarding in Syria too. Let us suppose a herd of sheep with 100 ewes, each worth 30 piasters. Together with rams the sum totalled 5000 piasters (1000 francs). 100 ewes raised 50 new sheep yearly (half of which is female) and some butter and wool. The owner of the herd received half of the wool and one third of the butter/cheese. The bedouin shepherd earned 37 wool and 48 *ratl* butter. Thus the profits can be calculated as follows: 25 newborn ewe lambs, each 30 worth piasters and 25 newborn rams each rated to 20 piasters giving a total 750+500 piasters. The 23 ratl butter cost 322 piasters, the wool 190 piasters, which was altogether 1760 piasters. The profit rate was 35%,

63 Without the deduction of local consumption and seeds.

but deceased animals should be deduced, which is 850 piasters calculating with 25-33% mortality rate. Thus 1000 piasters remained, approximately 20% of the value of the herd (similar to the case of Transylvanian herds). The benefit of the bedouin shepherd was around 850 piasters from butter and wool (48x14+37x5 piasters respectively). The usage of grazing land was free in return for this payment. Although the *profit rate* for the owner was similar to that of the estate in Hebron, *per capita profit* wass smaller (480 francs vs. 200 francs). But one should admit that the investments costs were especially low in this case, which was a key element in the popularity of this economic activity. The shepherd's income was also smaller than that of those working for the orchard, but his work was less intense.[64]

Table 22. Expenses and revenues of the irrigated estate at Sarona, profits measured to incomes

	Incomes (francs)	**Income measured to capital investment (%)**	**Income %**	**Expenses (francs)**		**%**
Orange	5500	33	27.1	Workforce (6 persons)	2100	17.5
Milk	4200	90 (35 measured to expenses)	20.7	Gardener's share (50% of products)	1100	9.2
Groceries	3500		17.2	Amortization costs	4400	36.7
Grapes	2900	30	14.3	Household expenses	3000	25.0
Melon	1000		4.9	Tithe	1100	9.2
Potatoes	1300		6.4	Together	12 000	100.0
Together	20 300		100.0	Issawi, Ch.: The Fertile Crescent… 335.		

Issawi gave a detailed account on the profitability of the industrial sector too. A factory processing 5000 kgs of silk cost 35 000 francs,[65] the yearly wage was put to 5000 francs. The cost of the raw material has to be added to this value. Raw silk cost 47–52 francs/kg depending on the quality, while cocoons cost 37 francs. Thus the total output reached 230–260 000 francs yearly, but the raw material itself was 180 000 francs. This

64 Based on *Issawi, Ch.: The Fertile Crescent…* 300.

65 According to Issawi in 1858 two silk-reeling factories were sold at 300 000 piasters.

still allows a profit rate of 20%, but further costs should be deduced, in connection with the processing of raw silk (7 francs/kgs = 35 000 francs), and transport costs or paying the interests of credits. So the real profit was rated somewhere between 1.8 and 5.5 francs/kg, shrinking the total profits to 8-28 thousand francs, which reached only 4-12% of the investment (without the cost of the buildings). So, the rate of return was really slow despite the high income and profits. Similar amount of profits could be produced by an orange orchard of 30 ha in agriculture. Furthermore, the 55 workers of a modern European silk factory produced more silk than the 100 workers of a Lebanese firm, while costs were reduced to 4 francs/kg in the former compared to the 7 francs in Lebanon. With an additional investment of 24 thousand francs (the profits of 2 average years) Libanese factories could have been modernized, reaching the output levels of European-owned factories and 10-18% profit rate.[66]

These above-explained factors are responsible for the fact that in Lebanon semi-processed industrial goods were more profitable to invest into. Cocoons produced a larger profit rate, many small producers remained at the level of profitable silkworm-breeding and did not invest into silk-reeling. Thus a *relative de-industrialization occurred* here, similarly to the Balkans. Agriculture was also a viable alternative here owing to the favourable trends in terms of trade prior to 1873 and after 1900, and those who lacked capital hardly invested into the industry.

The *profit rate* in other branches of textile industry was remarkably higher than in silk-reeling (*table 23-25*), the latter could only overtake the 5-6% profit rate of crop export in Iraq.

As Bulgarian lands were the centre of textile industry in the Empire before 1878, it is worth comparing their indicators with that of the Middle East. The *costs of production* were not significantly higher than in Syria. The *wages* constituted 15-30% of costs in Bulgaria prior to 1878, then fell back to 10–25%, while it was 15–20% in Lebanon. Textile *production per capita* was higher in Bulgaria. In Homs 12 thousand people were engaged in this industry with 4000 looms[67] producing 9

66 *Issawi, Ch: The Fertile Crescent*… 325–26.
67 Ibid. 68–75.

million francs – this was 750 francs per capita (of course the wage was smaller). In Bulgaria the Verlag system applied by Gyumyushgerdan produced 800 francs/capita output in 1839 and more than 3000 in 1853. After 1878 per capita output reached 4000–7000 francs (in Russia it was 1800–4400, in the Serbian Paraćin this increased from 2700 to 5000 francs/worker between 1880–1900) far exceeding the Syrian value. The Syrian town of Hama had 400 looms in 1870 and 1000 in 1880 engaging 3000 persons, which put the per capita output only to 333 francs. But this may indicate small scale industry (the output of cotton products in Damascus doubled after 1879). Similar output/capita values to the Bulgarian production were only produced in the silk industry (1500–2500 francs), but the cost of raw material was high, it was a capital-intensive industrial branch in Syria too.

In Bulgaria the *income* could exceed the expenses by 20-33% prior to 1878 and 33-50% after, while in Syria it was 7-12% in the case of silk and 25% in the case of *aba*. *Wages* were also different: in Syria these were around 420-750 piasters yearly in leather and pottery industry around 1890, which was remarkably smaller than the characteristic Bulgarian payment after 1890 (reaching 2000–3500 piasters) and resembled rather the era prior to 1850. Probably this was one of the comparative advantages of Syrian textile industry: cheap labour force. In silk industry wages were somewhat higher and reached daily 11 piasters (2.4 francs), similar to the Bulgarian value.

The *output per capita* in Syria was yearly 500–700 m (as in Serbia – 425–650 m or weekly 15 m), while in Saloniki it was about 1000 m. In Bulgaria it was 30-40 metres weekly at Gyumyushgerdan's prior to 1878 – and increased up to 60-100 m/week at the turn of the century. In England this value exceeded 130 m/week/person early in 1814 and had doubled by 1832. So, it is evident that the Syrian textile industry was characterized by low effectiveness and could be competitive only owing to its low unit prices (which was partly due to low wages). The *price* of the *aladja* textile was 3-5 francs/m in 1879, while in case of cotton it was only 0.5-1 franc/m. In Bulgaria around the 1850s one top aba (5m^2 or 10x0,5m) was 35-40 piasters, similar to the Syrian price (0.8-1 franc/m), but by 1890 the former had increased to 14 francs (or 1.5 francs/m).

Table 23. Productivity of Lebanese factories in 1899

Products of Beyrut	**Pieces**	**Units**	**Raw material (quintar)**	**Price of raw material and cost per unit (1000 piasters)**	**Costs of processing and cost per unit (1000 piasters)**	**Value of products and value per units (1000 piasters)**
Silk belts	120	looms	36	882 (24)	360 (3)	1323 (11)
Shirts	40	looms	16	392 (24)	66 (1.5)	504 (12.5)
Ribbons	100	shops	100	2000	1000	4000
Leather	200	worker		300	150 (0.75)	600 (3)
Pottery	120	worker		100	50 (0.4)	200 (1.6)
Sesame and halva	12	shops		300	150	600
Ship	1	factory		250	200	600
Dayr el-Qamar						
Silk and cotton goods	120	looms	60	1200	900 (7.5)	2400 (20)
Aba	40	looms	10	200	100 (2.5)	400 (10)
Products of Beyrut	**Profits (1000 piasters)**	**Profit rate measured to income %**	**Profit/unit (1000 piasters)**	**Production per unit (1000 piasters)**	**Yearly wage per capita (1000 piasters)**	**Costs of processing (%)**
Silk belts	100	7.6	0.83	11		27
Shirts	46	9	1.15	12.6		13
Ribbons	1000	25	10	40		25
Leather	150	25	0.75	*3*	*0.75*	25
Pottery	50	25	0.42	*1.7*	*0.42*	25
Sesame and halva	150	25	12.5	50		25
Ship	150	25	150	600		33
Dayr el-Qamar						
Silk and cotton goods	300	12.5	2.5	20		38
Aba	100	25	2.5	10		25

Based on Issawi, Ch.: The Fertile Crescent… 382.

So, Syrian products were cheaper, which could defend the local markets with low purchase power from the penetration of import textiles. In Germany the daily wage of a worker was 24d (2s) in 1890, in

Lancashire it was 26 d, while in Aleppo it remained under 1s (5-6 piasters). In the factory of Dobri Zhelyazkov in 1865 the daily wage was 3 piasters[68] (in Lebanon in the 1850s it was 4-6 piasters) – similar to the Syrian value, but as we mentioned, industrial wages went upwards in the Balkans after 1878 – together with unit prices.

Table 24. Characteristics of textile industrial production in Aleppo Vilayet, 1890

Products	Looms	Total produced value (pound)	Daily wage	Daily output per loom (font) *	Value of 5 yard clothes
Cotton goods	1500	56	8–11 d	37,3	1 s 5d
Cotton and silk	650	49	1 s	75,4	2s 10 d
Silk	900	135	1 s 3d	150.0	5s 9d
Silk with golden thread	50	25	1 s 3d	500.0	
Altogether	3135	270		86.1	

Issawi, Ch.: The Fertile Crescent, 75.

* Calculating generally 3 persons for a loom it means 1300 piaster/capita (270–300 frank) for cotton products and 5000 piasters (1100 francs) for silk stuff and 16 000 piasters, 3600 francs for gilded silk.

Table 25. The productivity of textile industry at Damascus in 1879

Type of cloth	Worker	Output	Unit price (francs)	Production per capita	Income per capita (francs)	Value of 1x0,5 m^2	Total income (francs)
Aladja (cotton and silk)	1200	100 000 (6x0.5 m)	18–30	250 m^2 (500x0,5)	1500–2500	3–5	1.8–3 million
Dima (cotton)	2500	300 000 (6x0.5)	3–6	720x0,5	360–720	0,5–1	0.9–1.8 million
Mabrum (cloth)	3000	300 000	2–4	100	200–400		0.6–0.8 million

Issawi, Ch.: The Fertile Crescent… 79.

What happened to the Syrian textile production under these circumstances? Total production was stagnating while the centre of production was shifting from town to town showing temporal local upswings. According to Boislecomte the total production in textile industry was 6 million francs in Damascus around the 1830s. Bowring

68 *Demeter G.: A Balkán és az Oszmán Birodalom...* Vol. I. 266.

put it 16 million francs of which 12% was labour costs. To this we should add the production of Aleppo and Lebanon, making it a total of 24 million francs. The production in Damascus had fallen back to 10 million francs by 1898, while in Aleppo it had increased to 10-12 million and this was similar in Hama and Homs. The total production of the textile industry in this region with 4 million inhabitants was put to 24-30 million francs similarly to the early years. Since unit prices were falling, the volume of production probably increased. Bulgaria with similar total population produced 15 million francs in the 1870s (3 million inhabitants), 10 million francs in 1900 (80% of this was produced in factories) and 20 million in 1910 (4 million inhabitants). [69]

In Syria directly 30-40 thousand people (families) were involved into any forms of textile industry (in Bulgaria together with shepherds it was 60-70 thousand prior to 1878; after the liberation it shrank quickly to few thousand engaged in factories) for yearly 6-8 million francs wage, which was 20% of the value of the total production. For one person it only meant 200 francs yearly: this was not more than the 900-1000 piasters, that landless agricultural wage earners received (it was 350 francs for a skilled agricultural worker in Sarona), well under the Bulgarian industrial salaries (600-900 francs that time).[70] It is not surprising therefore that small-scale home industry survived and the restratification of workforce into real, large factories did not take place – not even in the era between 1873–96 when tendencies in terms of trade favoured industrial investments. Families did not give up agriculture, mainly children and women were sitting next to the looms, if it was necessary for the family to subsist. Since the profit rate on cocoons was great, even surpassing 40%, smallholders did not prefer to give up agriculture and work for a silk-reeling factory, which produced only 15% profits even for the owners, not to mention the ridiculously small earnings. The behavior of local producers – who turned towards the production of semi-processed material instead of end-products –

69 It also means that prior to 1910 the per capita output of the small-scale Syrian industry was larger than in Bulgaria.

70 In Hebron at the estate of 30 ha the per capita output was larger than that.

created a relatively favourable situation for imported goods.[71] Farmers even gave up crop production for cocoons – the fertile Syria became a net importer of grains, which makes the seemingly irrational military interventions and investments of the central government reasonable: the expensive occupation of Deir-es Zor in 1862 and the expulsion of bedouins from the Hauran was to serve the security of grain supply.

Table 26. A comparison of the profitability and productivity of different activities in Lebanon

Economic activity	Capital for buildings, equipment (francs)	Profits (francs)	Profit rate (%)	Profits (income) / ha	Profits / worker	Income / worker	Income / Expense ratio	Wage of 1 worker (francs)
Hebron, 30 ha, 5 adult males, dry cultivation	14500	2200	15-20%	75 (115)	440	680-700	3400 / 1200 = 2.9	680
Sarona, 7 workers, 30 ha, irrigated orchard	85000	8000	10% / 35%	270 (670)	1140	2900	20 000 / 12 000 = 1.7	450
100 sheep (1 shepherd)	1000	200+170	20%					170
Silk reeling + processing	35000	8000-28000	5-13%		500	1500	260 000 / 230 000 = 1.2	720
Textile industry in 1850 and in 1880	160 (handloom) / or 700		25%		?/170	350/750		150/250

Data from: Demeter, G.: A Balkán és az Oszmán Birodalom. Társadalmi és gazdasági átalakulások a 18. század végétől a 20. század közepéig. Vol. II. Rumélia, Anatólia, Közel-Kelet. Budapest, 2016.

Finally, a comparison of different economic activities regarding their productivity is given in *table 26.* Profits were high in absolute numbers in silk-reeling, but its huge costs made profit rate the lowest among the enumerated. The profits in absolute number were similar in irrigated orchards, but it was even more expensive compared to silk-reeling or dry cultivation (low income/expense ratio). Profits in textile industry measured to initial capital did not exceed the profits in agriculture.

71 In 1857 in Aleppo cotton production was three times as much as twenty years later, but local demand shrank owing to the inflow of import cotton thread.

Prosperity and Ethnic Differences in Urban Spaces during the Tanzimat (1840–70s)

A Comparative Analysis of Priština, Vučitrn, Some Rumelian and Anatolian Urban Communities

Reforms aiming at structural changes can be considered successful, if they not only result in the improvement of macroeconomic situation, but their effect can be traced at local level as well, promoting the enrichment of the society. A reform resulting in the development of macroeconomic situation, without promoting local prosperity cannot be sustainable, it merely means overtaxation. Similarly, a reform triggering local prosperity, but at the same time increasing inequality between the social strata is also not a desired solution. Decreasing ineqality as a result of general impoverishment is also not a preferred outcome. Thus, there are numerous limiting circumstances that influence the present adjudication of reforms. In this study we examine the development of local welfare, including inequalities between certain socio-religious groups, while from methodological aspect, we intend to show the variety of possibilities that a certain source type (*temettuat defters*) can offer.

It is evident that the Ottoman budget increased significantly between the 1840s' and 1870s, although the role of foreign loans in this was not negligible. As for investigating local incomes, Ottoman sources provide facilities to measure and compare the welfare of the local societies through *temettuat defters* (which contain the yearly income for each person in the urban communities), or through the analysis of probates (in *sicil*s and *terekes*),[72] or based on tax-conscriptions. Researchers have

72 Originally published in: Shared Pasts in Central and Southeast Europe 17th–21st Centuries: Hungarian and Bulgarian Approaches. Eds.: *Peykovska, P.–Demeter, G.* Sofia–Budapest, 2015. 72–93.

Atanasov, Hr.: V osmanskata periferiya: obshtestvo i ikonomika vav Vidin i okolinostta prez XVIII v. Sofia, 2008. 73 For example, in 1841 the number of persons grouped into the *ala* (richest) category was 234 in Berkovitsa, 5978 were *evsat* and 1124 *edna*. In 1831 it was 227, 6247 and 2978 respectively. *Demeter, G.: A Balkán és az Oszmán Birodalom.* Vol I. Budapest, 2014. 354–355.

to face with the methodological challenge that these sources differ regarding their content and are not comparable to each other. The first source-type refers to yearly income and tells nothing about the profits or the wealth itself, narrowing the possibilities of a comparative analysis. Last wills usually contain data on wealth, but not on yearly income. Neither can tax-registers refer to welfare or income accurately, because only tithe-types taxes (*ondalik*) were levied proportionally on income, *vergi*-type taxes or head taxes were not always handled in the same manner. Furthermore, taxes and methods of taxation were changing, rendering temporal comparisons more difficult. The existence of tax-farming further aggravated the quantification of income, as the profit of tax-farmers often remained unknown beyond the collected 10–12%. Although *cizye* (as head-tax) was collected based on *wealth,* the proportion of inhabitants classified into the different 'wealth categories' were changing quickly even within 10–20 years.[73] The collected amount of cizye per capita was also varying, not to mention its real value in silver or its value given in PPP (purchase power parity). Furthermore, Draganova proved on the example of Pleven that the extent of land was not in strong correlation with these *cizye* categories, which means that many villagers and urban dwellers had other sources of revenue beyond agriculture.[74] So, *cizye*, as a differentiated head-tax does not reflect the real wealth of agrarian societies (agriculture as a source of living was still not negligible in Balkan towns). Furthermore, as Bilgi proved in the case of Salihli settlement, the proportion (%) of tax measured to yearly revenues could also vary between broad values within a community, depending on the origins of income (agriculture, industry, tertiary).[75] These all create limits to comparison. In order to

73 For example, in 1841 the number of persons grouped into the *ala* (richest) category was 234 in Berkovitsa, 5978 were *evsat* and 1124 *edna*. In 1831 it was 227, 6247 and 2978 respectively. *Demeter, G.: A Balkán és az Oszmán Birodalom.* Vol I. Budapest, 2014. 354–355.

74 *Draganova, Sl.: Documents of the 1840's on the Economic Position of the Villages in Central North Bulgaria*. Bulgarian Historical Review, 1988/2. 87–100.

75 *Bilgi, N.: A Developing Village in the Middle of the 19th Century: Salihli.* In: Frontiers of the Ottoman Studies: State, Province, and the West. Vol. 1. Eds.: *Imber, C.–Kiyotaki, K.* London–New York, 2005. 149–67. The average tax was about 16–17% of the income in Salihli, but in the case of richest it varied between 25–50% depending on the main occupation or sources of income.

avoid the traps discussed above, we have decided to use documents measuring yearly incomes even in case of regional comparisons.

Another problem is the selection of an appropriate welfare index. Regional studies now tend to focus on measuring inequality instead of direct wealth in their calculations, as the former may destabilize a society even in case of general enrichment.[76] Growing inequalities are more dangeorus – even within a society getting richer and richer averagely – from the aspect of social stability than increasing poverty with decreasing inequalities between different layers of society. The above mentioned investigations are usually based on wealth (and not on income) as a booklet of *sicils* (containing numerous individual cases from different time horizons) can supply the researcher with continuous sampling for temporal comparisons.[77] A single t*emettuat* defter cannot provide the same possibility, as it contains statistically representative, but static data. To measure temporal changes the researcher need more documents of the same type. *Temettuat* defter can offer possibility for spatial comparisons. As income data are also apt for investigating inequalities, and even Gini-coefficient can be calculated from them, we have decided to use temettuat defters. In order to assess the internal stratification, the income differences between occupations, *mahalle*-quarters, etc. group averages, standard deviation and the mode have been calculated, which can serve as input data for the Gini-coefficient. (As we have been rather tracing between-group inequalities than within-group inequalities, we did not used this complex variable).

Our comparative investigation is based on the yearly income differences of taxable urban population and aimed at analyzing:

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76 See: *Coşgel, M.–Ergene, B.. Inequality of Wealth in the Ottoman Empire: War, Weather, and Long-term Trends in Eighteenth Century. Kastamonu*. Working Paper http://web2.uconn.edu/economics/working/2011-29.pdf; also *Canbakal, H.–Filiztekin, A.: Wealth and Inequality in Ottoman Lands in the Early Modern Period*. AALIMS – Rice University Conference on the Political Economy of the Muslim World, 4–5 April 2013 (working paper) http://aalims.org/uploads/Rice_v1.pdf; further: *Coşgel, M.: Estimating Rural Incomes and Inequality in the Ottoman Empire*. International Journal of Middle East Studies 40, 2008/3. 374–375; and *Milanovic, B.–Lindert, P. H—Williamson, J. G.: Measuring Ancient Inequality.* NBER Working Paper 13550, revised (2007), http://www.nber.org/papers/w13550.

77 The researcher has to chose a time interval that is broad enough to be representative for the whole society. But sicils usually omit or underrepresent some of the urban layers.

1, the income differences between *occupation-groups;*
2, the income differences depending on *size and functional types of towns* (did smaller towns have poorer society, was there any difference between their social stratification compared to larger towns at different hierarchical level?)
3, the differences in welfare of *different religious communities* (were Muslims richer in the Ottoman Empire, what temporal and spatial patterns can be traced?)
4, *local spatial differences* (*segregation)* of urban dwellers based on their religion or wealth (differences between quarters, *mahalle*s);
5, *regional spatial differences* regarding the welfare of urban population (was there any difference between the welfare and social stratification of towns in Serbia, Kosovo, Anatolia or Bulgaria under Ottoman rule?)
6, *the changes over time* (how did the process of *Tanzimat* influence the livelyhood of urban dwellers, did they become wealthy, did differences grow?)
7, the *role of migrant societies*: their wealth compared to autochtonous populations and the identification of main source areas of migration.

In the following pages we aimed at analyzing the validity of the statement whether the wheat producer Anatolian society was poorer compared to the Rumelian, as Inalcik pointed out (for the 17th century), or not; and to examine whether Tanzimat contributed to the enrichment of Christians or to the differentiation of Christian society, and whether these processes eliminated or enhanced material differences between Muslims and Christians in Rumelia. The investigations of Draganova and Berov claimed that broad layers of Christian society were lucky enough to became rich compared to their prevoius status or compared to other regions. Whether it was a result of the activity of Midhat Pasha or not, or it was rather a consequence of favourable external circumstances (Europe became the main consumer of Balkan wheat owing to the European division of labour which implied manufactures for wheat, and offered better prices than Istanbul) – all these questions are not investigated here.

The analysis includes the following localities in Anatolia:

Salihli urbanized village, 278 tax-payers conscripted in 1845	Anatolia
Silifke kaza (Konya), 567 tax-payers conscripted in 1844	Anatolia
Kastamonu, Diyarbakir, Manisa, 1800–1820	Anatolia

and the following in Rumelia:

Priština: 1140 persons under taxation, 24% Christians, 1844	Kosovo
Vučitrn: 282 persons under taxation, 40% Christians, 1844	Kosovo
Provadiya: 309 persons under taxation, Christians under 50%, 1870	Bulgaria
Anhialo-Pomorie: 200 persons under taxation in 1870, Christian majority	Bulgaria
Majdanpek: 382 persons under taxation, 1862	Serbia
Veliko Gradište: 721 persons under taxation in 1862	Serbia
Kyotesh village: 81 taxable inhabitants, 33% Bulgarians, 1866	Bulgaria

Income differences between social strata and differences originating from settlement hierarchy

Based on the summary of data illustrated in *table 1–2*, and *figure 1–2*, the following statements can be pointed out: taxpayers in all categories of occupation were richer in Priština than in Vučitrn – with the exception of craftsmen, who were characterized by nearly the same per capita revenues (400–440 kurush) in both towns. The income of administrative elite, soldiers and tradesmen was twice as much in Priština than in Vučitrn in the beginning of the Tanzimat (1844).

Craftsmen were underrepresented in Vučitrn with their 15% compared to the more urbanized Priština (40%). It is not surprising therefore that land revenues were the major source of income in Vučitrn constituting 46+12% (in Priština it was 14+8%), and peasants and landowners here paid more tax compared to their % proportion.

Land revenues were of secondary importance in Priština in 1844: here only 10% of the taxpayers were free peasants or landowners, while in Vučitrn this exceeded 30%. Agricultural wage-labourers were also overrepresented in Vučitrn with their proportion of 26% compared to the 16% in Priština, but they earned less as well. The difference between the

average per capita income of the two settlements was more than 40%, people working in transportation earned 35% less in Vučitrn, teachers 50% less.

Table 1. Distribution of income under taxation based on occupations in Priština in 1844

Priština, 1844	**Temetuat (kurush)**	**Income in %**	**Persons**	**Persons in %**	**Income for one tax-payer**	**Welfare index:** *income in % / nüfus in %
local administration and soldiers	226 669	28.06	102	8.9	2222	3.2
craftsmen	200 596	24.83	455	39.7	441	0.6
peasants, landowners	113 076	14	118	10.3	958	1.4
merchants	81 846	10.13	71	6.2	1153	1.6
agricultural wage-labourers	64 517	7.99	184	16.1	351	0.5
transportation	37 736	4.67	92	8.0	410	0.6
teachers, priests	18 091	2.24	26	2.3	696	1.0
other	65 262	8.08	98	8.5	666	0.9
altogether	807 793	100	1146	100	705	1.0

Table 2. Distribution of income under taxation based on occupations in Vučitrn in 1844

Vučitrn, 1844	**Temetuat (kurush)**	**Income in %**	**Persons**	**Persons in %**	**Income for one tax-payer**	**Welfare index:** *income in % / nüfus in %
local administration and soldiers	19 091	14	21	7	909	2.0
craftsmen	17 065	13	42	15	406	0.9
peasants, landowners	60 063	46	97	33	619	1.4
merchants	11 055	8	16	6	691	1.3
agricultural wage-labourers	15 426	12	74	26	208	0.5
transportation	2 658	2	11	4	242	0.5
teachers, priests	1 846	1	7	2	264	0.5
other	4 713	4	20	7	236	0.6
altogether	131 934	100	288	100	458	1.0

Source: Osmanlı Arsiv Belgelerinde. Kosova vilayeti. Istanbul, 2007. 363–413. Nr. 15477, Nr. 15465 temettuat defters. * equals to income per person measured to average.

Figure 1. Differences in wealth of strata (average revenues in Priština and Vučitrn)

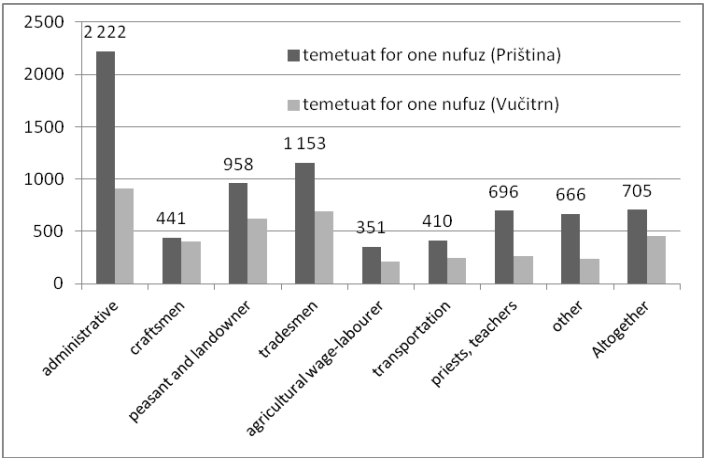
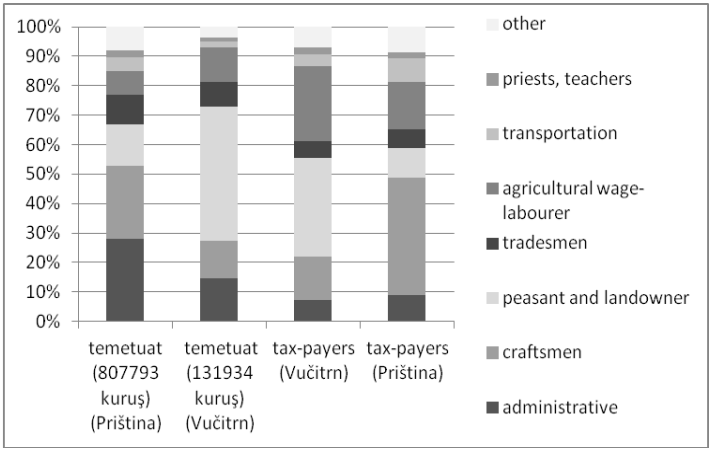


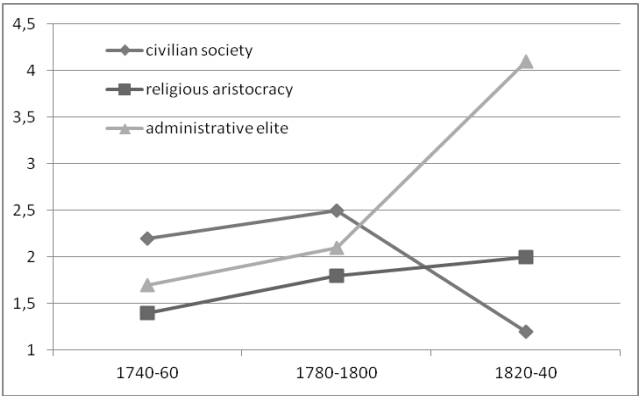
Figure 2. Differences in social stratification and welfare of strata in in Priština and Vučitrn



The role of administrative personnel was greater in Priština than in Vučitrn regarding both their proportion from the population (9 vs. 7%) and their proportion from the income as well (28% vs. 14%). The welfare index, which was calculated by using the % proportion of income measured to the total, divided by the % proportion of population group was extremely high in the case of administrative personnel in Priština,

even higher than in Vučitrn, which means that inequalities based on social strata/occupation were greater in the vilayet center. This is not surprising. Canbakal and Filiztekin proved the same: the inequality between civil society and the administrative elite grew after the turn of the 18th–19th centuries. The latter was three times richer than the group average, similarly to our results regarding Priština (*figure 3*).[78]

Figure 3. The changes in wealth of different social layers in Manisa, Bursa and Diyarbakir measured to the average (=1)



Source: Canbakal, H., A. Filiztekin. Wealth and Inequality in Ottoman Lands…

Income distribution between occupation groups

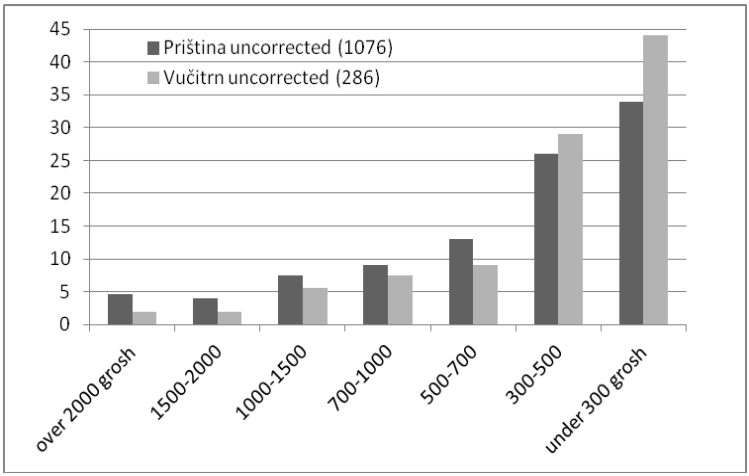
The prestige of different occupations can also be estimated based on the yearly revenues, which enables us to classify them into social groups: the coloured background in *table 3* represents the different social strata and occupations assigned to these categories. Barbers, carpenters, tailors and *abadzhi*s were characterised by low income, while shopkeepers, peasants, bakers, *bakal*s were among the richer. The difference between the two towns was also significant: certain occupations (like Muslim priests) belonged to different social classes based on their yearly income. However, it is true that we do not know anything about the

78 *Canbakal, H.– Filiztekin, A.: Wealth and Inequality in Ottoman Lands…*

differences in costs of living for the two towns, therefore we cannot analyze differences of purchase power and the index of livelihood. It is highly probable that services were cheaper in Vučitrn owing to the lower purchase power, therefore incomes in tertiary sector were also lower.

According to the internal stratification (based on the distribution of income) Priština was definitely characterized by higher incomes than Vučitrn (*figure 4*).

Figure 4. Internal stratification of Priština and Vučitrn based on taxable income in 1844 (% and grosh-kurush). Data are given in current prices



Religious differences

The internal stratification of the population can be examined further by defining religious sub-groups. It is evident that the Moslem population was the wealthiest religious community in Kosovo according to the temetuat defters in 1844. In Vučitrn one can find only 2 Christians (10% compared to their 40% in the whole sample) among the 20 wealthiest tax payers (7% of the population). The wealthiest Moslems were landowners, timar rentiers or tenants (14), the *mukhtar* himself and only

2 merchants (compared to Bulgarian lands their proportion was very low). 10 of the richest were living in Gazi Ali bey *mahalla*, but the generally poorer Hürrem mahalla also gave 7 persons. The richest Christian merchants were living in the Kasaba ranked 21-25th place. Among the poorest 25 (10%) only 8 Christians were enumerated, a little bit underrepresented (33%) compared to their proportion (%) from the whole society.

In Priština there were 20 timarli rentiers, 2 *chiflik* owners, 5 'peasants' and only 7 merchants among the wealthiest 50 persons (4.5%) with income above 2000 grosh – beside the *naib* and the leaders of *zaptie* (police). Only 3 Christians and 1 Jew was enumerated in this group (2 of them were merchants). The wealthiest were dispersed among the districts, we could not trace significant concentration: 13 were living around the Great Cami and 9 in Alüaddin *mahalla*, 4 in Hasan Emin. Among the poorest 100 (under 160 grosh) one can find 33 Christians, a bit overrepresented compared to their 25% in the whole society. 36 out of these poorest 100 were living in the outskirts, 13 in Ramazanije mahalle, 16 in Jusuf Celebi quarter.

A two-sample t-test proves statistically that the inhabitants of Priština were significantly richer than their compatriots in Vučitrn. The statement is true for religious groups as well: considering the average income (*table 4*) both Christians and Moslems in Priština were richer than in Vučitrn. The median values show that differences *between* religious groups were also diminishing (compared to average values). Canbakal and Filiztekin also pointed out that differences in wealth originating from religion were eliminated between 1720–1820 among the richest, meaning that the elite became religiously heterogeneous.[79] Differences *within* the identical religious groups in different localities were also smaller, if median is used as index. Standard deviation within groups was great, meaning that *both Christian and Muslim society was very differentiated in 1844. Differences within religious groups were even greater than differences between different denominations*.

79 Religion explained only 10% of the differences in 1820 and dropped back from 22%. *Canbakal, H.–Filiztekin, A.: Wealth and Inequality in Ottoman Lands…*

Table 3. Social position (based on yearly income) of different occupations in Priština and Vučitrn, 1844

Vučitrn, 1844	**prs.**	**taxable income (kuruş)**	**for one person**
tailor of textiles	4	1225	305
arabadji	6	1897	316
shopkeeper	2	1300	650
barber	3	945	315
barber assistant	3	987	329
chapaldji	2	305	153
peasant	93	51 636	555
landowner	4	8426	2107
carpenter	2	400	200
baker	3	1440	480
moslem priest	4	1113	278
tailor	4	1551	388
tailor assistant	5	2050	410
spahi	1	500	500
timarli rentier	7	7962	1137
gendarmerie	6	1763	294
trader	15	10 855	724

Priština, 1844	**prs.**	**taxable income (kuruş)**	**for one person**
pasha	*1*	*78 000*	*78 000*
tailor of textiles	4	1640	410
arabadji	63	24 092	382
shopkeeper	44	31 469	715
barber	21	9010	429
bojadji	*6*	*2990*	498
choban	*4*	*1170*	293
peasant	54	65 312	1209
landowner	15	29 019	1935
carpenter	8	2246	281
baker	16	7701	481
moslem priest	16	11 954	747
tailor of clothes	76	34 004	447
dervish	*3*	*300*	100
hamam keeper	*2*	*555*	278
coffee maker	*11*	*4235*	385
timarli rentier	76	130 000	1711
gendarmerie	12	6582	549
trader	61	65 497	1074
muezzin	*3*	*1116*	372
mukhtar	*8*	*7278*	910

Source: Osmanlı Arsiv Belgelerinde. Kosova vilayeti. 363–413. Nr. 15477, Nr. 15465 temettuat defters.

When investigating the differences between the social stratificiation of local Muslims and Christians in Kosovo it became evident that Christians with their 33% proportion among the poorest were overrepresented in Priština (their proportion from the total population was about 25%), while they constituted only 8–15% of the richer (*table 5*). In case of the middle classes the proportion of Christians was similar to their proportion of the total population. While 33% of the Muslim community earned more than 666 groshes at corrected prices, it was only 15% in the Christian society. 60% of the Christians were classified into the poorest categories, while among the Muslims it was only 38%.

Table 4. Income inequalities of religious groups in Priština and Vučitrn towns (1844) and in Kyotesh village (Bulgaria) (1866) in current prices (piasters)

Religion	**Priština (1078) Average income (kuruş)**	**Standard deviation**	**Median**	**Vučitrn (287) Average income**	***Standard deviation***	***Median***	**Kyotesh village (83)**	**Average income**	**Sta. deviation**	**Median**
Christian	427	414	300	367	259	291	Bulgarian (27)	402	184	300
Moslem	707	828	420	518	641	315	Ottoman (8)	456	280	300
Jewish	811	1021	395				Tatar (46)	348	186	300
Total	630	748	375	459	530	300	Total	392	216	300

Source: Osmanlı Arşiv Belgelerinde. Kosova vilayeti. 363–413, and 242–45. (Tab. 163.) The pasha is omitted from the dataset.

In Vučitrn the 2 *millet*s showed relatively balanced structure, although the proportion of Muslims among the poorest was 13% greater than in Priština (the proportion of Christians was even higher in the category under 333 grosh). Among the richer (1000-1333 piasters yearly income) Christians were overrepresented. So, *while the Bulgarian and Muslim society was very similar at the end of the Tanzimat regarding their social differentiation in rural areas* (*table 4*, Kyotesh), *in the beginning of the reform process significant differences were observable between the average wealth and social stratification of the two millets in urban environments.*

Table 5. Social stratification of Christian and Muslim societies based on the differences of income in Kosovo (proportion of Christians in Priština: 25%, in Vučitrn: 40%)

Priština	**Muslim**	**Christian**	**Muslim %**	**Christian %**		***Muslim society %***	***Christian society %***
above 1333 grosh	105	9	92.1	7.9		*13.3*	*3.0*
1000–1333	51	9	85.0	15.0		*6.5*	*3.0*
666–1000	83	25	76.8	23.1		*10.5*	*8.3*
333–666	247	79	75.7	24.2		*31.4*	*26.4*
under 333	299	177	62.8	37.2		*38.1*	*59.2*
Vučitrn	**Muslim**	**Christian**	**Muslim %**	**Christian %**		***Muslim society %***	***Christian society %***
above 1333 grosh	14	0	100.0	0.0		*8.1*	*0.0*
1000–1333	5	7	41.6	58.3		*2.8*	*6.1*
666–1000	13	9	59.0	40.9		*7.5*	*7.8*
333–666	48	24	66.6	33.3		*27.6*	*20.9*
under 333	90	75	54.5	45.4		*51.7*	*65.2*

Source: Osmanlı Arşiv Belgelerinde. Kosova vilayeti, 363–413.

Local pattern of differences (segregation)

Local (spatial) income differences within settlements can also be traced. In Priština the richest quarters (based on mean income), *mahalle*s were all Muslims (Cami, Jararçeri) and were characterized by mediocre homogeneity, which refers to a differentiated local society (*table 6*). The Muslim and Christian suburbs and the Muslim Yusuf Celebi district were poor and relatively homogeneous. The districts of middle classes were not homogeneous, while the districts of lower classes showed no real stratification. It seems that the greater the income, the smaller the homogeneity was. The average income in the wealthiest mahalle in Vučitrn did not exceed the welfare of mahalles with mediocre wealth in Priština, and Christian *mahalle*s were even poorer (*table 7*), compared to the Christian districts in Priština.

Table 6. Income differences of mahalles in Priština: wealth and social homogeneity

Mahalle	Average (kurush)	Standard deviation	Median	Relative wealth	Homogeneity (St. dev. / Average)
Alaüddin (M)	786	711	525	+++	**, 0.9
Cami kebir (M)	1195	1164	770	++++	**, 0.97
Hasanbey (Ch)	**535**	**464**	**355**	**++**	***, **0.86**
Hasan emin (M)	827	1383	405	+++	*, 1.67
Hatuniye (M)	581	498	400	++	***, 0.85
Yarar (Ch)	**413**	**280**	**280**	**++**	***, **0.67**
Yararçeri (M)	1109	991	821	++++	**, 0.89
Yunus (M)	755	714	500	+++	**, 0.94
Yusuf Celebi (M)	337	275	250	+	***, 0.81
Kasaba (Ch)	**459**	**477**	**325**	**++**	**, **1.03**
Kücükcami (M)	1151	942	900	++++	***, 0.81
Suburb (Ch)	**207**	**58**	**200**	**+**	****, **0.28**
Suburb (M)	240	88	225	+	****, 0.36
Mehmed bey (M)	470	355	360	++	***, 0.75
Pirnazir (M)	698	1085	504	+++	*, 1.5
Ramazanije (M)	544	567	400	++	**, 1.04
Average	630	748	375	+++	*, 1.18

Osmanlı Arsiv Belgelerinde. Kosova vilayeti. The richest mahalles are indicated by grey background, Christian mahalles are indicated by bold letters. *= least homogeneous, **** = homogeneous.

Regional spatial differences

The regional differences regarding the welfare of urban communities can also be measured, if the same income classification is applied for each. However, it raises (1) the question of rescaling the data published by Nikolay Todorov, who used a different grouping; (2) problems of converting *Thaler*s in Serbia (B. Katić) into piasters. Furthermore, (3) the changes in the silver content of the currency and in the prices of goods

within the period also had to be considered. Thus a reclassification and correction of original data was required (*table 8*).

As both the prices and the silver content of kurush changed during the investigated time interval, this required the introduction of purchasing power in order to substitute the different currencies. Within 20 years the prices grew by 50%, while the piaster's silver content was slowly increasing. It means that 2000 grosh in 1866 equalled to 1333 grosh in 1844 regarding its purchase power. So, the income data for Vučitrn and Priština were rescaled in order to make them comparable with Bulgarian and Serbian towns from the later periods.

Table 7. Income differences of mahalles in Vučitrn according to religion and social homogeneity in 1844

Mahalle	**Average (kuruş)**	**Standard deviation**	**Median**	**Relative wealth**	**Homogeneity (St. dev. / Average)**
Gazi Ali bej (M)	665	822	373	++++	*, 1.23
Hürrem (M)	486	404	337	+++	***, 0.82
Kasaba (Ch)	**368**	**238**	**300**	**++**	****, **0.62**
Kibtiyani[80] (Ch)	**138**	**69**	**125**	**+**	****, **0.49**
Mahalle (Ch)	**427**	**293**	**303**	**++**	****, **0.68**
Average	459	530	300	+++	*, 1.15

Source: Osmanlı Arşiv Belgerinde. Kosova vilayeti. 363–413. The richest mahalle is indicated by grey background, Christian mahalles are indicated by bold letters.

Generally, both real wages expressed in silver and purchase power grew in Bulgarian towns (*figure 5*). Among the compared towns the small Pomorie was the richest, followed by Priština – regarding the proportion of wealthy layers. Provadiya showed very similar stratification to Priština. They were followed by Vučitrn, which had more differentiated society with larger proportion of rich and poor and with a very thin middle-class compared to the two Serbian towns.

The proportion of persons earning more than 1000 grosh a year was 20% in Provadiya, 50% in Pomorie, while only 26% in Priština and 17%

80 Christian gipsies.

in Vučitrn using the corrected values (but only 16% and 10% respectively – without the usage of PPP). Urban Bulgaria was wealthier during the last decade of the Ottoman rule than urban Kosovo in 1844 or Serbia in the 1860s. The fact that in Vučitrn only 1 merchant, but 3 farmers-landowners had more than 2000 grosh yearly revenue, while in Pomorie (Anhialo) 25 persons or 95% of this stratum was composed of merchants, clearly enlightens the changes over time and the differences in the way of living and in these two regions of the Ottoman Empire. During these 25 years a new, wealthy stratum emerged in Bulgaria. In Priština the latter category of wealthiest people comprised 50 men including 23 farmers, chiflik owners and timariots (46%) and only 6 merchants (12%). Especially the middle class was weak in Kosovo (32 and 25% between 333–666 grosh), while in Bulgaria this layer was strengthening its position (42%, 500–1000 grosh).

Was the Rumelian town/village richer than the Anatolian town or village? Establet and Pascual pointed out that in Damascus 75% of the population accumulated less than 500 grosh wealth (in 1720 it equalled to 8000 grams of silver, in 1780–1800 with 4000 grams), which is similar to the values in Vidin calculated after Atanasov.[81] As for temporal changes, in Kastamonu town the average heritage was 1800 kurush in 1820 and had doubled since 1720. Unfortunately, our data refer to yearly income, therefore not comparable. In the urbanized Salihli village in Western Anatolia the average income per household was 830 grosh (although agricultural income constituted only 55% of the total income, and agricultural taxes constituted only 15% of the total taxes levied); in Marmara it was 1935 piasters in 1844 (here 77% of revenues came from agriculture) and 1780 piasters in Saruhan. The latter two settlements were definitely richer than Priština and Vučitrn in the same era, while Salihli was similar to the Kosovar towns. The Anatolian Silifke kaza around Konya as early as in 1845 showed similar stratification to the rich Balkan town, Pomorie in the 1870s.

81 *Establet, C.–Pascual, J. P.: Damascene Probate Inventories of the 17th and 18th Centuries. Some Preliminary Approaches and Results.* International Journal of Middle Eastern Studies 24, 1992. 375–76.

Table 8. Social stratification of Bulgarian, Serbian, Kossovar and Anatolian towns in %

Yearly income in kuruş	Pomorie (200: 1870)	Provadiya, (309: 1870)	Majdanpek (382: 1862)	Veliko Gradište (721: 1862)	Priština, 1844 uncorrected (1077)	Vučitrn, 1844 uncorrected (287)	Silifke kaza (Konya), uncorrected (567)	Rescaled based on purchase parity %	Priština, 1844 corrected (1077)	Vučitrn, 1844 corrected (287)	Silifke kaza (Konya), corrected (567)
over 2000	13		1	3	4.6	2	2	above 1333	10.5	5	11.5
1500– 2000	10	20	1	5	4.2	2	9	1000– 1333	6	4	33
1000– 1500	28		6	16	7.6	5.2	33	666– 1000	10	8.5	17
500– 1000	48.5	42	72	39	22.6	16.4	55	333– 666	32	25	25
under 500		38	19	36	61	74.2		under 333	42	57	13

Taxpayers and year in brackets. Serbian Thaler is counted at 6 kurush. Katić, B.: Štruktura stanovništva Velikog Gradišta i Majdanpeka. Istorijski Časopis 35, 1988. 119–131; Todorov, N.: Iz demografiyata na Anhialo (Pomorie). *ИБИД*, 1967. 159–181; Todorov, N.: Socialno-ikonomicheski oblik na Provadiya. Istoricheski Pregled, 1963/2. 68–85.

In rural Bulgaria the average income was around 1200 piasters[82] in the vicinity of Pleven (for estates between 2–5 hectares, for larger estates it was even higher) early in the 1840s – even before the wheat prosperity (higher than in Priština). Average income was around 2000 grosh in Kjustendil and above 3000 in rural Berkovica in the 1870s.[83] As neither the silver content of the piaster, nor the costs of living did change significantly during that 30 years,[84] it means that *rural Bulgaria had become richer by the end of the Tanzimat* (*table 10*) and could even compete with Anatolia. The Anatolian kaza of Silifke (Konya), where agriculture produced 75% of the income (in Priština it was 26 %, in Vučitrn 60%), was also poorer in 1845 than Pleven, where 20% of tax-payers had more than 2000 groshes yearly income, while in Silifke kaza it was only 2%

82 Calculated after the yields and animal population (Draganova) before the wheat prosperity.

83 See *Draganova, Sl.: Berkovskoto selo na navecherieto na Osvobozhdenieto: statistichesko izsledvane spored osmanskite danachni registri*. Sofia, 1985; *Draganova, Sl.: Kyustendilski region, 1864–1919*. Sofia, 1996.

84 The costs of living were decreasing while earnings were increasing between 1840–70 in Constantinople. See: *Özmucur, S.–Pamuk, S.: Real Wages and Standards of Living …* 301.

(see also *table 11*).[85] (Pleven lived from animal-husbandry prior to the great upswing of wheat export). Silifke was poorer than the Bulgarian towns in the 1870s, but not poorer than Priština or Vučitrn in 1844, or Kyotesh village in the 1860s (see *table 9*). The average income in that kaza was around 900 piasters, and Christians layers were the poorer (450 piasters). Even local leaders (*mukhtars*) had the same income (900–1400 kurush) as the administrative elite in Priština.

So, rural Anatolia was not significantly poorer than the Bulgarian towns with the exception of the proportion of the richest layers. As the middle class showed similar frequency values (in percentage) both in Bulgarian towns in the 1870s and in rural Anatolia in the 1840s, *from economic aspects the Tanzimat strengthened mainly the class over 2000 piasters yearly income (merchants) in the towns of the Danubian province*. It is also evident that incomes both in urban and rural Bulgaria were increasing during the examined 30 years, exceeding the values characteristic for Priština and often Anatolia.

Table 9. Income differences in Silifke kaza (case number in brackets)

Settlement types	**Silifke muslims (84)**	**Silifke non-muslims (15)**	**villagers in plains (191)**	**villegers in mountains (132)**	**nomads (149)**	**altogether (567)**
Average income in kuruş in 1845 (per tax-payers)	808	434	1110	1009	610	900

Based on Yalçin, A. Temettuat defterlerine…

Table 10. Average income of different settlements in Rumelia and Anatolia in the 1840s and 1870s during the Tanzimat era

Settlement types	Berkovitsa (1870s)	Kyustendil (1870s)	***Pleven (1840s)***	**Salihli (1840s)**	**Marmara (1840s)**	**Saruhan (1840s)**	***Priština (1840s)***
Average income in kuruş (per households)	3000–3500	2000	*1200*	850	1900	1700	*750*

85 *Yalçin, A. Temettuat defterlerine göre 19. Yüzyıl Ortalarında Silifke kazasının sosyal ve ekonomik yapısı*. OTAM 15, 2004. 13–87. http://dergiler.ankara.edu.tr/dergiler/19/1272/14643.pdf

Table 11. The differences in stratification of social layers in urban Bulgaria (1870s, in %) and rural Anatolia (1840s)

Yearly income in piasters	Pomorie (200: 1870s)	Silifke kaza (567), 1845
above 2000	13	2.1
1500–2000	10	9
1000–1500	28	33
under 1000	48.5	55

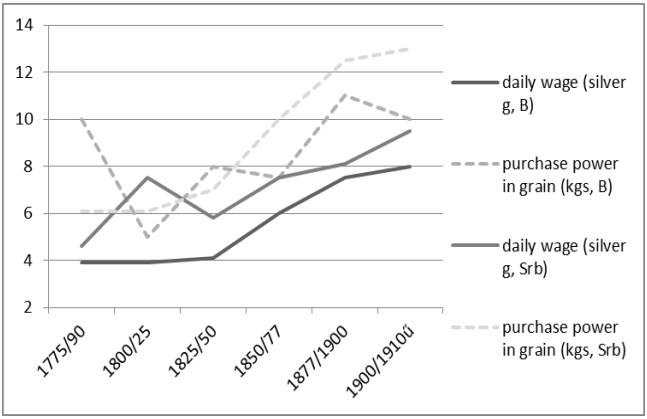
Based on the raw data of Todorov and Yalçin.

Migration processes

Based on their names more than 80 Muslim and 10 Christian newcomers were identified in Priština, which is only 9% of the population. Of course the proportion of not indigenous population might be greater, but could not be identified, because many of the 'family' names did not refer to the place of origin, but to occupation. Based on these available data, Christian society tended to be less mobile towards the *vilayet* seat, as the number of Muslim immigrants exceeded that of the Christians by 8 times, while the ratio between the two *millet*s was 3:1 among the total population. This might be explained by the fact that peasants settled on land were overrepresented among Christians and for them migration was forbidden. Furthermore, the ethnic proportions also show that the town was not among the most favoured destinations of Christians as ethnic replacement had already taken place by that time not only in Priština, but in Kosovo as well (this process accelerated in 1878, when 25% of the inhabitants were conscripted as Muslim *muhadjir* refugees from Bosnia). Those, who were conscripted with the name Yanovali (8 persons) were all Muslims, although formerly Yanova was the centre of Catholic Slavs in Kosovo who had strong trading relationship with Ragusa in the earlier centuries. More interesting is the fact that among the source areas of Muslims immigrating to Priština one can find Novobrdo (15 persons), the last capital city of medieval Serbia. This place is followed by Vučitrn (5), Prizren (4), Ipek (3), Lipjan (3), Zaskok (2), so most of the immigrants arrived from the nearest neighborhood. Djakova and Gilan gave 1-2 immigrants. Outside the

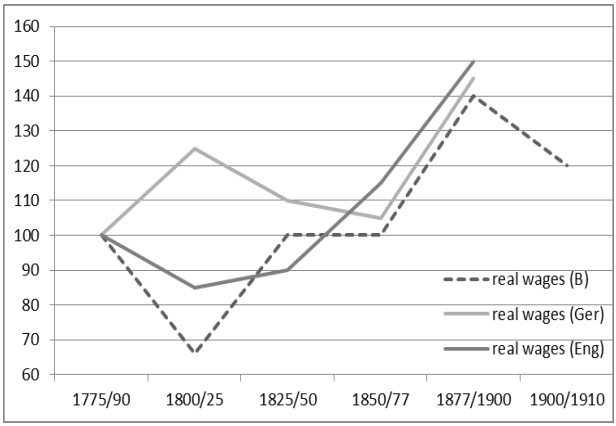
borders of Kosovo the main source areas were Dupnica (2), Shkodra (2), the Serbian Retkošer (3) and Trstenik (2). Beyond these Mitrovica (2) Skopje, Niš, Belgrade (1-1-1) can be mentioned. The main source of Christian immigrants was Vučitrn (3) followed by Prizren, Štip, Mitrovica, Ipek (1). It is surprising that the yearly income of immigrating Christians did not lag behind the income of immigrant Muslims (540 piasters), who were poorer than local Muslims (700 piasters). The latter fact is even more surprising, if we analyse the occupational structure of Muslim newcomers: among them one can enumerate 8 timar and 2 chiflik owners or rentiers/tenants/leaseholders and several richer peasants (only 3 of them had incomes lower than 1000 piasters). But the reason of the relative poverty of Muslim immigrants was that most of them were agricultural wage-labourers, *chapaldjis, bostandjis* (8), or *sekbans* (5), wagoners (6), whose yearly taxable income was between 300–400 piasters (the 2 merchants had 750 piasters each, which is lower than the local average). The reason for the relative wealth of immigrant Christians is the high income of merchants that modified the average upwards, which would have been around 400 kurush anyway.

Figure 5. The daily wages and purchase power of lower classes in Bulgaria and Serbia



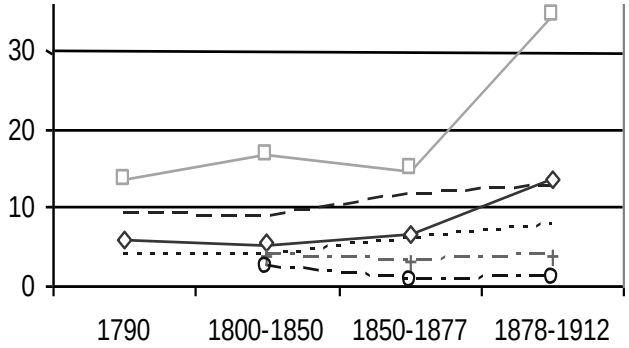
Data from Berov, Ly.: Wages in the Balkan Lands during Manufacturing Capitalism and Industrial Revolution. Bulgarian Historical Review, 1979/4.

Figure 6. Real wages of Bulgarian agrarian earners compared to that of western countries (1790 = 100)



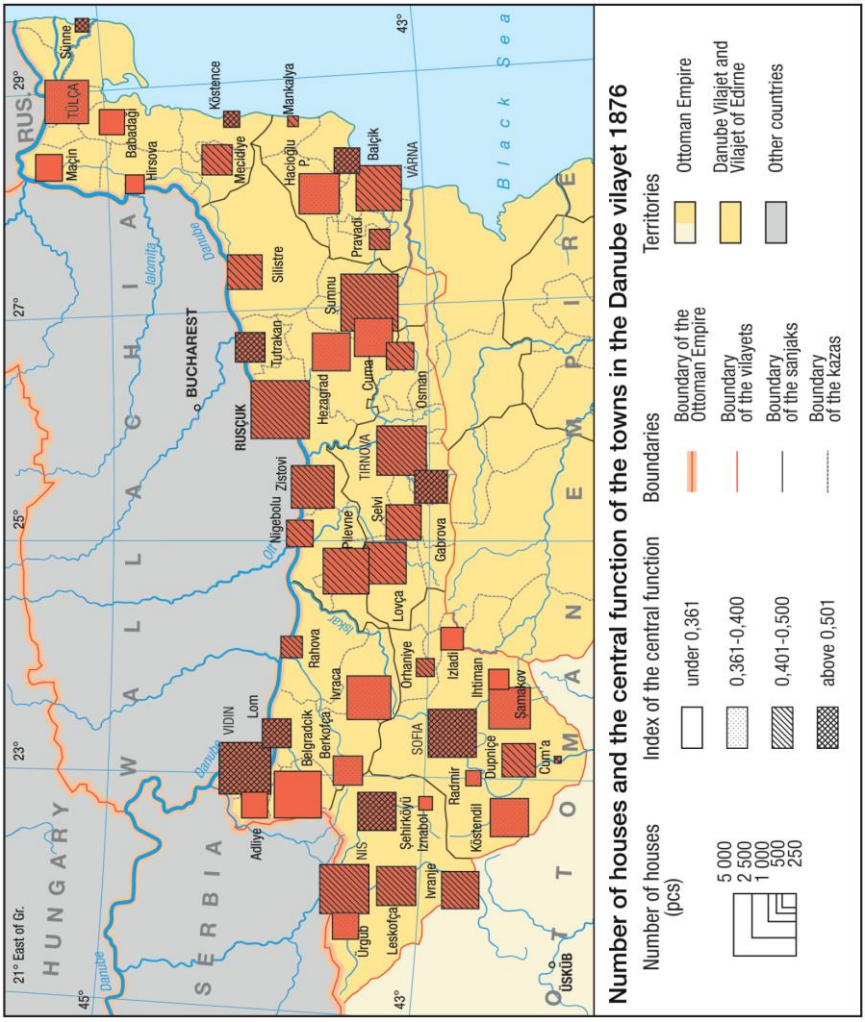
Data from Berov, Ly.: Wages in the Balkan Lands …

Figure 7. Differences between the daily wages (in silver grams) of middle-rank and low-rank officials (light lines with markers) and skilled and unskilled workers (dark lines)



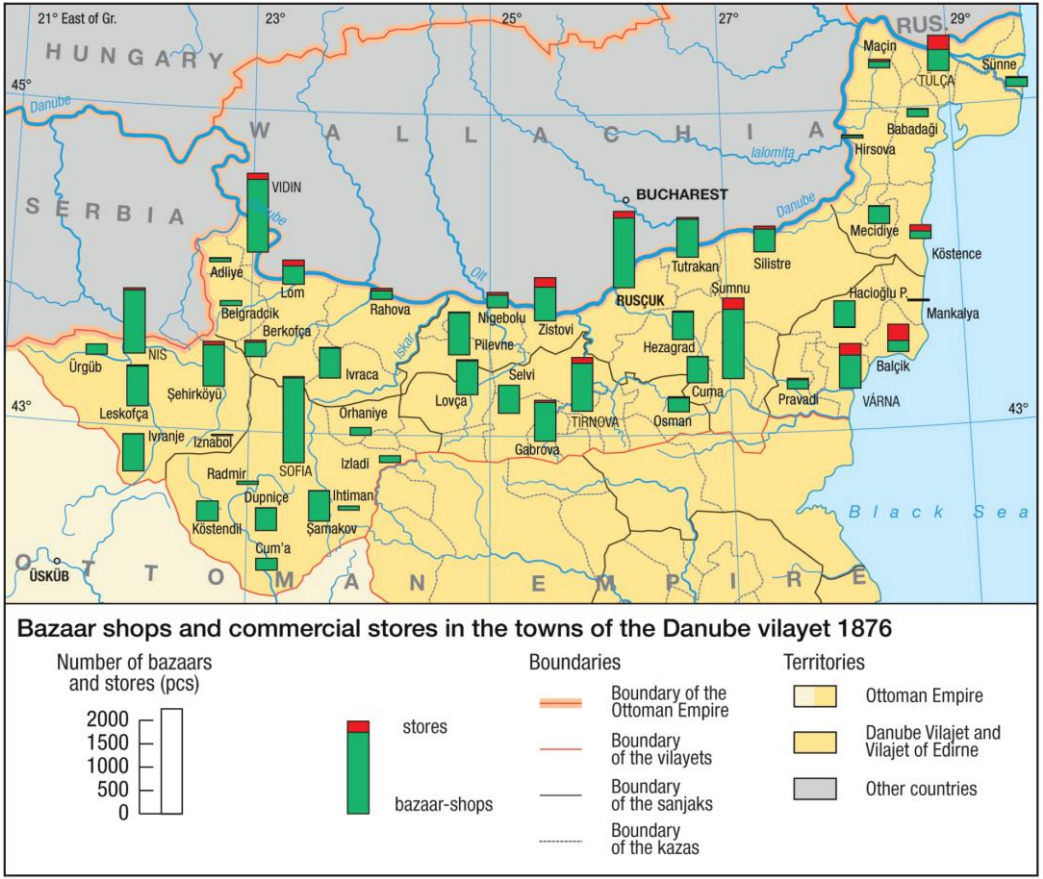
Berov, Ly.: Le salaire des ouvrieres qualifiés dans les pays balkaniques au course de la periode de capitalisme manufacturiére et de la revolution industrielle. Etudes Balkaniques, 1976/1. 30–54.

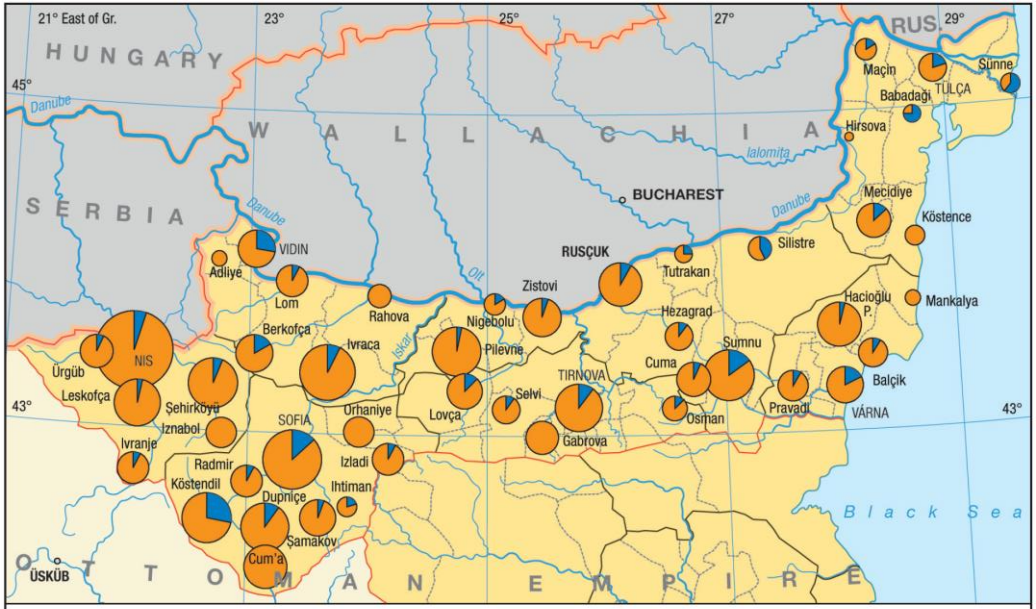
Urbanization and economic progress in Ottoman Bulgaria on maps
(all maps were drawn by Zsolt Bottlik based on the data of Kornrumpf, J.) [86]



*Central function index is calculated based on the number of buildings with communal functions (hane, hamams, mosques, churches, pazaar shops, stocks, schools), divided by total number of houses.

86 *Kornrumpf, H-J.: Die Territoralverwaltung im östlichen Teil der europäischen Türkei vom Erlass der Vilayetsordnung (1864) bis zum Berliner Kongress (1878) nach amtlichen osmanischen Veröffentlichungen.* Freiburg, 1976


21° East of Gr.
23°
25°
27°
29°
45°
43°
HUNGARY
SERBIA
WALLACHIA
RUS.
Danube
Jalomita
Olt
Iskar
VIDIN
Adliye
Lom
Belgradcik
Berkofça
Rahova
BUCHAREST
Nigebolu
Pilevne
Zistovi
RUSÇUK
Tutrakan
Silistre
Sumnu
Hezagrad
Selvi
Lovça
TIRNOVA
Osman
Cuma
Pravadi
Gabrova
Orhaniye
Ivraca
Izladi
SOFIA
Radmir
Dupniçe
Ihtiman
Şamakov
Köstendil
Cum'a
ÜSKÜB
NIS
Ürgüb
Leskofça
Şehirköyü
Ivranje
Iznabol
Maçin
Sunne
TULÇA
Babadağı
Hirsova
Mecidiye
Köstence
Hacioğlu P.
Mankalya
Balçik
VÁRNA
Black Sea
OTTOMAN EMPIRE
Bazaar shops and commercial stores in the towns of the Danube vilayet 1876
Number of bazaars and stores (pcs)
2000
1500
1000
500
0
stores
bazaar-shops
Boundaries
Boundary of the Ottoman Empire
Boundary of the vilayets
Boundary of the sanjaks
Boundary of the kazas
Territories
Ottoman Empire
Danube Vilajet and Vilajet of Edirne
Other countries



Baths and mansions in the towns of the Danube vilayet 1876

Number of baths and mansions (pcs)

50
25
15
10
5
1

mansions

bath

Boundaries

- Boundary of the Ottoman Empire
- Boundary of the vilayets
- Boundary of the sanjaks
- Boundary of the kazas

Territories

- Ottoman Empire
- Danube Vilajet and Vilajet of Edirne
- Other countries

From Spahis to Modern Army

Military Reform without Money

Beside the fiscal policies, trade, jurisdiction and public administration the military policy and the army also underwent substantial changes in the 19th century.[87] These reforms were often based on western patterns and were executed according to advices often serving western interests, but the method of executing the changes was often "Ottoman"[88] indeed. The Tanzimat focused on the modernization of the state apparatus and not on the revitalization and restructuration of society (these aspects were not even included into the meaning of the Tanzimat, the word *islahat* was used instead).[89] This meant that the "raison d'etat", the improvement of efficiency in public administration and taxation (the improvement of state revenues) were of primary importance and not personal or minority rights and welfare. The adaptation of the juridical system did not mean the adaptation of its spirit, as sources testified this.[90] Furthermore, the reforms regarding the income structure of the empire were not carried out parallelly with reforms of budget expenses – partly owing to the indebtedness and due to constant military-political challenges. Military expenses reached 60% of the budget in the 1800s, 20% in 1875, 30% in 1898 (it was over 50% in frontier regions like Deir-es Zor and Macedonia) and 40% in 1912–13.[91]

87 Published in Hungarian. *Demeter G.: A szpáhiktól a tömeghadseregig: Adalékok az oszmán haderő 1826 utáni reformjának társadalmi-gazdasági hátteréhez*. In: Kelet-európai sorsfordulók: Tanulmányok a 80 éves Palotás Emil tiszteletére. Ed.: *Juhász, J:*. Budapest:, 2016. 105–15.

88 *Michalis N. M.: Trying to Impose the Reforms in the Periphery: Actions and Reactions to the Tanzimat in Cyprus – The Case of the Muhassıl Mehmet Talat*. OTAM, 34/Güz 2013. 163–184.

89 *Gürpinar, D.: The Rise and Fall of Turcophilism in Nineteenth-Century British Discourses: Visions of the Turks: 'Young' and 'Old'*. British Journal of Middle Eastern Studies, 2012/3. 356–57.

90 *Rubin Avi*: *British Perceptions of Ottoman Judicial Reform in the Late Nineteenth Century: Some Preliminary Insights*. Law and Social Inquiry 37, 2012/4. 991–1012; and *Petrov, M. V.: Everyday Forms of Compliance: Subaltern Commentaries on Ottoman Reform, 1864–1868.* Comparative Studies in Society and History 46, 2004/4.

91 See: *Eton, W.: A Survey of the Turkish Empire.* London, 1799. 41–47. *Zname*, 07. 08. 1875. Turskiyat budjet za 1875. *Hristo Botev. Statii po politicheski i obshtestveni vaprosi*. 412. *Strausz, A.: Das Osmanische Reich.* Posen–Leipzig–Budapest–Konstantinopel–Sofia, 1917. 162–163.

The purpose of military reforms was primarily to increase efficiency – as the sum and proportion of military costs from the budget itself was already high in the beginning of the century. However, the elaboration of an economical and sustainable system failed, although – as the study tries to prove this – there were chances to establish a sustainable system even during the deteriorating financial circumstances after the 1850s, when the proportion of debt service from the budget increased to 50% (1875) owing to the new loans (while only 5% of loans was spent on military expenses up to 1910).

During the military reforms both the obsolete spahi cavalry and the rebellious, but militarily worthless janissaries were substituted after 1826 by a modern mass army, first professional, later based on conscriptions and compulsory service. But this *nizam* army still lacked internal cohesion, not only because of the great differences in salaries, or because of the unsuccessful integration of the Christians (constituting over 35% of the population in the 1840s). The system was unwelcomed even by Muslims as well (partly because of the distinction between the duties of Christians and Muslims, which were claimed to be uneven and unfair by both groups).

It is also true that the final system, based on conscriptions was not the only alternative – originally the nizam army was recruited from professionals. British advisors criticizing the way of carrying out the reforms (Brophy and St. Clair)[92] also adviced the establishment of some kind of volunteer-army, where soldiers would receive land instead of salary thus producing the costs of their military equipment. This idea was not only traditional (see the *thema* system in the Byzantine Empire), but was similar to the abandoned *timar*-system, which was also based on the Byzantine-Late Roman tradition. So, why were changes introduced, if a similar idea emerged again? The recurrence of the idea means that it was not the system itself that proved to be unviable, unsustainable or incompetitive, but the problems rooted in gradual

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and *Szende Gy.: Földrajz-statisztikai tabellák a Föld összes államairól*. s.l. 1898. Also: *McCarthy, J.: The Ottoman Turks. An Introductory History to 1923.* London–New York, 1997.

92 *St. Clair, S. G. T.–Brophy, Ch.: Residence in Bulgaria. Twelve year study of the Eastern Question in Bulgaria.* London, 1877.

social differentiation and the insufficient income from these prebendal lands (inflation between 1780–1840 was 1000%). The choice between the different reform ideas was not only a professional decision, but a political question as well – it became an instrument in the political fight between the Russian and English-oriented elite. The circumstances of the fall of the anti-Russian Pertev pasha in 1837, then the counter-offensive of his supporters leading to the revision of the pro-Russian Hünkjar-Iskelesi agreement (1833, 1840) proved that the question became politicized and instrumentalized.[93]

Beside the obsoleteness of spahi cavalry another problem grew from the fact that many spahis became tax-farmers or managed to inherit the prebendal land (*malikane*) with no military obligations any more, thus the state lost control over lands and his subjects, who stepped on the way to become free existences. The landlords – being *de facto* owners of the land – managed to increase pressure on productive layers (by determining production structure, through the abolishment of free move, the increase of tax delivered to the landlord and the transformation of peasant farms to allodial lands). Together with the abolishment of the provisional system (which aimed at supplying Istanbul at fixed, low prices) and the introduction of free trade, these landlords became involved in grain trade and not only became independent from the central power, but rich as well due to the grain prosperity between 1840–78. On the other hand these changes meant the leakage of central incomes.[94]

It is not surprising that after the "*kardzhali*" era, the state decided to abolish the privileges of these layers (with access both to old privileges and modern possibilities) in order to reinstall its own economic potential. Based on the idea of "divide et impera" the new Christian elite was used up (first the layer of Christian tax-farmers, then, later as a

93 *Findley, C. V.*: *Ottoman Civil Officialdom. A Social History.* Princeton, NJ, 1989. 70–80.

94 Local incomes from tax-farming were always higher than central incomes from selling the rights (*muaccele*). In the *chiflik* of Küchük Seymen 70 000 kurush was collected, but only 40 000 was delivered to state treasury. Brophy also wrote about more than 30% difference between the 2 values. Eton claims that the central budget was not more than 4 million £ in 1776, when it was over 17 million in Great Britain. But that time more than 20 million £ was expropriated in the Empire, which means extreme leakage. See: 59–60.

counterweight, urban manufacturers) to reinforce central power. These efforts contributed to the stabilization of the "old" and "new" *chorbadji*s (competing with each other), the local Christian elites, which later became nationalized, and together with the shrinkage of markets after 1873 this also contributed to the gradual diminishing of Istanbul's power.

Due to the above-mentioned the state decided to abandon the traditional military structures as well. After the liberalization of trade (1838) the state's interest was to exploit the increasing western demand (thus increasing prices) on grains and maximize land revenues, thus to participate in trade or at least shift from head-taxes to tithe or income taxes in order to finance the modernization of other sectors. The abolishment of spahis should be considered in this context, as it was solely the agriculture (and trade of agrarian goods) that could produce enough income surplus. But the success of the reforms was mainly based on *external circumstances*, and this made the state vulnerable.

As the dissolution of the janissaries took decades and was characterized by mutual violence (1789–1826), the disbanding of spahi-tax-farmers was based on different script. Instead of creating "tabula rasa", the central government offered compensation (pensioning) for those spahis, who were not clever enough to extend their economic basis beyond their prebendal lands. This change had numerous effects on several layers (including producers, however one may think that only the direction of delivering goods had changed) and of course, the reforms had substantial costs. Therefore, it is worth examining (1) what amount of revenue could the state expect from this group compared to the costs; (2) the progress of social differentiation (declassation, capital-concentration); (3) how the government executed the changes keeping in mind cost efficiency as a key factor; (4) whether the offered compensation was reasonable or not, and for whom was it disadvantageous.

As for the army, the problem was not the amount of money spent on military purposes, but the efficient usage of the resources. Between 1760–70 the British East India Society spent 8 million £ (yearly 1 million) on the *sepoy* army when it conquered the parts of the Indian

subcontinent, while in 1776 the Ottoman Empire spent 15 million piasters at current prices (meaning 1.5 million £) (or 35% of the budget),[95] but the results achieved were simply not commensurable. This referred to the obsoletness of the Ottoman army structure! Using another analogy, this 1.5 million £ equalled to 150-180 million grams of silver: meanwhile Hungary's contribution to the Habsburg Empire's military budget was 4-5 million Florins or 50 million grams of silver, which made possible the supply of 30 000 soldiers. Thus, using this amount, the Ottoman Empire could have trained 100 000 "modern" soldiers!

But that time, in case of war the Empire could count on only 50% of the 12 000 conscripted spahis. This was considered inferior force in the era of the mass armies of absolutism, even if they were equipped by the best weapons. In Erzurum a conscription from 1715 mentioned that only 2119 spahis of the original 5279 were able to fulfill their tasks.[96] The small timars were confiscated here: 70% of the confiscated estates produced less than 10 000 akçe; while in Morea 83% of the urban dwellers earned less.[97] This means that there were hardly any differences between the askeri and reaya regarding the yearly income![98] Less income simply did not make it possible to supply a soldier with modern equipment.[99] Furthermore, warfare became extremely expensive in this century. While in the 1740s a war year meant 18 million Florins extra costs for the Austrian budget, in 1760 it increased to 36-40 million (or 180-400 million grams of silver). [100] While the former was tolerable for the Ottoman budget (see Eton's data from 1776), the latter was similar to the yearly income of central budget. Thus an estate

95 *Eton, W.: A Survey of the Turkish Empire*. London, 1799. 41–47.

96 *Dimitrov A.–Mutafčieva, V.: Sur l'état du systime des timars des XVII & XVIIIe siécle*. Sofia, 1968. 33–56. és 194–251.

97 Data from *Parveva, St.: Zemyata i horata prez XVII – parvite desetiletiya na XVIII vek.* Sofia, 2011.

98 *Dimitrov, Str.: Politikata na upravlyavashtata varhushka v Turciya prez XVIII vek.* Istoricheski Pregled, 1962/5. 32–60.

99 Originally the minimal income of timars was set to 3000 akçe of spahi-askeris, but between 1500–1740 the daily costs of living trippled, increasing from 1.6 to 6 akçe (almost 1 gramm of silver). See: *Özmucur, S.–Pamuk, S.: Real Wages and Standards of Living…*

100 *Szántay, T: „Életünket és vérünket, de zabot nem".* In: Válság – Kereskedelem. Magyar Gazdaságtörténeti Évkönyv. Eds.: *Kövér, Gy.–Pogány, Á.–Weisz, B.* Budapest, 2016.

around Edirne (Omurca), with 16 households, each ranging to 9.6 ha sown arable land,[101] producing 7000 akçe[102] nominal yearly income for the spahi, became useless from military aspects, although it still consisted of viable peasant economies compared to many other estates. Furthermore, 50% of askeri landholdings in Edirne in the 18th century did not reach this 15–20 ha of a simple peasant economy[103] (or 2 *raiyet çift*), and only 20% of the estates produced more income than Omurca (*table 1*)![104] This differentiation of the *askeri* layer was later intensified by convertite peasants (new-Muslims), who became janissaries in order to avoid declassation (they were entitled to salary which meant a good supplementary income or could become artisans, guild members), when their land revenues proved to be inefficient. Janissaries also wanted to acquire land with peasants, and this led to the dilution of the askeri land-structure too.

Table 1. Differences and differentiation of askeri and reaya landholdings around Edirne, cca. 1700 (in %)

Group	under 1 chift*	1–2 chift	2–3 chifts	3–4 chifts	4–12 chifts	over 12
Reaya (592)	231 (39%)	185 (31%)	79 (13%)	44 (7%)	53 (9%)	0
Askeri (75)	19 (25%)	15 (20%)	8 (11%)	4 (5%)	21 (28%)	8 (11%)

*chift = peasant economy of averagely 10 ha, tax unit prior to the 18th century

The price of industrial goods around 1770 was higher than that of the wheat, thus this process was not favourable for landowners (selling wheat and buying industrial merchandise) to maintain their equipment required for military service. In the 1800s the trends changed, and the Napoleonic wars created favourable conditions for the Ottoman agrarian-military elite.[105] In order to exploit this timariots wanted to join

101 Social differentiation among reaya was so advanced by this period, that it was rare to have peasant estates around 1 *raiyet çift* (10 ha).

102 7 akçe = cca. 1 gram of silver in the beginning of the 18 c.

103 Using the above mentioned example, but now including fallow land (50%).

104 *Parveva, St.: Zemyata i horata …* 374.

105 *Berov, Ly.: Dvizhenieto na tsenite na Balkanite prez XVI-XIX v. i Evropeyskata revolutsiya na tsenite.* Sofia, 1976. and *Berov, Ly.: Dvizhenieto na tsenite na Balkanite prez XVI–XIX v. i evropeyskata revolutsiya na tsenite.* Istoricheski Pregled, 1975/3. 92–102.

the international trade and tried to establish life-long tax-farms, landholdings from their prebendal land,[106] which later became inheritable. This way began the transformation of temporary and conditional landownership (originally land was received to fulfill services) towards permanent landownership without services. Selim III even permitted the legal transformation of timar estates without military service partly as an initial step towards military reforms, partly targeting the increase of state revenues. In case of a *timar* transformed to tax-farm the state received income twice: first, when the tax-farmer bought the right, and then from the production (*hazna*). At first sight this meant recentralization (until then the timariot only delivered the collected tax to the treasury, most of the income was spent on the maintenance of his equipment), but on the other hand now it became possible for the vali of Konya to obtain the tax-farm of 356 timar-estates, while the vali of Diyarbakir acquired 270 such lands. This reasons the great difference between the theoretical and actual number of cavalry forces![107]

The transformation of timars to life-long tax-farms (*malikane*) had several consequences. (1) It invoked the weakening of the central power and the strengthening of local elite.[108] (2) The weakening military power had to be reinforced somehow: the sultans began to rely increasingly on mercenary troops (the *saridja)* recruited from the local population instead of spahis. In the 18th century their number increased from 30 to 90 thousand. However, unlike janissaries or spahis, they were not entitled to receive income in peace (like the *pindari* in India). This meant a serious risk, as most of them were *reaya*, who wanted to became *askeri* in order to live a more tolerable life (due to the population increase on the Balkans in the first half of the 18th century the fragmentation of *reaya* land began, and the demographic pressure induced uncontrolled –

106 They became inimical to provisionist state policy and rather smuggled the grain to the West at high prices instead of delivering it to Istanbul at low, fixed prices, which caused a conflict between the treasury and the local noblemen. The food shortage in Istanbul caused social unrest, inflation, thus extra costs for the budget.

107 *Mutafchieva, V.: Kardzhaliysko vreme.* Sofia, 1993. 19–20.

108 *Pamuk, Ş.: The Ottoman Empire and European Capitalism, 1820–1913: Trade, Investment and Production.* Cambridge, 1987. 8–11.

often illegal – migration waves among peasants towards towns, generating social unrest there).

These mercenaries did not want to degrade back to the level of a peasant, therefore they meant a constant destabilizing factor, which became evident by the *kardzhali* era. Thus nor the spahis, neither the *saridja* were good solutions for a military reform.

Why were these supplementary forces needed? The military power of the janissaries, the second constituent of the imperial military forces beside the spahis, was also in decay. This layer was not poor: between 1720–1800 the janissaries of Vidin became the richest layer of the town (emerging from the poorest).[109] They did not have prebendal lands, but could pursuit civil occupations and were entitled to state salary even in peace. They could be guild members and enjoyed tax-exemption. So, their situation was definitely better than that of the saridja. Due to these advantages many newcomers joined their lines ruining the morals of the troops. In parallel with the dilution of their lines, their total salary increased from 3700 to 10 000 purse money (this increase exceeded the inflation), while total central revenues ranged only to 90 000 purses![110] Although officially more than 400 000 janissaries existed, their real number was only 10% of this (1782).[111] Some leaders received the salary of the non-existing soldiers, like Mehmed Celebi *sadrazam* (grand vizier) in 1778, who obtained the salary of more than 600 janissaries.[112] It is evident that such an army could not compete with the modern mass armies. Something needed to be done.

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In the 1830s the spahis were deprived of the right to collect taxes and were substituted by (landless) Ottoman officials working for salary, the

109 The proportion of janissaries in the richest category (based on sicils) increased from 30 to 45%, the proportion of janissaries in the richest category within the janissaries increased from 10 to 20%., while the proportion of janissaries among the richest (considering total population) grew from 5 to 12%. For basic data see *Atanasov, Hr.: V osmanskata periferiya…*

110 *Mutafchieva, V.: Kardzhaliysko vreme…* 19–20.

111 *McGowan, B.: The Age of the Ayans, 1699–1812.* In: An Economic and Social History of the Ottoman Empire. Vol II. Eds.: *Inalçik, H.–Quataert, D*. Cambridge, 1994/1997.

112 *Aksan, V.: Breaking the Spell of the Baron de Tott: Reframing the Question of Military Reform in the Ottoman Empire, 1760–1830*. The International History Review 24, 2002/2. 253–77.

*voyvoda*s (often Christians!). Thus the spahis lost significant part of their informal power as well – especially those who yet failed to acquire their own land.

Spahis were pensioned, but the pension was smaller compared to their former land revenues (averagely it was only twice as much as the income of an average peasant owning 5 ha). So, apart from the wealthiest, most of the pensioned spahis earned less than earlier: the poorest even less than 1500 piasters. The difference between the former spahi elite and urban dwellers decreased further (*table 2*).

Table 2. Yearly income (in piasters) of different social layers (Priština, 1844)

Occupation	Prs.	Per capita	Occupation	Prs.	Per capita
abadji	4	410	tailor	76	447
grocer	44	715	*müezzin*	*3*	372
barber	21	429	*kafedji*	*11*	385
dyer	*6*	498	**timarli süvari**	**76**	**1711**
landlord	15	1935	policeman	12	549
peasant	54	1209	merchant	61	1074
baker	16	481	*clerk*	*2*	910

The grayscale represent different social groups determined by their yearly income.

This interesting situation (after pensioning) is confirmed by the conscription of tax-payers in Priština from 1844. Richer timariots were still regarded as members of the elite: 20 out of the 50 richest urban dwellers were former spahis, although only one person was mentioned as a functioning "spahi". The spread of *chiflik*, this new estate form is also evident in this group (15 *chiflik sahibi*), but there were simple peasants consrcipted among the richest also (*chifchi*). Detaching these two agrarian layers from the group related to timar-estates, we can come to the conclusion that the latter still were averagely richer. 50% of the *timarli*s had more than 1500 grosh yearly income, while in the other group this was only 10% (due to the numerous *chifchi*). It is also true

that there was hardly any difference between the yearly incomes of *chiflik sahibi* (average: 1900 grosh) and *timarli* (1750 grosh averagely).[113]

These all refer to the fact that there was a significant change regarding the relation and the legal status towards the land between the social groups. The formerly consolidated categories became 'fuzzy'.

The *askeri* society had become very differentiated by that time. Due to the inflation, a rifle worth 50 piasters in 1750 (700 grams of silver) cost 800 piasters in 1840. According to the heritage inventories of Vidin in 1720 45%, in 1800 20% of janissaries could not afford to buy such a rifle clearly indicating the diminishing military functions in this group. In 1844 25–30% of the timariots in Kosovo could not afford to buy the weapon from their yearly incomes. If we consider the original limit of 3000 *akçe* (this enabled to equip a cavalryman in the 16th century, its value was 2500 grams of silver, or 2500 piasters in 1844), we can say that 80% of the timarlis in Priština would not have been able to pay this sum (partly because of the decreasing incomes due to pensioning).

Owen states that the finacial surplus stemming from the abolition of *timarlik* and the introduction of tax-farming in these newly acquired lands was consumed by the pension of the spahis.[114] In the following pages we prove that it was not true. In our calculations we used the conscription of spahis in Radovište (1841) and the conscription of pensioned spahis from 1869 (there is a generation difference between the two datasets). *Table 3* clearly indicates that in 1841 only 50% of the spahis reached the limit of 3000 akçe (3000 piasters by then), while the aggregated income reached yearly 350–370 000 piasters (grosh), which makes an average of 3500 piaster/capita. These data also prove the differentiation of the spahi-layer. This meant that the 50 able soldiers (instead of 100) cost 350 000 piasters for the state (because the other 50 did not reach the income limit to be equipped). Thus the real cost of equipping one soldier exceeded 7000 piasters.

If the *timarlik* is abolished, this money flows into the central treasury. This amount could be spent on compensating the timariot (pension) and

113 *Osmanlı Arşiv Belgelerinde. Kosova vilayeti*. Istanbul, T.C. Başbakanlik. Devlet Arşivleri Genel Müdürlüğü, 2007. 363–413. Temettuat defter nr. 15477 and 15465.

114 *Owen, R.: The Middle East…* 60.

recruiting and training a soldier substituting the pensioned spahi. Calculating with the income distribution given in *table 3 for* 1869, the compensation of 100 spahis meant 250 000 piasters. (Using Draganova's data it is evident that the average pension of spahis was less than their former average income from land. It is also clear that by cutting the extreme values, the social stratification of pensioned spahis became more even: only 20% earned more than 3000 piasters after 1869). Thus a difference of 100 000 piasters still remained to train a soldier instead of each 'lost' spahi. If only the 50 spahis over the 3000 piaster limit was considered, this meant 2200 piasters (or 450 francs) per soldiers. In the new military system the daily allowance of an ordinary soldier was 6 piasters (1 piaster salary+4 piasters supply+clothing), which makes it 2200 piasters yearly, thus it was enough to substitute the spahi. And if we calculate with only 6 month of training yearly (as officially), even the original 100 men can be equipped and trained from this amount of money. (Of course, the quality of supply and training is questionable).[115] We suppose that this military (and social) *reform could be carried out without extra costs and significant conflict of interest of the affected layers*.

Furthermore, the law of 1858 on land allowed the purchase of former timar-estates as well. The average landholding/spahi in the Balkans is questionable, but we have analogies to calculate this from later periods. In Macedonia the tax-farm of a *chiflik* ranging to 500 ha cost 50 000 grosh/piaster in 1912, meaning 100 piaster/ha tax (or 800 piaster/ha income), thus the "average" pension of the spahi, the 2000-2500 piasters equaled with 20 ha sown area (altogether 30 ha, adding up the fallow). Since the price of 1 ha arable land was rated at 400–700 piasters between 1850–70 in Bulgaria, the redemption of 30 ha (a very small spahi timar) cost 1200-2100 piasters yearly for the peasant (throughout 10 years, built in the tithe tax as an additional 2.5% surtax). In other words, in case of selling the estates of 100 pensioned spahis an income of 120-210 000 piasters appeared (yearly), which could finance any other needs. So, the background of the Ottoman military reform was secured by the high

115 A peasant family of 5 members had 1000 francs income or 1000 piaster/capita, meaning daily 3 piasters. Military training was not cheap.

grain prices owing to western demands (influencing land prices as well), which caused land-hunger among local cultivators.

Table 3. Income differences of active and pensioned spahis

1840, Radovište spahis	**1-500 piasters** *400 grams of silver*	**500-1000 piasters** *400-800 grams of silver*	**1000-2000 piasters** *800-1600 grams of silver*	**2000-5000 piasters** *1600-4000 grams of silver*		**over 5000 piasters**
Estate number and %	7 (8%)	17 (19%)	16 (18%)	3 (3%)		46 (51%)
1869, pensioned spahis	**1-500 piasters**	**500-900 piasters**	**900-1500 piasters**	**1500-2000 piasters**	**2-3000 piasters**	**over 3000 piasters**
Estate number and %	2 (5%)	6 (15%)	9 (22%)	10 (25%)	7 (17%)	8 (20%)

Dimitrov, Str.: Kam vaprosa za otmenyavaneto na spahiyzkata sistema v nashite zemi. Istoricheski Pregled, 1956/6. 36; Dimitrov, Str.: Politikata na upravlyavashtata… and Draganova, Sl.: Materiali za Dunavskiya vilayet: Rusenska, Silistrenska, Shumenska i Tutrakanska kaza prez 50-te-70-te godini na XIX v. Sofia, 1980. Table 19. Page 1.

As for other income sources: owing to the result of the military reform the differentiated head-tax of the Christians (*cizye*: 15-60 piasters) was substituted by an equally levied tax of 27 piasters (the median value of the former), as they were not serving in the army. From fiscal aspect, this tax did not create significant income surplus for the budget (under 10% from the total income; *table 4*). The values rather show that the evident increase was due to the strict fiscal policy: state taxation was extending to everyone.

If a Muslim wanted to avoid military service (reaching even 6 month yearly) once and for all, he had to pay 8000 piasters, contrary to the Christian's 27 piasters, which was only 800 piasters for 30 years (although still producing 60 million piasters income for the state)! So, the yearly redemption of a Muslim reached 250 piasters. While the Muslims paid larger sums, if wanted to work on their own lands during the 185 days of their compulsory military service, the Orthodox reaya had 185 days of feasts and ritual holidays with no military service. It is not surprising that Muslims felt this was an unjustice, and it was against the western principle of 'common charges'. The Christians also used the latter argument, when they objected against the special tax imposed on them, also claiming that their exclusion from the army referring to their

religion (based on mutual untrust) was against civil rights (degrading them to secondary citizens).

Another consequence of this regulation was that Christians were overrepresented among seasonal workers (they were simply cheaper and were exempted from compulsory military service). If the Muslim peasant was unable to hire wage labourers (after his son had been enrolled into the army for half a year), his harvest was ruined, especially if his land exceeded 5 ha (in case of grain producing farms), because such a farm needed extra labour force to cultivate. (In case of grain producing estates smaller than 5 ha labour surplus occurred, thus the military service of the Muslim children was economically reasonable in these estates).

Table 4. The income of the Ottoman budget from military tax paid by Christians and exemption fees paid by Muslims (million piasters) and the number of redeemed

Year	Christian, military tax*	Muslim, military tax	Redeemed Christian grown-ups (million)	Redeemed Muslim grown-ups*** (million)
1887	45	55	1.67 (6.5)**	0.222
1900	71	91	2.63	0.364
1908	86	93	3.19 (12)**	0.372

Shaw, S. J.: Nineteenth-Century Ottoman Tax Reforms and Revenue System. International Journal of Middle East Studies 6, 1975/4.

*Abolished after 1908.

** With family members in brackets: in 1908 the total Christian community was successfully taxed.

*** Data based on the decomposition of aggregated values to 1 year (250 piasters/Muslim).

Surprisingly still more income arrived to the treasury from Muslims than from Christians, meaning that many Muslims decided to pay the price of exemption (there was no economic, but purely personal reason behind this, as hiring Christian labour force would have been cheaper). This can also be considered as *a sign of the demoralization of the Empire* (*table 4*). On the other hand, the improvement of tax-discipline can be observed in the fact that between 1887–1908 the state income from military taxes and redemptions increased from 100 to 190 million piasters. The lack of enthusiasm towards the new military system is indicated by the fact that many Muslims rather sold their estate and became industrial workers in order to pay the redemption for his sons, and that in 1871 a new regulation was installed, which forbade the

acceptance of money originating from selling the property (in these cases the recruited was enrolled to the *redifs*, the reserve).

Furthermore, the newly established army was not efficient: the soldier received the same amount of money as supply (5 piasters or 1 franc daily) as an industrial or agrarian worker, who was involved in effective production, unlike the recruited. And although the share of military expenses from the central budget reached 30%, this also comprised significant inequalities regarding salaries. The salary of the leader of a division equalled to that of 700 privates (*table 5*). The supply was insufficient (except the quantity of bread): an average soldier spent yearly 500 piasters to supply himself beyond his regular portion. Prior to 1907 the officers of the Ottoman army earned better salaries than the officers of Austria-Hungary, and earned similar salaries to the Bulgarian officers (here 25% of the military budget, similarly ranging to 30% of the total budget was spent on the officers' salary!).

Table 5. The salary of the Ottoman officers, 1868 (1000 piasters)

Monthly salary (piaster, 1868)	**Rank (military and government officials)**	**Austria-Hungary prior to 1907, monthly salary converted to piasters, without additional money, rank in brackets**
14 000	Ferik pasha (division commander)	5250 (IV.)
7000	Liva pasha (brigadier general)	3500 (V.)
4500	Miralaj (colonel)	2500 (VI.)
4000	Kaimakam (lieutenant colonel)	1750 (VII.)
1800	Bimbaşi (major)	1400 (VIII.)
700	Kolasi (captain)	750-1000 (IX.)
400	Yüzbaşi (liutenant)	500 (XI.)

St. Clair, S. G. T.–Brophy, Ch.: Residence in Bulgaria… 422. and Hajdú, T.: Tisztikar és középosztály. Ferenc József magyar tisztjei. Budapest, 1999. 12–13. and 240. 5 piasters = 1 korona = 1 franc.

To sum it up, the Ottoman state had the opportunity to finance military reforms without extra costs due to the favourable external circumstances (increasing grain and land prices), thus to utilize loans for the modernization of other sectors (only a small proportion of loans was spent on the army), but these efforts failed because of the problems in their execution. The internal inequalities within the army did not decrease compared to the era of *spahi*s, *saridja*s and *janissarie*s, and this ruined efficiency.

The Economic Background of Ottoman Reforms

Tracing the Effects of Grain Prosperity Based on Commercial Registers

Introduction: methods, aims

(1) From methodological aspects this study[116] attempts to contribute to (a) the understanding of regional and macrolevel processes by utilizing local scale data, (b) and to the understanding of the mechanism of center-periphery interactions, offering a new way of data interpretation. Commercial registers can be regarded as one of the best sources, as here the data (representing the economic performance of the 'hinterland') are *concentrated to one locality, easily accessible and systamatically organized, while reflect the processes of a larger region*. Commercial registers also afford a detailed analysis of processes both in exports and imports, thus the *economic performance of different nations participating in interregional trade can be evaluated*. This enables us to examine the influence of Europe on the Balkans, and adversely, the effect of the Balkans on Europe.

(2) Beside the methodological aspects this study deals with the *impact of the industrial revolution on the commercial balance of the Balkans*, revealing the *commercial penetration* and the *rivalry among the western states with different merchandise structure* (representing different level of development), characterized by *different trade techniques*. The analyzed data provide us opportunity to *measure the role of grain export of the Balkans toward Europe, contributing to the mitigation of the 'great famine' in 1846–47*. Data also offer possibility *to estimate the income surplus of the producers* as a result of the growing exports, which was able to *mitigate the social tensions*, thus contributing to the prevention of the outburst of conflicts in 1848.

Our investigation is based on the commercial reports of consul Blunt in Saloniki,[117] which contain data in connection with the quantity, value

116 A shortened version was published in the Bulgarian Historical Review 38, No. 1–2. 151–70.

117 *Dokumenti za balgarskata istoriya iz germanskite arhivi 1829–1877*. Sofia, 1963. 94–150. No. 22. Doklad-statisticheski tablici na pruskiya konsul Ch. Blunt do Lecoq otnosno koraboplavaneto, targoviyata i predaneto na koprina v Solun prez 1840–1845 g. Sächsisches

and directions of goods. The published tables were full of mistakes, thus a thorough revision and re-evaluation was needed. These reports were utilized by Bailey,[118] to analyze the emergence of British Levantine trade, but only for the period between 1835–39 (prior the free-trade agreement). The period between 1845–51, which we considered more interesting because of its international context (implementation of free trade, great famine, revolutions, Ottoman reform processes, abolition of Corn Laws), remained unevaluated. When selecting this period, we were driven by the presumption that these events had to have impact on trade patterns and terms of trade, therefore can be recognised in / evidenced by the analyzed data. We assume that *the chosen interval reflects the imprint of the early period of the industrial revolution, the beginning of the new economic system characterized by the 'wheat for manufactures' international division of labour.* The results confirmed that our decision was good, and even *the data structure of a single port can reflect the changes of international processes*, thus our hypothesis was not flawed. Furthermore, even such a short time-interval is enough to reflect the changes.

The reason for the short (but still dynamic) period of the investigation can be explained by the fact that the Turkish piaster lost 80% of its original value within 30 years making comparative calculations more complicated. A merchandise that was worth 100 piasters in 1832 was sold for 471 piasters in 1832, but after this the depreciation process decelerated: between 1832–51 the nominal price increased only to 528.

Our reconstruction was limited mainly to the attraction zone and the harbor of Saloniki, although other ports (like Varna) had similarly good data series.[119] The town had approximately 50 thousand inhabitants at that time, thus Plovdiv and Adrianople had overshadowed it regarding

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Landesarchiv, Dresden, Korrespondenz mit dem königlichen Konzul zu Konstantinopel. No. 23. Doklad statisticheska tablica na Ch. Blunt do Lecoq za dvizhenieto na korabite na Solunskoto pristanishte prez 1847 g., see: No. 24-32. (Further: Dokumenti…).

118 *Bailey, F. E.: British Policy and the Turkish Reform Movement. A Study in Anglo-Turkish Relations 1826–1853*. Cambridge-London, 1942. 303.

119 But partly from different period, partly these Balkan ports were isolated from Mediterranean-Atlantic trade.

the numbers of inhabitants by 1850. Although its attraction zone was limited to areas south of the Balkan Mountains, thanks to its geographical location and economic significance, it was considered a gateway either to Africa and Europe (Western Mediterranean), and to its hinterland, the Balkan Peninsula. Its location was excellent for transit trade. Territories north of the Balkan Mts. carried goods mainly to ports like Sulina to supply Constantinople (or to trade with Austria along the Danube), and usually were unable to enter into the European intraregional commercial system until provisionist policy in Istanbul existed. Contrary to Sulina, Saloniki represents a good example both for international and domestic trade after the liberalization of trade in 1838 (after the Crimean War Sulina quickly overtook Saloniki regarding trade volumes).

Regional-scale analysis: the role of Saloniki in the inter- and intraregional trade and in the mitigation of the western agrarian crisis (1846-47)

After identifying Saloniki's attraction zone, and comparing the town to other ports regarding the intensity, volume and values of trade, we evaluated the significance of the port by using data referring to the commercial presence and trade intensity of the most industrialized country, England.

Compared to other Mediterranian ports in the 1830s only Sulina and Smirna (Izmir) surpassed Saloniki regarding the *number of ships*, the latter reaching 20% from the whole incoming traffic (without Constantinople). Much more interesting is that – just prior to our period of investigation – Saloniki surpassed only Beirut based on the *quantity* of traded goods. And, based on the average *piasters/ton value* Saloniki was ranked the last among the investigated ports (*table 1*), reaching only 350 piasters/ton – equivalent of one ton of grain in 1835 (as calculated later) – while 10 years later this value reached 450–500 piasters/ton. However, the growth originated not from the increasing proportion of valuable merchandise, but mostly from inflation or price increases. The same situation was true in case of ships leaving the port.

These results led us to the conclusion that while Saloniki's traffic was quite great, the volume (or load) of ships was originally small (under 100 tons/ship). This rather refers to transit and short-distance commerce than interregional trade prior to the 1840s. It is well known after Bailey that Saloniki was only a transit port for ships arriving from Western Europe, their main destination remained Izmir (150 tons/ship). Examining the commercial balance of these mentioned ports, only Izmir and Beirut had positive balance within the given time-interval, while Iskenderun (Alexandrette) and Trebizond showed the highest price/ton values.

Table 1. The contribution of Saloniki and other ports to the trade of Ottoman Turkey[120]

		In					Out				
year	**port**	**ships**	**tons**	**tons/ ship**	**million piasters**	**piasters / ton**	**ships**	**tons**	**tons / ship**	**million piasters**	**piaster / ton**
1836	Trebizond	172	25 718	150	155	6026	163	25 000	153	93	3720
1837	Iskenderun	24	3327	139	20	6011	22	3068	139	2.3	766
1835	Smirna*	1255	118 865	95	50.3	424	1210	112 823	93	74.7	662
1835	Beirut	341	21 247	62	13.6	642	216	19 112	88	14.7	768** (1087)
1835	Saloniki	473	45 569	96	16	351	473	45 569	96	7.4	163**
Altogether		2265	214 726	95	255	average 1188	2084	205 572	99	192.1	average 934
Saloniki		21%	21%		6.3%	last	22.7%	22%		4%	last

* In 1839 Izmir (Smirna) produced positive balance too: 74 million piasters vs. 156 million.

** Without English ships, as their load is unknown, after subtracting their volume, see piaster/ton prices in the brackets.

120 Calculated based on the data of Bailey and MacGregor. *MacGregor, J.: Commercial Statistics, a Digest of the Productive Resources. Commercial Legislation … of all the Nations*. 5 vols. London, 1850, data quoted by Bailey, F. E. Data are expressed here in piasters instead of English £, since Blunt always refers to the Turkish currency. But the value of Turkish piasters decreased expressed in silver, while that of the £ remained nearly constant. For the original exchange rate we used the following data: in 1841 the Ottoman State issued 60 million piasters, which equalled to 552 thousand English £ to diminish the negative balance of commerce. In: *Bailey, F. E.: British policy…* 76–77. According to Bailey's data in 1851 goods exported by the English to Saloniki equalled 78 thousand pounds, which – using 1841 exchange rates – was worth 8.5 million piasters. But Blunt originally mentioned 10.6 million piasters, which refers to 25% inflation. The corrected values are given in brackets.

Analysing the origin and the unit prices of the imported goods (per tons), we see that the role of English ships and merchandise was overwhelming. In 1846 England had a share of 40% in Saloniki's import, declining to 25% in 1851, while England's import from Saloniki constituted 7.5% of the whole export of the port in 1846 and 10% in 1850–51. (It also implies that the English had positive balance with the port). This situation was not unique: British merchandise spread in other ports as well. The role of English commerce and trade has increased unquestionably by the 1840s, thus – from methodological aspect – even this single country allows us to compare Saloniki's export-imports with other East Mediterranean ports. In the 1830's the value of English exports to Saloniki was 41 £/tons, while in Iskenderun it was 98 £/tons and in Trebizond 126 £/tons.[121] The small value (but still 4 times higher than in Izmir) generally referred to mass products, while high unit prices referred to luxury articles or local shortages in certain consumption goods.

Table 2. The value and share of English export and import in the main Mediterranean ports (based on Bailey and MacGregor)

Port	From England to Ottoman ports			From Ottoman ports to England	
	year	1000 pounds	share from total English exports	1000 pounds	share from total English imports
Smirna	1839	189	5.30%	419	35%
Alexandretta	1837	165	4.60%	1,7	0%
Trebizond	1836	326	9.10%	70	5.9
Saloniki	1835	44	1.20%	n.a.	n.a.
Turkey altogether	1836	3650	100%	1196	100%

In 1836 3.7% of the total English exports went to Turkey (3.65 million out of 97.6 million £), it was 5% in 1845 (7.6 million out of 150.8 million £), and 7.5% in 1848. Thus, Ottoman Turkey played an increasing role in the English economy (in 1851 the proportion dropped back to 3.5%).[122] Smirna received 5.3% of British exports in 1835, Trebizond more than

121 The low value in Izmir explains the negative balance of the English.
122 In: *Bailey, F. E.: British policy…* 70–76.

9%, while 35% of British imports came from Izmir and 6% from Trebizond (these values also highlight why the British were anxious of the Russian political and economic advance through the Straits and in the Black Sea).

Compared to these harbors, Saloniki remained underrepresented in the trade, since it had a share equalling only to 1.2% of the total English trade in 1836, and 1.4% in 1846 (*table* 2), reaching 11.8 million piasters, while the population of its 'hinterland' constituted 3-4% of the Empire's total population. Two evident explanations can reason this fact: either the Balkans had low purchase power, or the peninsula was able to cover its needs from its own production, thus did not need foreign goods. And there is evidence for the latter, as local textile and ore production was able to supply other parts of the Empire too – for decades prior to the influx of English goods. Reden claimed that the peninsula had positive trade balance – with the exception of Constantinople characterized by overconsumption patterns, turning the trends backwards (*table 11*).

Table 3. Saloniki's role in Englands commerce with Ottoman Turkey

Saloniki's share in English imports from Turkey					
Merchandise	**year**	**1000 pounds**	**total traded (million piasters)**	**Saloniki's share (million piasters)**	**proportion**
Silk	1846	250	27	1.2	4.4%
	1850	450	61 (49)	0	0%
Wheat	1845	15	2 (1.6)	0.4	20%
	1850	100	13.5 (11)	3	22%
Saloniki's share in English exports to Turkey					
Iron ore/steel	1845	70	7.6	0.44	6%
	1850	90	12 (9.8)	0.80	7%
Textiles	1845	1920	220*	8.4	4%
	1850-1851	2140	287* (232)	5.4	2%

Data based Bailey, MacGregor and Dokumenti…
*aggregated value, () without correction

The competitiveness of the Balkans decreased, when in Bursa a silk factory was opened in 1850, and the center of silk trade had moved to

Izmir (Smirna). Earlier, in 1846 in Saloniki the proportion of the silk reached 33% of the shipped merchandise from Turkey to England, (it only constituted 4.4% of the total English silk imports, but the role of the peninsula in silk exports was still overrepresented measured to the population of the hinterland). By 1850 the proportion of the silk had fallen to 18% of the total goods exported to England from the harbor. (*table 3*). An interesting data refers to the industrial de-development of the Balkans: Saloniki still received 6-8% of the English ore export, although the first iron mines in Samokov had already been under exploitation for years. This meant some kind of concentration since Saloniki's average share in the English exports constituted only 1.4%. British ore was cheaper and of better quality.[123] Textile was not overrepresented: the proportion of textiles imported to Saloniki reached 2–4% of the total Ottoman textile import (while the population of its hinterland ranged to 4% of the total).

According to Lampe, it was not the English export that was responsible for Bulgaria's negative commercial balance between 1857–77, since Bulgaria exported more products to England than adversely. Lampe stated that Austrian and French ships were responsible for the Bulgarian import surplus. The share of these countries in the Bulgarian imports (of non-Turkish origin) reached 30-30%, while they bought only 15–15% of Bulgarian export value.[124] Lampe's statement may be true, but not for the period before 1856. Before the mid-19th century, English ships provided 25-40% of the import of Saloniki, while their proportion from the exports remained around 10%. In contrast, French and Austrian ships (including steamships) transported 23 and 45% of the export of Saloniki, while their proportion from the import was significantly lower.[125] Nonetheless, it raises another question: to what extent did ships represent the export/import of a nation? Beside the

123 See Chapter 1. While 1 ton of Bulgarian iron cost 400 francs, the English iron was only 200 francs/ton. Although the Bulgarian production reached 2000 tons in the 1860s, the value of the British import was about 800 000 piasters early in the 1840s, which means 800 tons imports.

124 *Lampe, J. R.–Jackson, M. R.: Balkan economic history...* 138–39.

125 Based on *Dokumenti...*

origin of ships, it also depended on the origin of the transported merchandise.

After having compared Saloniki to other Mediterranian ports it is worth analysing the main destinations of trade. With the exception of 1847, Saloniki's relation rather linked the port with Asian Turkey than with Europe (even 10 years after the introduction of free trade!), but trade destinations were quite flexible. In 1846 404 ships arrived from Turkey (62%), while 433 (62%) left for Asia Minor. In 1851 356 (68%) ships headed for Ottoman Turkey and 323 arrived from the Empire (63%), while the number of ships altogether did not decrease significantly. The proportion of ships arriving from Europe hardly reached 11% in 1846 and 15% in 1851, while their number decreased. 25% of the ships headed for Greece. The only exceptional year in this period was 1847, when 357 ships travelled to Europe reaching 50%, meaning a sevenfold increase compared to 1845 (55 ships).[126] (The reason of this phenomenon is discussed later).

According to Blunt's data European merchandise was dominantly carried by European ships. The Dutch, Austrian, French and English examples indicate that Saloniki was not a target destination, just a transit port. European merchandise was unloaded and ships continued their cruise to Asia Minor with the products of the Balkan Peninsula on board (*transit commerce, indirect interregional scale trade*).

A different type of commerce was pursued by Norway, Sweden and the Kingdom of Naples: their ships returned to Europe after unloading and uploading the ships (*direct interregional trade*). In this case the carried goods could be considered as the export and import of the mentioned nations.

Greek and Ottoman ships represented a third type of commerce: these ships were *commuting*, realizing *intraregional trade*. Their number was often high, because they visited one port several times a year. The carried goods often could not be considered as merchandise produced in these states. Russian ships had negligible commerce with the Balkans

126 Ibid.

via Saloniki.[127] It is also interesting that while in 1845 only 25% of the ships were steamers, and the ratio increased to 50% within 5 years.[128]

The number of English, Greek and Italian ships increased till 1847, as well as the freight did, but after this, a decline can be observed. The reasons might be complicated – our aim is to investigate them – but *the modest decrease in the number of ships and in freight cannot explain the balance of the port having turned into negative by 1851* (*chart 1*), because an increase in value/tons might counterbalance this decrease in the number of ships. Therefore further investigations are needed *to analyse the commercial balance of the port (1), the structure of goods (2) and the changes in stock prices (3).*

(1) *Chart 1* showing the short-term trends of exports and imports between 1846–51 clearly indicates that the southern part of the peninsula lost its export surplus and its positive balance of trade,[129] which characterized Saloniki's commerce between 1845–47. The value of the exports decreased to 50% of the original, while imports increased with 20 million piasters to 1851. Thus, the surplus of 12 millon piasters in 1846 turned into a deficit of 29 million piasters in 1851, while the weight of the load had not changed significantly.[130] The *process was not favourable for inner capital accumulation, on the contrary, the negative balance indicated growing consumption and capital outflow from the region*.

Examining the different countries, the data show that while commerce with France meant an income surplus for the Balkan Peninsula, English ships transported merchandise 5 times more valuable (expressed in piasters) to Saloniki than they shipped out of the

127 In 1846 5 Russian ships arrived from Europe, 3 from Greece, 30 from Turkey, but only 9 were loaded with sugar, lead, soap etc. In 1851 the number of ships decreased to 9, all arriving from Ottoman Turkey.

128 In 1846 33%, in 1851 45% of the import of Saloniki – expressed in piasters – arrived on Austrian or Ottoman steamers, 9% arrived on Greek ships.

129 On the long run Saloniki's balance remained positive up to the 1870s, as the whole peninsula was dominated by positive balance acccording to Reden. (see below *table 10*).

130 It is a general phenomenon: in 1910 the volume of the Bulgarian exports was twice as much as of the imports, but their value was the same. *Vachkov, D.: Balgarskata ikonomika i voinite na XX vek.* Razum, 2005/3–4. 187. The Balkans were unable to produce goods with high added value after the production of luxury articles (like silk) had moved to Anatolia – reasoning Izmir's positive balance.

port, while the transported load (both in and out) did not differ significantly! This refers to the fact that the structure of merchandise might be responsible for this inequality in export-import. While in 1846 only the English and Austrians had positive balance of trade with Saloniki, by 1851 Greeks, Dutch, Italians, and Sweden had joined them too. The Italian commercial fleet had doubled its export in terms of value. Only the French, Prussian and Ottoman ships produced negative balance of trade with the port (*table 4*).

Based on *chart 1*, it seems to be evident that *nor the number of ships, neither the weight of the cargo increased in such a manner that could verify a doubling in export values* of the main commercial partners within the examined 7 years. This could only be possible, if there was *a sudden change either in export-import structure or in unit prices*.

Table 4. The role of nations in the export/import of Saloniki (based on Dokumenti...)

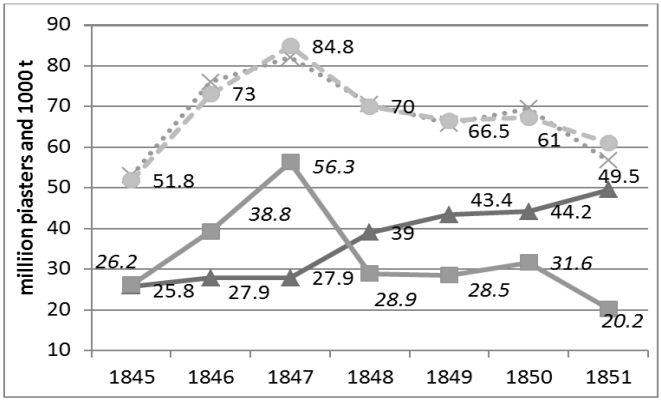
	Incoming	**1846**	**1851**		**Outgoing**	**1846**	**1851**	
Trade of Saloniki	**million piasters**	**%**	**million piasters**	**%**	**million piasters**	**%**	**million piasters**	**%**
English	11.5	42	10.6	22	3.33	9	2	10
Austrian	1.2	4	0.48	1	0.98	3	0.3	2
Russian	0.4	1	0.14	0	2	5	0.54	3
Sardinian	0.84	3	1.6	3	6	16	0.38	2
Ottoman	5	19	7.5	15	5	14	2.05	10
Ottoman steamships	3.6	13	4.35	9	4.6	13	3.45	17
Austrian steamships	2.75	10	17.95	37	1.7	5	6.8	34
Greek	2.2	8	4.1	9	6.5	18	1.36	7
French	0.1	0	1.1	2	5.6	15	1.9	9
Prussian	0	0	0	0	0	0	0.75	4

(2) Analyzing the incoming merchandise to Saloniki it is worth mentioning that the proportion of machines, artifacts or manufactured goods reached 30–40%, and these were mainly transported by the English. In 1846 the share of manufactures from the total English exports to Saloniki reached 70% (expressed in quantity), and by 1851 it had increased to 90%. This might have profited well, because in 1851 the Austrian and Ottoman steamers also took part in exporting

manufactured articles to Saloniki. In 1846 75% of the manufactures (expressed in piasters) arrived on British ships to Saloniki, Ottoman and Austrian steamships represented 10–10% respectively (or 2–2 million piasters). By 1851 the English manufacture export had reached only 51% (9 million piasters) of the total manufacture import of Saloniki, while Austrian steamers' proportion was 33% (6.5 million), representing 50% of their freight.

Between 1845–51 the value of luxury articles like pepper, coffee[131] and of manufactures seemingly increased (*chart 2*). Coffee transport – a colonial product – also increased from 2 million to 7 million.[132] Imports of manufactured goods grew from 10 to 18 million piasters, but it is important to emphasize that neither the proportion of artifacts – this remained around 40% (10/26 and 18/50 million) –, nor the quantity – which was about 3000 tons – increased. Therefore, *the main cause of the increase in export values could be found in the change of unit prices*.

Chart 1. The export (darker) and import (lighter) of Saloniki and the weight of the load (dotted)



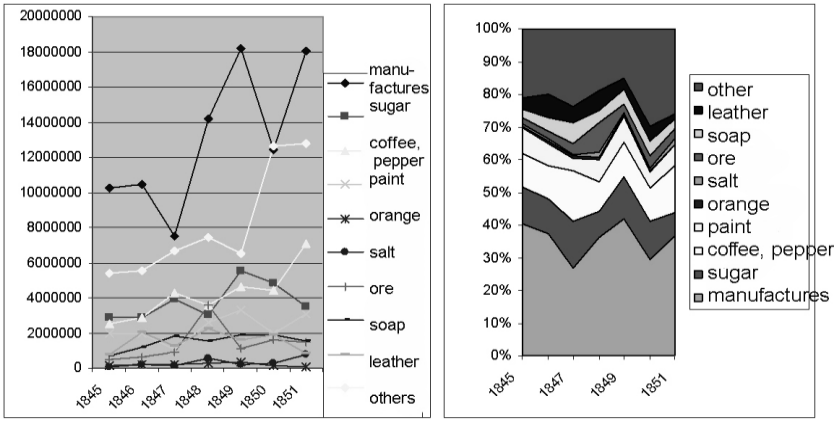
From among the articles exported through Saloniki the share of grains showed significant decrease from 70% to 25%, silk sank from 30%

131 By this time the Ottoman Empire had not been functioning as the supplier of these luxury articles any more, it became a consumer supplied by western countries bypassing the Empire, the former mediator in trade.

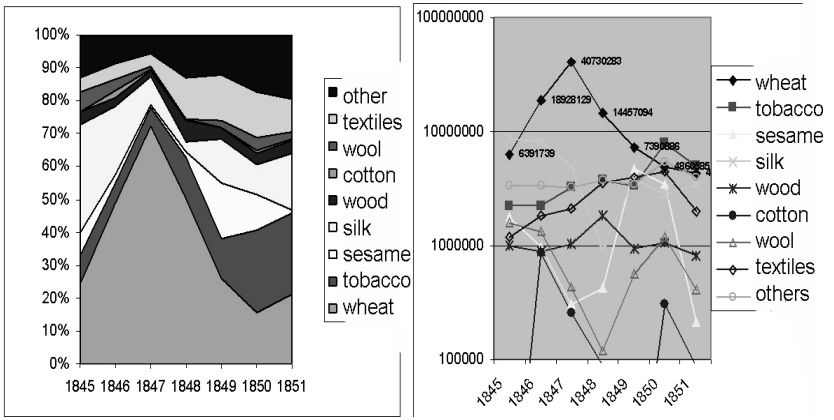
132 Ibid.

under 15%, sesame from 15% to 5%, while tobacco increased its proportion from 5 to 20 % within those 6 years. The ratio of textiles also grew from 5 to 15%[133] as a result of the first wave of the state-encouraged Ottoman industrial revolution (*chart 2*).[134] Although exports were halved after the peak in 1847, the absolute value (expressed in piasters) of these merchandise still increased.

Chart 2. Distribution (%) and value (piasters) of merchandise arrived to Saloniki 1845–51



Distribution (%) and value (piasters) of merchandise departed from Saloniki 1845–51



Based on Dokumenti...

133 Ibid.

134 See: *Clark, E. C.: The Ottoman Industrial Revolution*. International Journal of Middle East Studies 5, 1974/1. 65–76.

There were remarkable differences not only between the export-import structure of the port itself, but of *different nations*. Furthermore, the patterns also changed over time even within this short period. In 1846 Italians transported from Saloniki only wheat, by 1851 the proportion of grains had decreased to 45%, while wool had reached 35% and silk 8%. 70% of the Ottoman ships' transports from Saloniki was wheat in 1846, while in 1851 Macedonian, Thracian tobacco became the leading merchandise with 66%, overtaking textiles and wood. In 1845 the English carried hardly any wheat from the peninsula, but by 1851 it had become the main merchandise, while the proportion of imported silk (33%) decreased significantly. Italians brought mainly leather (75%) in 1846 to the port, but by 1851 it had been overwhelmed by the competition of luxury articles like coffee and pepper, reducing the proportion of leather to 33%.[135] The Turkish, French and Russian merchandise structure did not change formidably.

Based on *chart 2* we may point out that *neither the structure, nor the volume of imported goods changed significantly in the port itself, but the import of Saloniki was continuously increasing* (both the total value and quantity of the imported goods). *As the proportions remained nearly constant, it is the price fluctuation of certain merchandise* (*chart 3*) *that can be responsible for the changes in import values too*. In normal cases, when having stabile merchandise structure one should not expect changes in prices – apart from the inflation,[136] but due to the tight interval it was insignificant –, but the average value of certain merchandise showed here fluctuation (*chart 4*), which definitely reflects a specific economic phenomenon.

(3) Though in 1846–47 the quantity of exported and imported goods was almost the same, the unit price/ton was 160–330 piasters higher in the case of exports from Saloniki. But by 1851 the situation had completely changed, and the average value of import (piaster/tons) was some 500 piasters higher than that of the goods exported from Saloniki, while in 1845 the average aggregated unit prices (per tons) of export

135 See *Dokumenti...*

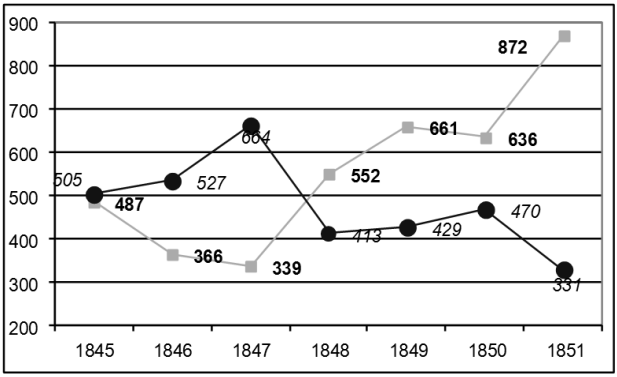
136 Or because of climatic fluctuations in case of agrarian mass products.

and import were the same. *On the long run this process, together with the low tariff rates (3%) was favourable for the exporting western countries*.

It was also possible to *measure the unit prices* of certain merchandise, especially when the ships contained only one sort of product. For example, in 1851 English ships carried wheat from Saloniki weighting 5100 tons for 1.9 million piasters, which means that the average price/tons was around 370 piasters. Contrary to this, English ships brought manufactured goods (reaching 90% of the load) to Saloniki that year for 9.3 million piasters weighting only 1440 tons, which meant an average 6400 piasters/ton price.[137]

W*heat was able to counterbalance the impact of manufactures on commercial balance only in the early years of the examined period; while silk and tobacco was not able to substitute the income from wheat*.

Chart 3. Average value in *piasters per tons* of incoming (light) and outgoing (darker) merchandise in Saloniki



The unit prices of imported goods were high, while the export prices showed fluctuation and finally decreased. The question is: (a) what was the reason of the fact that the Balkans were capable of competing with the western nations in, and only in 1846–47? (b) Why did the unit prices of exported

137 Swedish ships brought iron ore of 185 tons for 200 thousand piasters, so the average value of iron was 1080 piaster/tons. The soap carried on the ships of the Ionian Islands was worth 122 thousand piasters, while the load was 43 tons, thus the unit price reached 2800 piaster/tons in 1851.

goods fluctuate in Saloniki? (c) Which nations were responsible for the growing deficits?

Table 5. Average unit prices in piasters/tons for different nations

	to Saloniki (tons/ship);		(piasters/ton)		from Saloniki (tons/ship),		(piasters/ton)	
Ships	**1846**	**1851**	**1846**	**1851**	**1846**	**1851**	**1846**	**1851**
French	122	113.6	54	710	134	112	2793	1113
English	143	48	3505	7361	244	160	866	375
Ionian	31	43	152.6	2837	32	117	4634	521
Austrian	191	268	392	301	184	266	413	236
Russian	72	117	150	133	72	101	728	487
Sardinian	148	137	123	1941	148	143	943	330
Dutch	198	66.5	n.a	1160	63	66	383	42
Swedish	111	185	n.a.	1080	112	185	718	n.a.
Norwegian	193	180	n.a.	n.a.	92	180	1773	623
Ottoman	92	91	260	942	84	97	286	256
Ottoman st.	212.5	229	393	380	213	229	496	302
Austrian st.	155	235	684	1493	155	236	414	569
Samos	82	76	90	479	88	76	359	181
Greek	60	67	121	276	58	68	366	87
Prussian	n.a.	230	n.a.	354	n.a.	226	n.a.	667

(c) To answer the latter question *table 5* provides us data, giving an outlook to the changes in the export and import unit prices for each nation. The table also contains the average load of a ship, referring to the trade type. Russian, Ottoman and Greek ships transported smaller quantities, they might be used for short-distance commerce. English, French and Austrian ships were able to carry larger volumes. And, as the unit prices of English exports doubled within in 5 years, while the import unit prices decreased by 50% for the same period, and this made exports (per tons) more profitable than imports. Italian, Austrian and Greek ships also experienced an increase in average export unit prices, while unit prices of import fell.

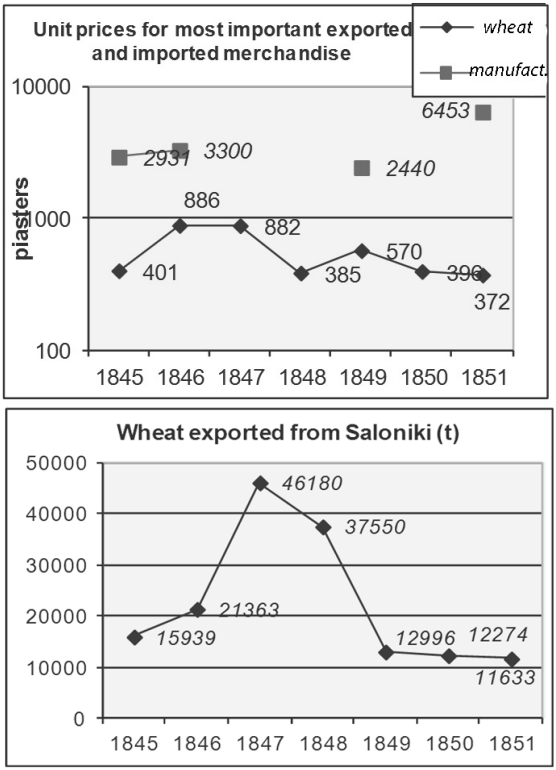
To answer the first and second question it is worth examining the prices of wheat and manufactures, representing the main export and import products of Saloniki (*chart 2*). The average unit prices of manufactures were high, but stagnating compared to that of the wheat, and after 1849 a sudden increase occurred (*chart 4-5*). In the same period Saloniki's wheat export fell from 19 (in 1846) or 40 million (in 1847) to 4.3 million piasters. While constituting 50% of the export in 1846 and 70% in 1847, the share of grains from exports had also fallen back to 20% by 1850. The reason of this decline could either be the fluctuation of the exported quantity or the fluctuation of prices, or both. *Chart 4-5* shows that both were responsible: there was a great increase in grain prices for the short period between 1846–47, followed by the increase of export volumes.[138]

The reason for the sudden increase of unit prices might be *the agricultural crisis that swept across Europe in 1846–47* resulting in the Irish famine and the revolt of Polish peasants in Galicia in 1847, both increasing the demand for wheat.

This hypothesis is supported by the results seen in *chart 4-5*. The reason of the sudden price increase cannot be explained by shortages in the Balkan peninsula (local shortages could also increase prices!), because *both prices and the exported wheat quantity increased* with a certain lag in Saloniki. So, it was rather the shortage in Western Europe responsible for the changes (prices were determined by demand and not by supply). The climate diagrams of Keith Briffa also show (*chart 6*) that – unlike in Western Europe – the temperature anomalies experienced in the West remained moderate in the Balkans during 1846–48. Indeed, *the Balkans had wheat surplus in those crucial years and could supply Europe*.

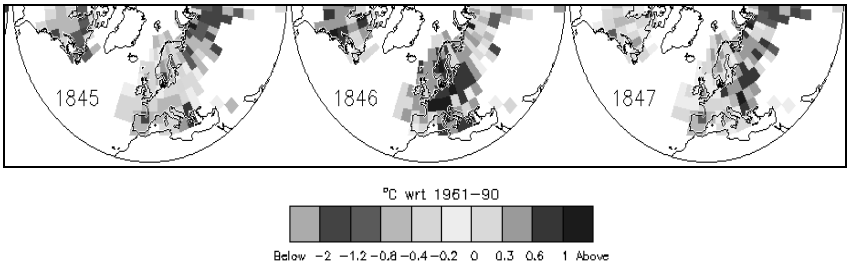
138 The data for 1846 were calculated using Italian ships: based on Blunt's report Italians imported 6200 tons of wheat for 5.6 million piasters, resulting 886 piasters/tons unit price. In 1845 Maltese ships transported only wheat (496 tons) for 199 thousand piasters, putting the price for 400 piasters/tons. The wheat price for 1847 can be calculated by using Prussian ships: 290 tons of wheat was worth 256 thousand piasters, resulting more than 880 piasters/tons. The value for 1851 was calculated based on English ships, where 90% of the freight was wheat, estimating 370 piaster cost for each tons. The overall quantity of the exported wheat was estimated using the total value and the calculated unit prices.

Chart 4-5. Above: unit prices of merchandises. Below: the quantity of exported wheat (t) from Saloniki



(dark gray lines represent grain prices/tons, light gray indicates manufacture prices/tons)

Chart 6. Regional distribution of temperature anomalies in Europe compared to the average between 1961–90



Keith Briffa: http://www.cru.uea.ac.uk/cru/people/briffa/temmaps/decade/184x.htm

One question remains: what was the destination of ships leaving Saloniki – as it was also possible to transport the wheat to Constantinople instead of Europe and in the latter case Saloniki did not contribute to the mitigation of the crisis.

Table 6. The value of wheat leaving Saloniki (piasters), its proportion from the total freight, and the target destinations of ships in 1845 and 1847

Ships	Load in 1847, in piasters	Proportion of wheat	Total ships	Ships to Europe	Load in 1845, in piasters	Proportion of wheat	Total ships	Ships to Europe
Prussian	256 000	100%	1	1	n.a.	n.a.	n.a.	n.a.
English	9 600 000	95%	58	36	400 000	32%	21	4
Maltese	1 733 000	100%	7	7	200 000	100%	3	3
Ionian	220 000	100%	3	3	9600	100%	2	0
French	2 451 000	55%	15	14	0	0	16	9
Austrian	401 000	79%	12	6	576 000	29%	11	11
Russian	1 000 000	36%	21	11	132 000	31%	29	0
Naples	4 181 000	98%	31	23	289 000	59%	7	4
Sardinian	11 924 000	94%	74	69	1 492 000	83%	23	18
Norwegian	725 000	100%	4	3	0	0	1	1
Swedish	333 000	100%	2	2	216 000	100%	2	2
Dutch	450 000	100%	3	3	n.a.	n.a.	n.a.	n.a.
Toscanian	40 000	99%	1	1	204 000	100%	2	2
Danish	323 000	100%	3	2	n.a.	n.a.	n.a.	n.a.
Hannover	370 000	100%	3	3	n.a.	n.a.	n.a.	n.a.
Bremen	136 000	100%	2	2	128 000	100%	1	1
Greek	4 054 000	80%	207	31	1 912 000	37%	259	0
Ottoman	2 072 000	45%	160	135	830 000	31%	136	0
Altogether	40.7 million				6.4 million			

In *table 6* we compared the target destinations, number of ships, and the proportion of wheat from the total load in 1845 and 1847. Within two years the quantity of exported wheat increased by 600% and the number of ships increased from 55 to 357. The Prussian, English, Maltese, Italian, French, Ionian, even Turkish and Russian vessels moved towards Europe, while formerly the continent was not a target destination for the latter three. Wheat constituted 80–100% of the load

for almost all of the ships, which was an uncommon phenomenon compared to the earlier periods. It is also worth mentioning that even ships of distant countries (Norway) visited Saloniki and loaded wheat on board as a new phenomenon. Thus, our conclusion is that *the wheat of the Balkan Peninsula reached Western Europe and contributed to the mitigation of the crisis* and to the wealth of merchants.[139]

The high English wheat import can be explained by the fact that in 1846 England put an end to protectionism, allowing free trade to secure the inflow of cheaper grains. As a result, between 1815–50 unit prices of wheat fell from the average 67 shilling to 52 shilling,[140] as the transport costs decreased from 30% of the freight to 5%, while tariff rates decreased from 20% to 10% between 1853–61. So, free trade contributed to the increase in the general standards of living, but this process was disadvantageous for the local (European) agrarian producers. Cheaper food meant cheaper labour costs, therefore the change was advantageous for the industrial entrepreneurs, who finally overcame the agrarian lobby and the merchants' lobby.[141] (The social

139 *Dokumenti...* In 1847, the Italians (30%) and English (25%) imported the largest quantity of wheat, followed by the ships of Naples and Greece (10-10% respectively). By 1851 the Prussians (17%) and Russians (10%) had become the greatest importers beside the English (44%), while the wheat-quantity fell to 25% compared to 1847, and its value in piasters decreased to 10%. While the weight of the freight decreased to 67%, the proportion of the wheat reached 90% compared to the 15% in 1846. This led to the (unfavourable) uniformization of the trade structure. In the beginning of the famine England carried wheat for only 0.5 million piasters, meaning 560 tons approximately, a year later this increased to 10 million piasters, weighting 10 880 tons calculated from the unit prices. After the crisis England still bought 5100 tons of wheat for 2 million piasters, since it became cheaper.

140 *Fairlie, S.: The Corn Laws and British Wheat Production, 1829–76.* The Economic History Review 22, 1969/1. 88–116.
The decrease in the export of Saloniki can be explained by the decrease in wheat demand of Europe after 1848. Italians in 1846 brought wheat for 5.6 million piasters (6300 tons), in 1851 only for 170 thousand piasters (450 tons), however it still meant 50% of the freight expressed in piasters (calculated from *Dokumenti...*). During the Crimean war the exports of Saloniki b(l)oomed again. While the total grain exports were 300-350 thousand hl (only 75 000 hl of this was wheat) during the war the wheat exports increased five-fold, such as prices (1 hl = 5.5 francs in 1840, 8 francs in 1847, and 25 francs in 1856).

141 There was a century-long economic fight (reaching the Houses of Parliament) between these groups. The members of the British East India Society were the propagators of importing cheap hand-made textiles from India, that endangered the interests of British industrial producers (who have been demanding restrictions on Indian textiles since the 1720s), and

consequences of this change *for the Balkans* are investigated in the second part of this study).

The increase in grain imports induced the decrease of local production: a 1% increase in the grain output of the USA resulted in a 0.6% decrease in the British production and a yearly 3% increase in grain imports between 1838–1929.[142] Due to the constantly growing population and the shift in its economic policy, England became dependent on grain imports. While in 1830 only 5% of the wheat arrived from abroad, by 1860 it had increased to 25% and by 1880 to 45%. Regardless of the grain price England always imported sufficient quantity to secure at least 200 kg/capita consumption (*table 7, chart 7*).

In order to balance the growing demand for food financed now from external sources (imports), Britain had to rely on its industrial exports for which new markets and favourable trade conditions were required, reasoning the 'rediscovery' of the Ottoman Empire. The German protectionist turn – they were the former grain exporters and manufacture consumers of Bristish articles - also urged this. The positive balance of trade (the British were aware of its significance), and the high added value of manufactures resulted in increasing purchase power (welfare), that could finance the maintenance of population growth and the exisiting trading practices. As the Ottoman market was extensive, but characterized by masses with weak purchase power, it was evident that the cheap products would be welcomed on this market. This required the decrease of profit rate (after the increase of labour wages in the second half of the 19th c. in England this could be only counterbalanced by mass production and mechanization) and a change in the product structure (cheap industrial mass-products became predominant overshadowing the luxury articles consumed by the elite).

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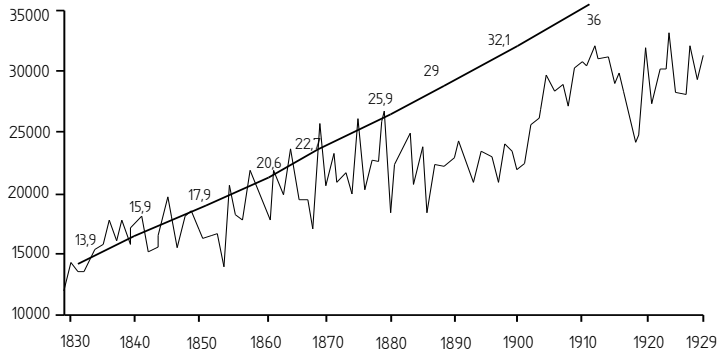
also that of the declassed agrarian producers, who were restratified into industry as cheap labour force.

142 *Sharp, P.: Pushing Wheat: Why Supply Mattered for the American Grain Invasion of Britain in the Nineteenth Century*. Discussion Papers Department of Economics, University of Copenhagen. No. 08-08.

Chart 7. British wheat consumption (production + imports in 1000 quarters) measured to population increase



As 1 quarter equals to approximately 220 kgs, which is equal to the yearly consumption of 1 person, thus the quantities in the vertical axis refer to each other. It means that the interference of the two curves highlights periods characterized by consumption above 220 kg/prs and grain shortages (after the 1880s').

Table 7. Import dependency and per capita grain consumption in England and Wales between 1830–1920

Year	Wheat production	Imports	Import dependency	Per capita consumption
1830	13-15 million quarter, or 3-4 million t	**1.5 million quarter (0.3 million t)**	**5%**	**13.9 million** = 215-310 kg
1842	**12 million quarter = 2.6 million t**	**12 million cwt = 0.6 million t**	18%	**16.1 million** = 200 kg
1845	**18 million quarter (max. production) = 4 million t**	**5 million cwt 0.25 million t**	6.5%	**16.7 million** = 254 kg
1860	5.3 million t or 18 million quarter = 4 million t	**8 million quarter (1.76 million t)**	**24–40%**	**20 million = 260-350 kg**
1864	**18 million quarter (max. output) = 4 million t**	**20 million cwt = 1 million t**	cca. 20%	**20.9 million** = 240 kg
1880	4.5 million t	**60 000 000 cwt. 3 million t**	**45–65%**	**26 million** = 280 kg
1920	**6 million quarter = 1.3 million t**	**110 000 000 cwt = 5.5 million t**	80%	**35 million** = 200 kg

Data indicated by bold letters are from literature (or interpolated from literature data in case of population number) others are calculated.

Data from: Sharp, P.: Pushing Wheat: Why Supply Mattered for the American Grain Invasion of Britain… Mitchell, B. R.–Deane, P.: Abstract of British Historical Statistics. Cambridge, 1953. and Mitchell, B. R.: European Historical Statistics, 1750–1975. New York, 1980.

The role of Saloniki was not exceptional.[143] The total quantity of exports and imports in Sulina was 50% higher than in Saloniki even in 1847, and it had reached 220 000 tons by 1850. Even in 1837 Sulina exported more wheat (54 000 tons) than Saloniki. In 1847 its grain export reached 124 000 tons, and in 1862, 265 000 tons (*table 8–9*).[144] But being under Russian occupation before 1856 its significance in international trade remained small. Most of the ships of Western Europe were not allowed to enter the Black Sea prior to the 19th century, and after the Russians incorporated the Danubian Delta, they did not develop the port (did not need a rival for Odessa). Saloniki was an excellent choice for our investigation: Sulina – with the exception of 1847 – exported wheat in order to supply Constantinople,[145] thus the port did not appear on the world market, and prices there were influenced only by the market of Constantinople. After the Crimean War, when the harbour opened again for international trade, the Greek, Dutch and English began to prefer Sulina to Saloniki, and this port also became a part of the world market.

Table 8. The commerce of Sulina

	1847			**1850**			**1853**		
	ships	**tons**	**load (tons / ship)**	**ships**	**tons**	**load (tons / ships)**	**ship**	**tons**	**load (tons / ship)**
Austrian	144	**29000**	*201*	96	**19500**	*203*	111	**19500**	*176*
Ottoman	663	**76500**	*115*	174	**29400**	*169*	406	**56300**	*139*
Greek	630	**94000**	*149*	860	**155000**	*180*	1049	**199300**	*190*
English	151	**22600**	*150*	108	**17700**	*164*	205	**35200**	*172*

Based on Hajnal, H.: The Danube. The Hague, 1920.

143 *Fényes, E.: A Török Birodalom leírása történeti, statisztikai és geographiai tekintetben*. Pest, 1854. 423.; *Bailey, F. E.: British Policy…* 105. The commercial significance of Varna also exceeded that of Saloniki in the Balkans by 1845–48. *Lampe, J. R.: Balkan Economic History…* 138.

144 *Berend, T. I.–Ránki, Gy.: Európa gazdasága a 19. században 1780–1914.* Budapest, 1987. 592. *Hajnal, H.: The Danube.* The Hague, 1920. 156–57, 164; *Sugar, P. F.: Economic Considerations for Political Decisions in Romania, 1878–1883.* 95. In: Nationality and Society in Habsburg and Ottoman Europe. Collected Studies. Aldershot (Hampshire) 1997.

145 Istanbul imported yearly 150 000 tons in the 18th century, which was more than the total exports of Braila and Galați in 1843. *Aynural, S.: Bakers and Millers of Istanbul.* In: Crafts and Craftsmen of the Middle East. Fashioning the Individual in the Muslim Mediterranean. Eds.: *Faroqhi, S.–Deguilhem, R.* N.Y. 2005. 153–73.

Table 9. A comparison of Sulina and Saloniki

Ships	Sulina	out in 1856		Saloniki	out in 1851	
	ships	freight tons	tons/ship	ship	freight tons	tons/ship
English	161	32084	199.2	32	5113	159.7
Austro-Hungarian*	239	45035	188.4	5+51	1332+12019	266+236*
Greek	996	157821	158.4	234	15832	67.6
Dutch	104	9817	94.3	4	265	66.2
Romanian	119	8246	69.2	0	0	0
Ottoman*	125	13661	109.2	83+50	8059+11454	97+229*
Altogether	2221	338200	152.2	517	61177	118.3

Based on the Dokumenti… and Hajnal, H.: The Danube. *Ships and steamships calculated separately.

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The changing character of international trade is confirmed by other data. The correlation coefficients in Varna also show that "wheat for manufactures" worked (*table 10*). Imports were not characterized by traditional luxury articles any more, but by industrial goods. (Exporting wool as raw material for textile industry still played an important role as de-industrialization was going on). The process induced three other phenomena: beside the sudden increase of Balkan exports, the formerly positive balance of trade (*table 11*) soon turned into negative, because the extension of exports was not able to keep up with that of the imports. This is true for the Romanian principalities (larger ports also had positive balance of trade with Europe prior to the Crimean war) or regarding Austrian-Ottoman relations as well (*chart 9–10*). The third characteristics of the trade is that the diversity of exports of the Balkans decreased (see the *chart 16* representing Varna), which had dangerous consequences on the long run as the case of the Danubian principalities exemplified, making the Balkan economies more vulnerable to external changes (like the collapse of grain prices).

Table 10. The correlation between main exported and imported goods in Varna (1853–78)

Correlation coefficient (r^2)	Wheat vs. total exports	Manufactures vs. total imports	Iron* vs. total imports	Coffee vs. total imports	Sugar vs. imports	Wheat vs. Manufactures	Wool vs. exports
	0.85	0.27	0.48	0.02	0.52	0.55	0.53

Data: Michoff, N.: Contribution a l'histoire du commerce Bulgare I. Rapports consulaires Belges. Sofia, 1941. *Iron was abundant in the dataset until 1867, the construction of the Ruse-Varna railway.

Table 11. Export surplus of Ottoman ports in 1850–53 (yearly average in million francs)

Settlement	Imports to the Empire	Exports from the Empire	Surplus
Constantinople without transit	21.75	15.5	–6.25
Monastir	2.88	1.89	–0.99
Burgas	0.52	1.00	0.48
Saloniki	2.36	2.11	–0.25
Seres	1.00	0.86	–0.14
Kavala	0.08	1.05	0.97
Volos	0.46	2.40	1.94
Janina	1.75	1.05	–0.70
Scutari	1.22	0.80	–0.42
Durazzo	0.45	0.67	0.22
Vidin	0.18	0.26	0.08
Ruse	1.50	2.00	0.50
Svishtov	0.40	0.57	0.17
Tulcea	0.05	0.21	0.16
Niš	0.57	0.72	0.15
Varna	1.90	1.53	–0.37
Altogether	*37.3*	*32.9*	*–4.40*

Reden, Fr. W. von: Die Türkei und Griechenland in Ihrer Entwicklungs-Fähigkeit. Frankfurt am Main, 1856. 259.

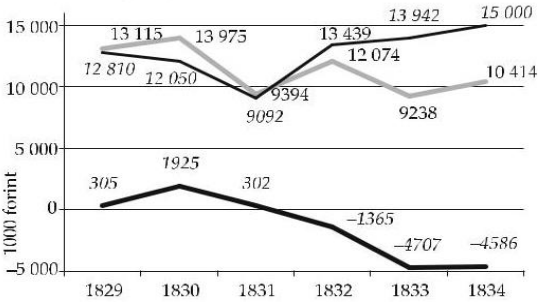
The grain prosperity even reached distant areas. In Moldova between 1837–47 the proportion of grains from exports doubled (reaching 80% from total exports) owing to the 60% price-increase and the doubling of exported quantity (*table 12*). This increase – parallel in prices and exports – can be explained by the fact that the devalvation of Ottoman piaster increased export exigency (merchants wanted to get valuable currency through the intensification of foreign trade). Contrary to this, the next price increase (33%) in 1859 was unable to increase the exported quantity, and this refers to local limits of export capacities. Finally, in 1863 an only ten-percent price increase generated again a growth in export quantities: it definitely meant that export exigency persisted, even when price conditions were not so favourable at all. This was the direct consequence of the homogenization of the Moldavian agrarian structure and it proved to be very dangerous. (The lessons of this process were valid for the whole Balkans).

Table 12. Wheat export of Moldva and grain prices

Year	Total exports in (million lei)	Wheat exports	Wheat volume (1000 hl)	Price increase %	Wheat from total exports (%)	Grain t	Grain prices Lei/t[146]
1837	30	12	691		40	53 898	222.6
1843		30	1118	57		87 204	344.0
1847	52	45	1591	-8	87	124 098	362.6
1857	58	40	1527	-7	69	119 106	335.8
1859	73	59	1728	33	81	134 784	437.7
1863	134	120	3409	10	90	265 902	451.3

Based on: Lampe, J. R.–Jackson, M. R.: Balkan Economic History…

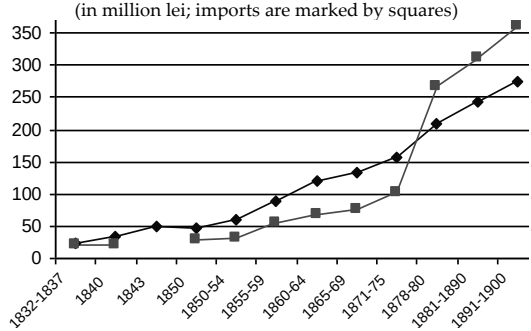
Chart 9. Ottoman trade balance with Austria in the 1830s (given in 1000 Florins, dark line)



See: Paskaleva, V.: Sredna Evropa i zemite po Dolniya Dunav prez XVIII–XIX. v. Sofia, 1986.

Chart 10. Balance of trade of the Romanian principalities

(in million lei; imports are marked by squares)

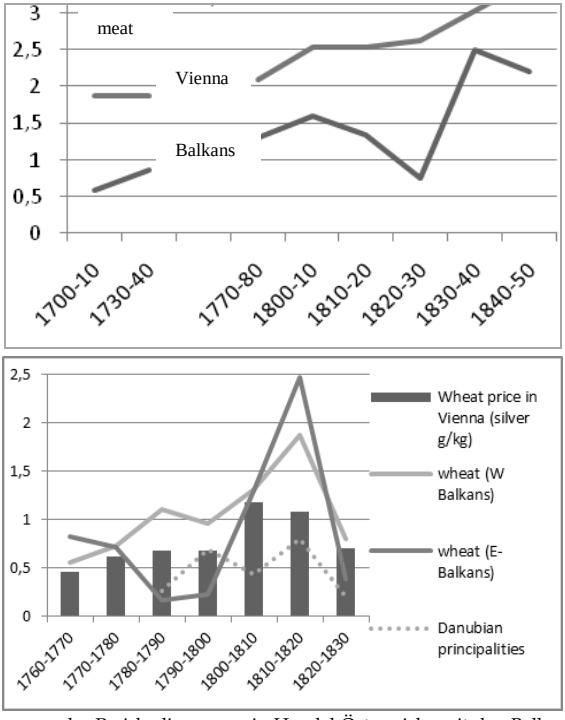


Based on: Lampe, J. R.–Jackson, M. R.: Balkan Economic History

146 1 leu equalled to 40 para prior to 1837 (like the piastre), 60 paras prior to 1843 100 para after 1850. *Diculescu, Vl.–Iancovici, S.–Danielopolu, C.–Popa, M. N.: Relaţiile comerciale ala ţari Romaneşti cu Peninsula Balcanica (1829–1858).* Bucharest, 1970.

Grain price (thus the export capacity of countries with decreasing export diversity) neither remained constant nor high: it fluctuated partly because of the climatic anomalies, partly because of the supply surpluses (from other source areas, like Russia, Argentina, USA).

Chart 11. Prices of meat and wheat (silver g/kg)

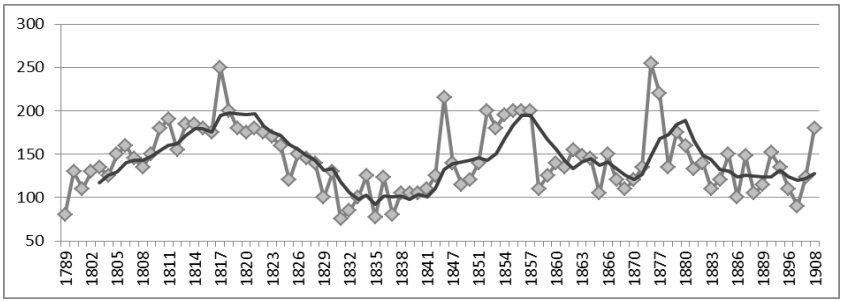


Berov, Ly.: Änderungen der Preisbedingungen in Handel Österreichs mit den Balkanländern im 15-18 Jahrhundert. 13-35. In: Österreichs Handel mit Südosteuropa und die wirtschaftliche Bedeutung der bulgarischen Länder bis zum Ende des 18. Jahrhunderts. Mitteilungen des Bulgarischen Forschungsinstitutes in Österreich. IV/B/II. Wien, 1981.

Prior to the 1840s exporting wheat was not profitable (beside being forbidden) for the Balkans. Berov's chart indicates that wheat prices were smaller in Vienna than in the peninsula even during the Napoleonic era, when grain prices generally increased. Transport costs were still high on mainland (Hungary as a rival was near Vienna) prior to the appearance of steamships (the blockade during the wars also

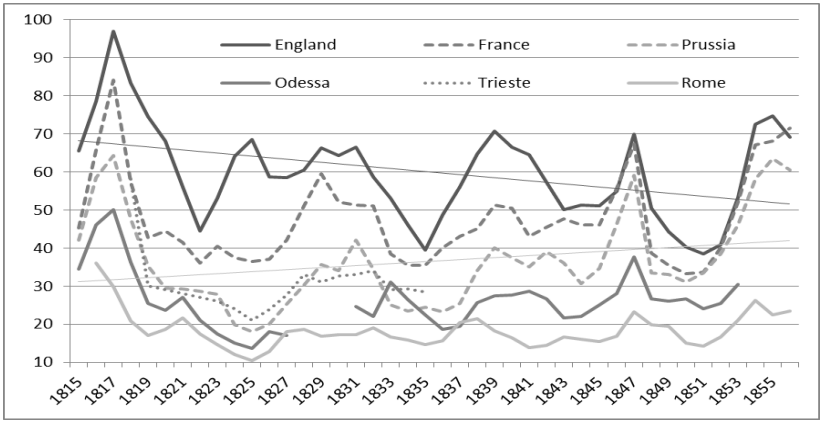
contributed to this). This phenomenon also meant that the peninsula did not have substantial income surplus from grains (Istanbul was supplied with the grain at low, fixed prices first). It was the flesh then, functioning as an export article, because the Viennese prices were higher than the Balkan prices (*chart 11*).

Chart 12. Macedonian price index based on 26 foodstuffs using a 5-year moving average (1888=100)



Berov, Ly.: The West European Trade Cycle and Price Movement in the Salonica Economic Region during the Nineteenth and Early Twentieth Centuries. In: Southeast European Maritime Commerce and Naval Policies from the Mid Eighteenth Century to 1914. War and Society in East Central Europe. Eds.: *Vacalopoulos, A. E.–Svolopoulos, C. D.–Kiraly, B. K.* Thessaloniki, 1988. 291.

Chart 13. Price fluctuations of wheat on European markets, 1815–61 (shilling/quarter)[147]



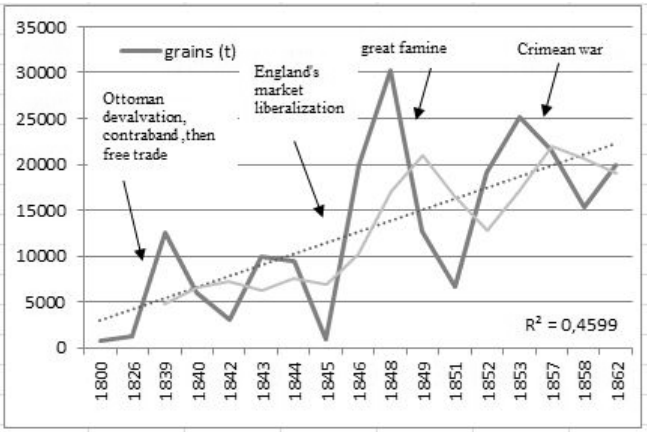
The two trendlines (England and Odessa).represent the equalization of prices between the E and W.

147 Odessa represents the Eastern regions, Trieste the transition zone. Data: *Fairlie, S.: The Nineteenth-century Corn Law Reconsidered.* The Economic History Review 18, 1965/3. 562–75; *Fairlie, S.: The Corn Laws and British Wheat Production...*

By the 1840s the situation had changed. The Balkan became a wheat supplier until the interregional price differences equalized (*chart 13*), but prices fluctuated even after this (*chart 12*). The curve rather coincides with the Kondratieff-cycles, showing an upswing between 1840s–1870s, then a fallback till the turn of the century (after the dumping of Russian and American wheat).

The early stages and the sensitivity of grain exports can be observed in Burgas (*chart 14*): here the Ottoman devalvation and the free trade first increased exports from 1000 to 12000 tons between 1826–39, then it grew to 30 000 tons in 1847, peaking once again with 30 000 tons in 1853 as a result of the war prosperity.[148] The population of Danubian ports, like Ruse increased by 40% even between 1831–66 (prior to the opening of railway) and a 25% increase was measured in Vidin at the same time, while this remained under 10% in the landlocked Sofia and Shumen.[149]

Chart 14. Early stages of grain exports and reasons of fluctuation in Burgas



Data: Shterionov, St.: Yuzhnoto Chernomorie prez Vazrazhdaneto. Sofia, 1999.

148 *Shterionov, St.: Yuzhnoto Chernomorie prez Vazrazhdaneto*. Sofia, 1999. 165.

149 *Todorov, N.: The Balkan Town in the Second Half of the 19th century*. Etudes Balkaniques 2, 1969. 32–35.

By using the data of travelers and statistical compilations we tried (1) to measure the changes in the quantity of grain exports of the Balkans during the wheat prosperity of 1840–70. We also attempted (2) to assess the participation of small producers in this process – by comparing this period to the previous, Napoleonic upswing – in order to reveal the effects of wheat boom on livelihood/living standards and to measure its mitigating effect on social tensions. For this per capita production and export values for the Balkans were derived from macroeconomic data (*table 13*).

Our presumption was that if producers managed to participate indirectly in exports, thus in earning profits due to the increasing grain prices, this could decrease social tensions. For example in Ottoman Bulgaria numerous revolts and uprisings broke out (1835, 1836, 1837, 1841, 1842, 1850, 1862, 1867, 1868, 1872, 1876), but none during the great western famine of 1845–49, and the peninsula – with the exception of the Danubian principalities, where the socio-economic system differed from that in Serbia or Bulgaria – managed to avoid the revolutions in 1848.

Although wheat prices doubled during the Napoleonic era compared to 1787, transport costs also increased by 50% according to Berov.[150] This also meant that most of the profits were realized in/consumed by transport and trade that time. Export was only profitable, if local producers were forced to sell grains cheaper. Thus, they did not benefit from the processes until freight costs decreased.

By the 1840s this situation changed: grain prices had doubled again, while freight rates declined quickly. In Bulgaria fixed prices were abolished, and the *maktu* system was adopted in 1832:[151] the spahi-tax farmers lost their right to collect taxes in kind, and *vojvoda*s collected it in cash instead. It meant that peasants were forced to sell their wheat at the markets. The Ottomans gave up the monopoly of wheat export in Bulgaria. As a result the wheat export of Bulgaria doubled between

150 *Berov, Ly.: Transport Costs…* 74–99.
151 *Lampe, J. R.–Jackson, M. R.: Balkan Economic History…* 135.

1850–70.[152] Even the official purchases of Istanbul had increased from 500 thousand to 1 million kile of wheat by the 1840 from N-Bulgarian lands.[153] According to our calculations averagely 30–40% of the harvest was exported during these years (*chart 15*).

Owing to these circumstances even smallholders were able to receive extra income, unless they were excluded from the market processes. In order to assess per capita income surpluses first the extent of attraction zones had to be defined for the major harbors,[154] then we had to estimate the population of these territories[155] and to adjust the different scales to be able to compare wheat amounts,[156] and finally we converted volumes to values (which were all difficult to comply).[157]

In case of Saloniki the commercial data of the Romanian principalities were used as analogy to estimate the extent of the attraction zones. In 1837 the wheat export of Moldva reached 54 thousand tons, in 1847 it increased to 124 thousand tons.[158] For the latter, using an average price of 800 piasters/tons, the income can be estimated to 99 million piasters, exceeding the total export value of Saloniki. In 1837, using 400 piasters/tons pre-prosperity unit price, the value of exported crop was estimated to 22 million piasters.

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152 *Berend, T. I.–Ránki, Gy.: Közép-Kelet-Európa gazdasági fejlődése a 19-20. században.* Budapest, 1969. 84.

153 *Kosev, D.: Vastanieto na selyanite v Severozapadna Balgariya prez 1850 g. i negovite prichini.* Istoricheski Pregled, 1949–1950/6. 474–493. and *Hristov, Hr.: Nyakoi problemi…* 83–107.

154 Boundaries of attraction zones were delimited based on geographical conditions (using watersheds), administrative boundaries, analogies and based on the method of equal distances from major ports.

155 For the population of administrative units see *Fényes E.: A Török Birodalom leírása…* 387–424. and *McGowan, B.: Economic Life in Ottoman Europe: Taxation, Trade and Struggle for Land, 1600–1800*. Cambridge, 1981. 88–92.

156 The Istanbul kile is only 20 okes, Burgas kile and Saloniki kile are 60–100 okes.

157 McGowan claimed that in 1780 1 kile wheat cost 1.5 piasters, while in 1812 the nominal price was 15 piasters – due to the inflation, and to the great demand during the Napoleonic wars. In 1758, 6.5 million kile wheat arrived to Constantinople equalling to 237 000 tons. *McGowan, B.: Economic Life …* 14. Thus 1 ton of wheat equalled to 27 kile (officially 40 kile of Constantinople equals to 1 ton!). So, a ton of wheat cost 40 piasters in 1780 and 400 piasters in 1812. After the 1820's the price remained stable until 1846.

158 *Berend, T. I. – Ránki Gy.: Európa gazdasága a 19. században…* 592. (given in hectolitres - 1 hectolier equals to approximately 75 kg of wheat).

Table 13. Production and exports of main harbors prior to and during the wheat prosperity

Port, area, attraction zone	**Wheat production in million kile of Constantinople**	**Exports in million kile and %**	**Value of total production (million piasters)***	**Value of exports in million piasters***	**Families (6 persons averagely, in millions)**	**Production per family (kile) and in piasters**	**Exports (income surplus) per family in piasters**
Surroundings of Edirne, 1849	**2.6**	**0.5 (25%)**	25-27	5	0.1	25 (500 kg) *250 p*	50
Pleven, 13 villages, husbandry, 1840	**200 000 kg**		0.1		*385 households*	*250 p*	
Moldva, 1837 1847		**54 000 tons, 124 000 tons**		21.6 50*	*0.2*		110 250
Edirne, 1846		**5.2**		**40**	0.1?		400?
Enos, 1845		**0.4**		4	0.06-0.1		50
Enos, 1847		**1.5**		15	0.06-0.1		150
Burgas, 1851, 1852		**0.3 and 0.9**		3 and 9	0.1		30 and 100
Svishtov		**2.5**		25	*0.12*		200
Macedonia, 1847 (and Saloniki, 1852)	5.7-6	**2.6 (33%)**	**67**	**26* (total of Saloniki = 40 million piasters, 1847)**	*0.12*	50 (1000 kgs) *510 p*	180 (and 270)
Seres, 1851–53	**1.9 and 3.1**		20 and 33		*0.03*	60 - 100 (1500-2500 kgs) 600 - *1000 p*	
Volos	**4.1**	**0.4 (10%)**	41	4	*0.03*	120 (3000 kgs) *1200 p*	130
Bulgaria and "Rumelia", 1848		**4.4-5**		45-50	*3 million persons = 0.5 m families*		95-100
Anatoly, 1858	**25**		250		*7.4 million persons, =1.25 m families*	20 *200 p*	
Stara Zagora kaza, 1859	**0.75**	**0.2 (30%)**	14	4	*0.0055*	125 *2300 p*	700
Kazanlik kaza, 1859	**1**	**0.3 (30%)**	15,2	4.5	*0.008*	122 *1855 p*	550
Sanjak of Plovdiv, 1867, (here 1 kile =60 okes!)**	**4.5**	**1.2 (25%)**	**260****	**70****	*0.8 million persons= 0.15 m families*	30** (90) (2250 kgs) *1700 p***	460**

* Original data are indicated by bold letters, others are calculated using 400-500 piaster/ton prices = during the wheat boom the prices doubled, so, the per capita production and exports mentioned here should be doubled.

** In 1867 calculated with 1000 piasters/t and 1 kile = 60 okes

Data: Heuschling, X.: L'Empire de Turquie. Territoire. Population. Gouvernement. Finances. Industrie agricole, manufacturiére et commerciale. Voies de communication. Armée. Culte… Bruxelles, 1860; Farley, J. L.: Modern Turkey. London, 1872; Ubicini, A.: Letters on Turkey. London, 1856. 327; Viquesnel, A.: Voyage dans le Turquie d'Europe. Description physique et géologique de la Thrace. Paris, 1868; Hochstetter, F.: Reise durch Rumelien im Sommer 1869; Kanitz, F.: Donau-Bulgarien und der Balkan. Historisch-geographisch-etnographische Reisestudien aus den Jahren 1860–1879. Band II. Leipzig, 1882. 214.

The proportion of wheat from the exports increased from 40% up to 80% within this 10 year period (similarly as observed in Saloniki). From these income data we can conclude – supposing similar agricultural techniques and social background – that the attraction zone of Saloniki cannot be larger (or more populated) than the principality of Moldva with a population of 1.3 million.

So, the attraction zone of Saloniki might extend to Macedonia and Thessaly, as its population was 1.3 million according to Fényes. The data collected by McGowan for 1815, who put the number of families under taxation to 188 000 (and Muslim families were not conscribed) confirmed the reliability of this assessment (calculating with cca. 6 persons/family). [159]

The value of grain shipped in harbors measured to the population of their hinterland indicates regional differences in the intensification of trade (*table 13*), while giving the possible maximum earnings per households. But as we cannot suppose that all the profits were received by the producers, these raw export/household values have to be decreased by the costs of transport and the profits of merchants (25%). As the existing agrarian system also determined whether the peasant could participate in the export or not, the remainder income was distributed among the productive layers with regard to the regional differences of agrarian structure (landuse, estate structure, the average parcel size of cultivated land, the system of land tenure all influenced the proportion of exportable wheat, beside the profit of merchants).

For example, in the Danubian principalities the role of allodial estates was decreasing from 1818 on. The tithe increased from 1/10 to 1/5 of the production,[160] thus grain delivered to landlords by peasants exceeded the amount produced on allodial holdings using corvéé by three to five times. Therefore, landlords rather leased the land than forced the corvéé. Half of the cultivated land had been utilized by peasant smallholders put under severe taxation from 1833. High taxes deprived smallholders of almost all surplus. Therefore they were excluded from profiting grain sales: markets were dominated by the 665

159 *McGowan, B.: Economic life in Ottoman Europe …* 100–103.
160 Ibid. 73.

merchants (among them many Jews) and owners.[161] As *most of the profit landed in the hands of the landlords and merchants being the main beneficiaries of export, this generated further tensions in Moldva and Walachia contributing to the revolution of intelligentsia and smallholders in 1848*.

Compared Bulgaria, in Macedonia the profits of peasants were also smaller, where smallholding dominated and the proportion of chifliks from total cultivated land was around 20%,[162] and where 30-40% of the produced grains was exported[163] similarly to the Interwar period. In Macedonia the proportion of chifliks reached 50% (87/165 settlements were considered chifliks in Monastir, 87/150 around Skopje)[164] and the producer was deprived of one-third or even half of the production which was sold directly by the landlord. Landlords even tended to substitute tenants' share from the yield with paid labour, just to curtail producers of the grain itself.[165] Since in Macedonia smallholding was not the exclusive form of cultivating the land, in order to measure peasant participation in exports, the share of the landlords from total grain production was calculated based on the local frequency of large estates (*chart 15, table 14*). This part was subtracted from the total output together with the aggregated profits on transportation in order to assess producers' share.

To calculate the income *surplus*, yearly export values were compared to 1845 as basic value in case of Saloniki. This meant that 1846 represented +12.5 million piasters surplus, 1847 produced +34 million, and 1848 +8 million. After having assessed the population, in the second step we divided this surplus between the different layers of society based on the calculation shown in *chart 15*.

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161 *Berend, T. I.–Ránki, Gy.: Európa gazdasága…* 592.

162 There is a debate about the effectiveness of chitfliks. If we accept Lampe's data that only 10% of the Bulgarian peasantry worked on the 20% of the lands, producing 30% of output, that would put per capita effectiveness too high, which is in contradiction to the assumption that "corvéé-like services" are not profitable. But most of the chifliks were not allodial units, but composed of smallholdings, where certain amount of agricultural output was expropriated by the landlord beyond the state's share (gospodarlik).

163 *Berend, T. I.–Ránki, Gy.: Közép-Kelet-Európa gazdasági fejlődése…* 84. During the decline in 1880–1910 it was only 15-18%.

164 *Hristov, H.: Agrarnite otnosheniya v Makedoniya prez 19.v. i v nachaloto na 20.v*. Sofia, 1964. 86.

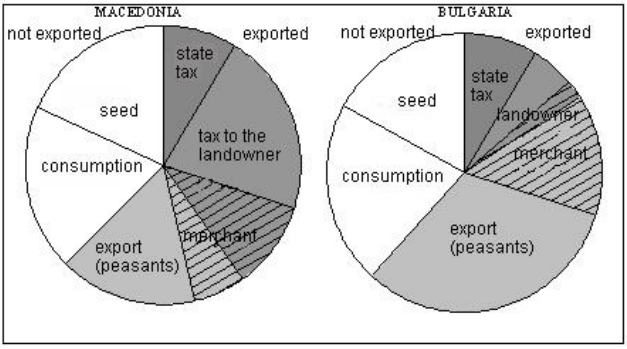
165 *Lampe, J. R.–Jackson, M. R.: Balkan Economic History…* 134.

Table 14. Share of products on a chiflik estate (calculated to 1 ha)* around 1850

Total production	**1500 kgs**	**100 %**
Tithe tax (10%)	*150 kgs***	*10%*
Seed for next year (7x output)	*200 kgs*	*15%*
Remainder (1, 2)	1100 kgs	75%
(1) Owner's share	*550 kgs*	*37%*
*Consumption of owner**	*10 kgs*	*1-2%*
Remainder to be exported	***500 kgs***	***35%***
(2) Peasant's share	550 kgs	37%
Peasant's consumption***	300 kgs	15% (40-45% of his share)
Remainder to be exported	***300 kgs***	***20-22%***

* The total estate was 150 ha, calculating with 5 member-families, and 300 kgs per capita consumption. **Owing to tax-farming usually higher, around 200 kgs. The production per ha was somewhat higher than on small estates, see chapter 1. *** 5 ha of cultivated land, 5 adult units 200 kg/capita consumption (for consumption see Tomasevich) + animals.

Chart 15. The distribution of the harvest among the owners, merchants and producers in Macedonia and Bulgaria based on their different estate structure



White represents wheat not exported, grey symbolizes surpluses (possible exports) of producer strata

Without subtracting the landlord's share, the transport costs and the local and regional price differences, in 1847 this 34 million piaster surplus in Saloniki would produce 225 piasters income surplus per family. These modifying factors reduced the *income surplus* to 90 piasters per farms in 1847, and 20–30 piasters in 1846 and 1848. Due to

the better social structure this was over 100 piasters around Svishtov, and it could reach 200 piasters around Plovdiv.[166]

Was it a significant amount to mitigate social tensions? Definitely, especially compared to the situation in the Romanian principalities. These 30–60 piasters of surplus equalled to the yearly *cizye*[167] (in Moldova cizye incomes still constituted 70% of central incomes in 1839, even after the limitations of the Reglament Organique by Count Kiselev, who decreased its value from 78 piasters), or with the monthly salary of an industrial worker.[168]

Furthermore, the *total income* of peasants from *grain trade* reached 250 piasters per family,[169] which is not negligible compared to the tithe incomes of the central government in the Tuna vilayet, which was 150 piasters per household in 1864 (totalling 60 million piasters) and 250 piasters few years later (equalling to appr. 100 million or 16-20% tax rate).[170] Without substantial profits, the Bulgarian peasants could not have bought land after the land reforms in 1858 (by the 1870s, 70% of the peasants around the Black Sea had owned their smallholdings).

On the other hand, one year's profit was not enough to buy a modern plough, that cost 370 grosh (70 francs), and after 1858, when the tithe was increased from 10% to 12.5%, this step deprived the peasants of just the same sums as calculated above.[171] It is not surprising that this attempt of the Ottoman Empire to shift the burdens of merchants to producers after the abolishment of export tariffs (the

166 In the region of Varna the French shipped grains worth 45 million piasters, or 50 thousand tons. *Damianov, S.: French Commerce with the Bulgarian Territories…* 20. After the deduction of the trade profits 30 million piasters remained, which made the total income per household to 150 piasters calculating with 200 thousand families. After the deduction of the landlords' share (chiflik was significant in this region) 75–100 piasters still remained.

167 *Hadzibegić, H.: Džizja ili Harač.* Prilozi 5. Sarajevo: Oriental Institute, 1954–1955. 102. In 1839 the 200 thousand peasant families of Moldva paid 6.16 million piasters as direct taxes, constituting 70% of the income of the budget of the principality. In Walachia the head-tax of peasants was about 8.7 million piasters, contributing to the budget by 54%

168 *Todorov, N.: Za naemniya trud v balgarskite zemi…* 10–11.

169 So, this is the value of grain marketed by the producer and not the total output!

170 *Palairet, M.: The Balkan Economies…* 48.

171 Further 2.5% was levied on those, who bought land after 1858, but were unable to pay immediately the whole sum as redemption.

increase in tithe was to compensate the losses of the central budget), was not welcomed, and revolts broke out.

Table 15. Wheat exports and production decomposed to one family (1839–77)

Region	Population	Production or export	Production per capita (and per family of 5 members)	Value of production/exports per capita (and per family of 5 members) [172]
Production of Tuna vilayet, 1876	*2 300 000*	*32 000 000 kile*	*360 kgs and 2000 kgs*	*300 p and 1500 p***
Exports of Tuna vilayet, cca. 1850		3 million kile = 78 000 tons	35 and 200 kgs	30 and 180 p
Exports of towns along the Danube, 1854	110 000 families	250 000 kile (1 kile = 50 p. for wheat, altogether 10 million.	15 kg and 7 kgs	20 and 100 p
Exports of Ruse and its hinterland, 1876	55 families = 300 000 persons	500 000 centner = 25000 tons, 21 million piasters	100 kgs (and 450 kgs)	100 and 400 p
Exports of N-Bulgarian lands and Plovdiv region,* 1840	2 500 000	800 000 kile = 21 000 tons	8 and 45 kgs	4 and 20 p
Vidin, total production in 1847	*7000 families**	*1,1 million kile = 28 000 tons*	*0.8 t and 4 t*	*700 and 3800 p*
Exports of Burgas, 1848	700 000 prs. (total Sanjak of Plovdiv)	1.3 million kile = 32 500 tons	50 kgs	25-40 p and 125–200 p
Exports of N-Bulgarian lands and Plovdiv region, 1847	2 500 000	4.3 million kile = 110 000 tons	44 and 220 kgs	35 and 200 p
Production of Tuna vilayet, 1865		7 100 000 kile = 185 000 tons	85 and 420 kgs	85 and 420 p
Exports of Tuna vilayet, 1865		4 335 000 kile = 110 000 tons	50 and 250 kgs	50 and 250 p
Exports of Edirne vilayet, cca. 1870	1 300 000	28 million piasters		25 and 125 p
Prior to prosperity				
Production of Saloniki, 1839		*75 million piasters (12–20 piasters/kile)*		*250 piasters/household*
Exports of Saloniki, 1839		5 million piasters (7–8%)		17 piasters/household
Production of Macedonia, 1840	800 000	3 million kile = 78 000 tons	100 kgs and 500 kgs	40 and 200 p
Exports of Macedonia, 1840	800 000	450 000 kile	15 and 75 kgs	8 and 40 p

Calculated from: Bulgarie et Roumelie. Annales du commerce extérieur. Paris, 1850. 9–10. and Michoff, N.: Beiträge zu Handelsgeschichte Bulgariens II. Band 1–2. Sofia, 1953.

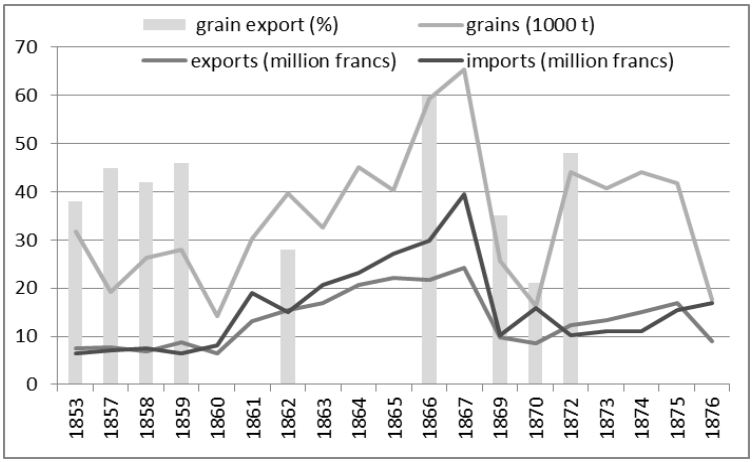
* Plovdiv sanjak probably with Burgas, but without Edirne and Thrace – the later E-Rumelia, as named in the French source. ** Piasters.

172 Prior to 1846 the grain price is calculated as 400 piasters/ton, after 1846 we calculate with 840 piasters/ton.

Adding up the performance of different regions (Varna, 60 000 tons in 1866 – *chart 16*, Moldova, 250 000 tons in 1863, Burgas 30 000 tons, Saloniki 40 000 tons in 1847, which had doubled by the 1860s), the total grain export of the Balkans reached 90 million francs. This managed to secure the grain consumption of more than 2 million western inhabitants (calculating with 200–225 kg/capita consumption), which is not a high proportion.

The main grain exporting areas had more than 10 kile/capita production (over the 250 kgs yearly human consumption), like Thrace (11 kile/capita), Rila-Vitosha (30), Danubian Bulgaria[173] (17) (*tables 16-17*). In Bulgarian lands prior to 1878 66% of the exports was given by grains (10 francs/capita), but the value of grain exports per capita was even greater in Romania, reaching 15 francs. 66% of the Balkan grain exports came from Romanian lands.

Chart 16. Grain exports of Varna in percent of total exports



Data: Michoff, N.: Contribution a l'histoire du commerce Bulgare I.

It is also noteworthy that areas still characterized by the highest per capita export values were originally not grain growing regions, and this warns that there were more favourable agrarian products than wheat,

[173] Tuna vilayet without Sofia and probably without Niš.

like cotton in Macedonia.[174] The 35 francs/capita in Macedonia and the 65 francs in Thessaly were extreme values compared to the imperial average (then 15–20 francs).[175] It is not surprising that these provinces were in the centre of interest of the young Balkan states.

Table 16. Agrarian production in Rumelia in the 1870s based on the data of Sax

	Thrace, 1873		**S-Macedonia, 1873**		**W-Macedonia**	
Product	**1.1 million, without Burgas, Sozopol, Midia, Aitos**	**per capita**	**1.3 million to Maleš and Plačkavica**	**per capita**	**800 000 prs, Monastir-Janina, Ohrid, Prilep**	**per capita**
Wheat (kile = 25 kg)	7 000 000	6.4	1 500 000	1.15	1 500 000	1.88
Maize (kile)	1 500 000	1.4	2 200 000	1.69	800 000	1.00
Barley (kile)	3 000 000	2.7	1 500 000	1.15	1 000 000	1.25
Rye (kile)			1 000 000	0.77	900 000	1.13
Oat (kile)	500 000	0.5			120 000	0.15
Grains total: (in kile). The yearly need of a person is 10 kile)	12 000 000	10.9	6 000 000	4.62	4 320 000	5.40
Silk (oke)	200 000	0.2	200 000	0.15		
Cotton (oke)			3 000 000	2.31	100 000	0.13
Tobacco (oke)	1 000 000	0.9	3 000 000	2.31	280 000	0.35
Sheep (pcs)	2 000 000	1.8	1 000 000	0.77	1 000 000	1.25
Goat (pcs)	1 500 000	1.4	800 000	0.62	1 500 000	1.88
Cattle (pcs)	200 000	0.2				
Wine (stock)	50 000 000	45.5	38 000 000	29.23	70 000 000	87.50
Rice (oke)	500 000	0.5	1 000 000	0.77	180 000	0.23
Bean (oke)	100 000	0.1			1 000 000	1.25

Sax, C.: Türkei. Bericht verfasst im Austrage des Comité für den Orient und Ostasien. Wien, K.u.k. Hof– und Staatsdruckerei, 1873.

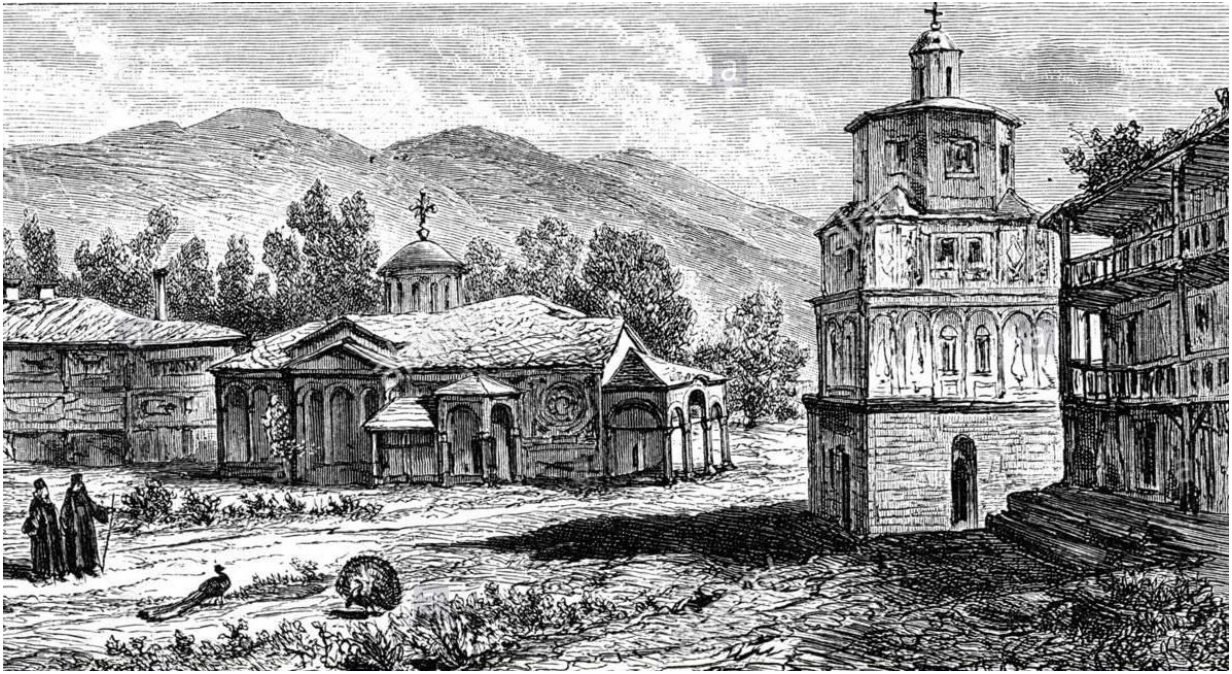
174 Wool became of secondary importance everywhere (18 million francs) owing to the international division of labour. Thessaly was in the lead regarding cotton production per capita, but most of the cotton exports stemmed from Macedonia (50% of the exports) overtaking tobacco (15%), silk (15%) and grains (12%).

175 Calculated after *Dufour, B. J.: Étude du mouvement commercial de la Turquie en 1863.* Annales du commerce extérieur. Paris, 1865. 3–71.

Table 17. Agrarian production in Rumelia in the 1870s based on the data of Sax II.

Product	**Rila–Vitosha, 1873**		**Danubian Bulgaria, 1873**		***Danube vilayet, 1864***		***Edirne vilayet (Thrace, 1877)***	
	500 000 prs	**per capita**	**2.5 million. with Niš, without Sofia**	**per capita**	***2.3 million***	***per capita***	***1.5 million***	***per capita***
Wheat (kile = 25 kgs)	7 000 000	14	23 000 000	9.20	*5 500 000*	*2.39*	*7 000 000*	*4.67*
Maize (kile)	1 000 000	2	6 500 000	2.60	*760 000*	*0.33*	*750 000*	*0.50*
Barley (kile)			10 000 000	4.00	*840 000*	*0.37*	*3 000 000*	*2.00*
Rye (kile)	7 500 000	15	1 000 000	0.40			*2 000 000*	*1.33*
Oat (kile)	500 000	1	2 000 000	0.80	*too small amount of grains measured to the exported 5 million kile*			
Grains total: (in kile, yearly need of a prs in 10 kile	16 000 000	32.0	42 500 000	17.00	*7 200 000*	*3.13*	*15 000 000*	*10.00*
Silk (oke)			1 500 000	0.60			*200 000*	*0.13*
Cotton (oke)							*500 000*	*0.33*
Tobacco (oke)	700 000	1.4	1 000 000	0.40			*1 000 000*	*0.67*
Sheep (pcs)	1 500 000	3	3 500 000	1.40	*6 300 000*	*2.74*	*2 500 000*	*1.67*
Goat (pcs)	500 000	1	500 000	0.20			*700 000*	*0.47*
Cattle (pcs)	100 000	0.2	500 000	0.20	*1 000 000*	*0.43*	*250 000*	*0.17*
Wine (stock)	1 000 000	2	12 000 000	4.80			*50 000 000*	*33.33*
Bean (oke)			1 000 000	0.40				

Sax, C.: Türkei. Bericht verfasst im Austrage des Comité für den Orient und Ostasien. Wien, 1873.



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