The economic consequences of World War I and the Treaty of Trianon for Hungary*

Béla Tomka
University of Szeged,
Department of Contemporary History,
Hungary
E-mail: tomka@hist.u-szeged.hu

Hungary's post-Trianon economic situation is still discussed selectively in the literature on the subject, and the same applies to wider public discourse. Contemporary Hungarian surveys of the economic effects of the Trianon Peace Treaty focus on the loss of natural resources, implicitly assuming that raw materials and other natural resources are the main drivers of economic growth.
However, based on the traditional interpretation of Trianon's economic consequences, we cannot explain some basic facts of economic history.
As the study demonstrates, Hungary's post-Trianon economic performance was not inferior in international comparison to the relative performance observed during the period of dualism. Thus, in the medium and long term, the peace treaty did not have nearly as negative an economic impact as is commonly proposed. One of the main reasons for this is that natural resources were no longer key determinants of economic growth between the two world wars, but rather were structural changes in the economy, technological advances, and human capital that were less affected by the peace treaty.

Keywords:
Peace Treaty of Trianon,
economic growth,
interwar Hungary,
economic history

Introduction

Historians describe and interpret the post-World War I economic situation of Hungary quite uniformly and the wider public discourse on the period does not differ much either. The great losses suffered because of the Treaty of Trianon are the starting point.[1] Hungary lost two-thirds of its territory, more than half of its population and the overwhelming majority of its natural resources; 84% of forests, 89% of

* The study is an edited version of a presentation held on 16 October 2019 at the conference "Trianon 100 – Consequences of the Treaty in the context of statistical analyses ".

[1] The longer version of the paper: Tomka (2018, pp. 47–80).

iron ore production, one-third of lignite production, the entire copper- and salt mining went to neighbouring countries. Losses in industrial capacity were great, too, although their distribution was unequal: the range spread from 89% of timber mills to 18% of the engineering industry. The economic unity of the country, as well as that of the Austro-Hungarian Empire dissolved, and the war and revolutions intensified the impact of the following economic disorganisation. This interpretation does not only consider the economic consequences of the Treaty of Trianon as severe, but – implicitly or explicitly – it also assigns extraordinary economic importance to the peace treaty, as it raised immense obstacles in the path of Hungary's economic development in the coming decades (Macartney 1937, pp. 461–462., Berend–Ránki 1966, pp. 31–35.).

This portrayal fits with the common discourse – using the term of the age – on the 'mutilation' of Hungary (Buday 1923, pp. 100–104., Magyar Revíziós Liga 1931).[2] It somehow anticipates the alleged economic failure of the period between the two World Wars, and therefore, suits the discourse condemning the Horthy-regime. This discourse seems to support the conclusion that the economic dynamism of the interval between the two World Wars is far behind the performance of the dualism era.

This interpretation of Trianon contains several real elements; however, it is mistaken in omitting essential facts established by research in economic history. The traditional interpretations of the economic consequences of Trianon do not allow us to explain – based on research on European economic convergences and divergences – that the economic performance of post-Trianon Hungary was basically the same in international comparison as the relative performance of the dualism era, although, at that time, the hardships due to the Treaty of Trianon did obviously not emerge.

Our treatise examines the economic consequences of World War I and the Trianon peace treaty in Hungary. We focus on the above-mentioned contradiction between the results of economic history and traditional Trianon interpretations. International comparisons gain a significant role as might lead to new conclusions, or at least help formulate new questions in a field of study stagnating for decades. For this purpose, we present, first, the main characteristics of the international and Hungarian scholarship on the effects of World War I and the peace treaties and specify the issues they raise. In the next section, we review how the war and the rulings of the peace treaty affected the performance of the Hungarian economy between the two World Wars. We examine separately the factors of economic growth, such as sectoral shifts, changes in capital intensity, developments in technology and human capital in Hungary, following World War I, as a valid conclusion requires familiarity with these aspects. Finally, we evaluate the results obtained in these fields and summarise the research outcomes.

[2] For contemporary discourse, see, Buday (1923, pp. 100–104.); Magyar Revíziós Liga (1931).

World War I and the effects of peace treaties on research

Understandably, academic research in the interwar period already made great efforts to analyze the economic consequences of World War I and the various peace treaties. It is important to identify the main trends of interwar scholarship, as subsequent generations of scholars adopted several outcomes of this research. At the same time, a detailed historiographical overview is not possible in this study; therefore, we concentrate on the impact of peace treaties.

The book series of the Carnegie Foundation, approximately 150 volumes published in several sub-series, fairly illustrates the efforts of the period in processing the economic and social outcomes of the war (Shotwell 1921–1937). Among the Hungarian authors of the series are Sándor Popovics (1926), János Teleszky (1927) and Dezső Pap (1934). Afterwards, too, research literature dealt en masse with the economic impacts of World War I, considering that the changes in world economy significantly contributed to the onset of the Great Depression (Aldcroft 1981, Pogány 2014).

John Maynard Keynes undertook the first comprehensive analysis of the economic consequences of the peace treaties. Keynes, briefly a member of the British delegation in the Paris peace conference, published surprisingly early, at the end of 1919, his views on the economic effects these treaties. He criticised, first, the rulings against Germany, believing that the reparations imposed upon the country will paralyse its economy, with serious detrimental effects on Europe. He suggested that the reparations should not be an extensive sum; furthermore, Great Britain and the United States should renounce them, and the Americans should not reclaim the loans granted to the other entente states during the war. Keynes essentially assigned herewith the main course of the contemporary and ensuing criticism. Other Western European observers, in particular the representatives of the defeated states, joined him in criticism. Keynes also emphasised action against economic nationalism, and urged, for this purpose, the establishment of a free-trade area; however, politicians largely dismissed these proposals (Keynes 1919, 1922).

Subsequent observers and analysts of the Paris peace settlement often highlight the negative economic impacts of these peace treaties, even though they mostly emphasise political outcomes and not economic ones. David Mitrany (1936, p. 182.) argues that the economic dislocation caused by the peace treaties was greater than the one caused by the war, as several communication and economic networks ended. Several studies also discuss the economic imbalances of the successor states (Singleton 2007, p. 32.). Derek Aldcroft states that although the peace treaties did not completely disregard economic aspects, such considerations did not fully prevail at the demarcation of the new borders. Aldcroft considers that in case of Germany and other defeated powers, the loss of natural resources was a grave consequence but not a fatal hindrance. He attributes greater negative impact to the dismemberment of previously economically integrated, unified industrial regions (Aldcroft 1981, p. 23.). Furthermore, Aldcroft emphasises that the rulings hampered post-war economic reconstruction (Aldcroft–Morewood 1995, p. 11.).

Keynes's several conclusions remain in mainstream scholarly literature; however, we cannot claim that international research accepted, or accepts, uniformly, the reasoning of the English economist on the economic consequences of the Paris peace settlement. Early observations noted that Keynes' predictions were inaccurate in several respects. For instance, Keynes maintained that Europe's iron production would reduce because of the peace treaties; however, as early as 1929, iron production surpassed pre-war levels by 10%. Keynes also assumed that Germany's iron and steel production would be unable to recover; however, by 1927, production had already grown by approximately one-third, considering the pre-war borders (Mantoux 1946, Heilperin 1946, pp. 930–934.). We could continue listing Keynes' miscalculations; however, we conclude instead that the British economist was too pessimistic, especially regarding Germany's economic performance. It is easy to demonstrate that Keynes strongly overestimated the negative economic impacts of the peace treaties.

Niall Ferguson (1999, p. 397.), representing more recent research, considers that the harshness of the peace terms was not without precedent and the German hyperinflation and other economic hardships of the age were much more the results of the war than that of the peace treaties. Particularly, Sally Marks (1978) and Stephen Schuker (1985) support the idea that the Germans willingly worked towards extricating themselves from the reparations, which made economic reorganisation difficult, and not the reparations themselves. According to Sally Marks (2013), Keynes' work became one of history's most influential pamphlets, not least because few educated individuals were familiar with economics in the period, and therefore, they accepted Keynes' misinterpretations and that he neglected significant facts.

Keynes' book was translated almost immediately into Hungarian. Its influence was significant; however, the academic discourse on the economic consequences of the war and the Trianon peace treaty followed a somewhat different path here. Contemporary Hungarian economists and other social scientists emphasised that the remnants of Hungary, without the disannexed territories became almost unviable, as essential resources were missing. Furthermore, imbalances arose between productive capacity, raw material base and market demand, often complemented by the claim that these would all have a strongly negative effect on the economic viability of Europe (Földes 1928). Geography became the most frequented field of related scholarly arguments in Hungary (Hajdú 2000, Keményfi 2006). Its representatives, especially Pál Teleki, had already assisted the Hungarian delegation during the peace talks. Albert Apponyi, the head of the Hungarian delegation, laid great stress on arguments of the kind in his response of 6 January 1920 to the peace terms: 'this country is such a perfect geographical unit which is unique in Europe. … The economic correlation of our parts….is the most absolute as the middle forms a huge agricultural plant while the outskirts contain everything necessary for the development of agriculture'. (Romsics 2000, pp. 125–133.). This line of argument repeatedly surfaced in the interwar years. Teleki (1919, 1920, 1923) and other Hungarian proponents of border revision passionately supported the notion that the historical Hungary formed an outstandingly harmonious economic unity, and after its abolition, the people of the Carpathian basin were doomed to stagnation.

The picture emerging during this era in Hungary about the economic consequences of the Trianon treaty became largely constant, as we referred to it in the introduction (Kovács-Bertrand 1997). In fact, the post- World War I Hungarian economic situation, the changed economic capabilities, and their impact, became an important part of the national self-representation and identity, following the Trianon treaty. This is clearly visible in the now thriving Trianon-themed pamphlet-literature (Ablonczy 2015).[3]

Despite several outstanding studies about the effect of the Trianon peace treaty on Hungarian political thinking, detailed and unbiased analysis about the economic consequences of the peace is rare (Romsics 2001, Zeidler 2008).[4] The comprehensive economic history by Iván T. Berend and György Ránki, published in 1966, presents the outcomes most exhaustively. Characteristically, the studies covering the economic history of the 1920s, duty-bound, spell out the negative economic effects of Trianon; however, the introduction of the new currency usually occupies centre stage in the representation of the 1920s. For instance, two-thirds of the discussion on the circumstances of the period up to the Great Depression, in a popular economic history textbook, deals with the introduction of the stable currency (Honvári 1996, pp. 350–391.). Besides public finance, related studies emphasise the import-substitution policy aiming at industrialisation and driven by economic nationalism; however, stabilisation is almost immediately followed by the Great Depression (Berend–Szuhay 1973, Honvári, 1996).[5]

Even a brief overview of the research literature makes it obvious that analyses of the economic consequences of the Trianon peace treaty generally confine themselves to the enumeration of the rulings. They present territorial changes, reparations and similar issues related to economic development, without the consideration of their actual economic outcomes. This is also an important deficiency, because the international research dealing with the economic effects of the Paris peace treaties is not free from selectivity either; however, it does correct the mentioned work of Keynes and rectifies other invalid findings established in the interwar era. On this

[3] Misbeliefs related to the peace treaties and their influence on national identity: Ablonczy (2015).

[4] For studies considering superficially the economic consequences, see Jonas (1982, pp. 529–544). For outstanding works on political responses, see, Romsics (2001). Zeidler (2008) published the most important sources and documents of the political remembrance of the peace treaty.

[5] Some other historical studies dealing with this field: Berend–Szuhay (1973); Honvári (2006).

basis, our task is to go beyond a mere review of the economic resolutions of the peace treaty and try to uncover the actual economic performance of post-Trianon Hungary.

The international comparison of economic output, such as gross national product, is considered a major tool for the assessment and evaluation of economic performance. The indicators of economic output cannot reveal all major aspects of economic change; for instance, the structural shifts among sectors or the restructuring of exports and capital flows. We do not examine these aspects in detail in this study either. Economic output is in the centre of economic analysis today and of research on economic history, as it marks the results of economic activity most comprehensively, especially, when studied in the long run. Comparison may be an effective research strategy for us – with its limitations – because it is the most feasible way to evaluate the economic impacts of the Trianon peace treaty, separating them from the consequences of the war. The war affected other countries too, which were also subjected to the evolving international economic environment. However, the Trianon peace treaty evidently had no material economic impact on these countries. Therefore, comparison may be appropriate for at least the approximate assessment of how the economic performance post-World War I Hungary was determined by the effects of the war and to what extent was conditioned by the Trianon peace treaty.

Economic growth in post-Trianon Hungary

As suggested, this study cannot deliver an overall historiographical overview; however, we note that historians and the wider public usually assumes a strong contrast between the economic performance of the era of dualism and the post-Trianon (interwar) period (Berend 2003). The former era does not appear simply as the Belle Époque or 'happy times of peace' but as a period with outstandingly dynamic economic development, in which Hungary made great advances in bridging the gap with the developed West (Schulze 2000, p. 314., Kövér 2007, p. 44–72.).[6] In contrast, the economic development of the Horthy-regime is often depicted through the lens of inflation, the Great Depression, and finally, entering the German sphere of interest. Considering systematic comparisons, this image needs revision, which might affect the interpretation of the fallout of Trianon.

[6] Based on recent research, the economic growth of the era of dualism in Hungary was not as strong as claimed by several researchers. This in itself has consequences for the traditional, sharp contraposition of the economic development of the dualism and the interwar era. We cannot examine these results thoroughly here; we only note that Hungarian economic growth was undoubtedly significant preceding World War I, although not outstanding in international comparison. GDP per capita increased from 1,092 dollars in 1870 to 2.098 dollars in 1913, that is, it almost doubled in 40 years. Schulze (2000, p. 314.); on the state of the art, see, Kövér (2007, pp. 44–72.).

One of the main conclusions of the comparative analysis of economic growth in modern Hungary is that the stark contraposition of the performance of the dualism and the interwar era is not plausible. The economic growth of the dualism only appears high when compared to the period including the years of World War I too; however, the difference is still not dramatic; growth rate of gross domestic product (GDP) per capita was at a yearly average of 1.6% between 1890 and 1913 and 1.2% between 1913 and 1939. Examining the period between 1920 and 1939, we find that growth is significantly higher, a yearly average of 2.7%. It should be noted, however, that the level of production in 1920 did not reach pre-war levels, and this distorts the results to some extent. International comparison offers a solution for such types of methodological problems, which are hardly resolvable if the analysis is restricted to one country (Tomka 2011, p. 109.).

There are several options in terms of selecting units, and periods to cover, to compare the post-Trianon economic performance of the Hungarian economy. As this study cannot tackle the methodological problems of comparison, we only state that Hungary will be compared to a sample comprising 13 Western European countries. This procedure is based on the consideration that, one the one hand, the developments in one country do not influence the outcome of the sample; on the other hand, the most significant growth impulses for the Hungarian economy at the time originated from Western Europe, which primarily transmitted leading edge American technologies, too.

At the end of the 19th century, GDP per capita in Hungary, considering the Trianon territory, represented somewhat more than a half of the average Western European level, lagging behind every country in the sample. At the beginning of the 20th century, Hungary converged in a small degree to Western Europe, and this progress culminated in the years preceding World War I, when the Hungarian level was at 60.4% of Western Europe (Figure 1, Table 1).

Figure 1

Gross national product per capita in Hungary and Western Europe

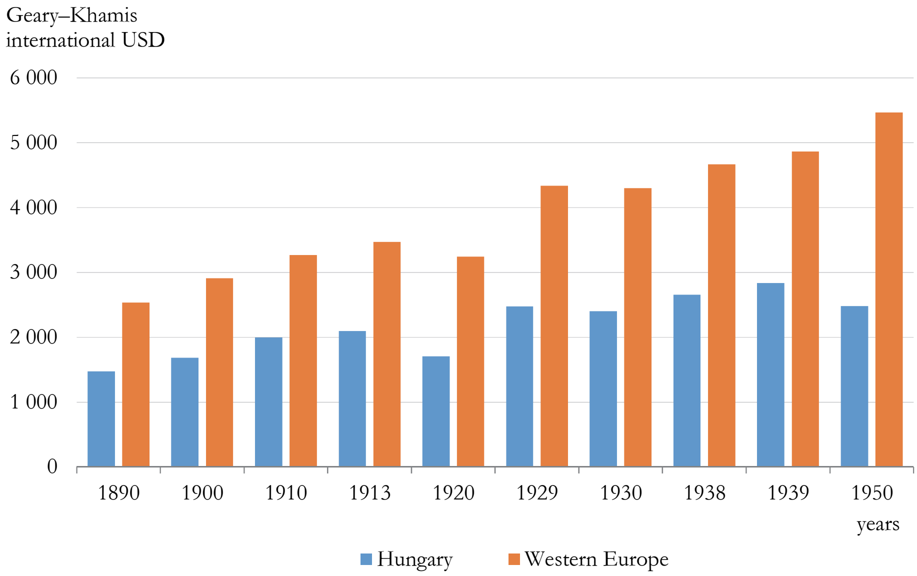

Table 1

Gross national product per capita in Hungary and Western Europe

(1990 Geary–Khamis international USD)

	1890	1900	1910	1913	1920	1929	1930	1938	1939	1950
Hungary (HU)	1473	1682	2000	2098	1709	2476	2404	2655	2838	2480
Western European (WE) average	2535	2910	3269	3474	3247	4336	4301	4667	4867	5467
HU/WE average x 100	58.1	57.8	61.2	60.4	52.6	57.1	55.9	56.9	58.3	45.4

Note: Hungary 1890–1950: post-Trianon territory; Western Europe: United Kingdom, France, the Netherlands, Belgium, Ireland, Germany, Austria, Switzerland, Sweden, Denmark, Norway, Finland, and Italy; Different dates: Ireland: 1913 instead of 1910, 1921.

Source: Author's own calculations based on the following sources: Maddison (1995b, pp. 194–195.) (Germany 1890–1950), 198. (Ireland 1890–1900).; Maddison (2003, pp. 60–61.) (Austria, Belgium, Denmark, Finland, France, Italy, the Netherlands, Norway, Sweden, Switzerland, United Kingdom 1890–1913), 62–63. (Austria, Belgium, Denmark, Finland, France, Italy, the Netherlands, Norway, Sweden, Switzerland, United Kingdom 1920–1950), 67–69. (Ireland 1913–1950), 100–101. (Hungary 1890–1950).

World War I, and the following years in particular, marked a more severe economic effect on Hungary than on most Western European countries. At the same time, in Hungary, recovery after Trianon began early and proceeded quickly. GDP per capita reached 57.1% of the Western European average on the eve of the Great Depression (1929), almost reaching the relative economic development prior to World War I. Hungary slightly surpassed this level before World War II; with 58.3% of the Western European average in 1939, the country essentially achieved pre-World War I relative level of economic development (Tomka 2011).[7]

All this suggests that Hungary's post-Trianon economic growth was considerable. The growth rate of per capita output was just slightly behind the performance of the era of dualism, and positive in comparison to the Western European economies between the two World Wars. Reconstruction following World War I was relatively quick, and it is not possible to substantiate the often-claimed extremely negative impact of the peace treaty and the territorial changes. If the economic aftermath of Trianon were as destructive as supposed by contemporaries, and as it remains commonplace in scholarly literature, then the rapid reconstruction in the 1920s could not have occurred.

The somewhat slower growth rate than the preceding period occurred in other parts of Europe, too. In these countries, territorial losses on the scale of Trianon did not occur; therefore, the change in growth rates was mostly independent of territorial changes. This is at least indirect evidence for demonstrating that economic difficulties were not primarily the result of Trianon, rather, consequences of other factors prevailing throughout Europe, most notably, World War I and the destruction of international economic relations by economic nationalisms in the interwar era.

Theoretically, it is conceivable that although the effect of Trianon was overly negative, the post-Trianon economic growth of Hungary did not diverge significantly from international trends because of the countervailing effect of one or more positive growth factors in Hungary, which did not surface in other countries. However, there is no sign of such significant factors in Hungary in the 1920s. We could consider two potential factors: the relatively moderate nature of war destruction and the import of capital. These undoubtedly played a positive role in the growth; however, they were not unique, present only in Hungary, and therefore, they do not substantially affect the results of the above comparisons.

Growth factors in the post-World War I period

Against this background, it is plausible to argue that the post-peace treaty Hungarian economy was relatively successful, because though the peace treaty had negative economic impacts, it did not influence the performance of the Hungarian economy significantly, especial-

[7] For detailed data, see, Tomka (2011, pp. 267–269., 270.).

ly in the long run. In general, the growth potential of the European economies were not determined by the magnitude of natural resources in the period between the two World Wars, but other factors, unaffected by the peace treaty, were more important. We will briefly overview some of the most significant growth factors and obtain an insight into how the Hungarian economy adapted to the evolving conditions of the 1920-1930s (Maddison 1995b, pp. 33–40., Szirmai 2005, Anderson 1991, Erdős 2006).[8] The growth factors examined here include structural changes, capital intensity, technological progress, human capital, and international economic cooperation.

1. Structural changes. The productivity levels of specific economic activities and economic sectors differ. Consequently, changes in economic sectors affect economic output: the relative decline of lower productivity economic activities in favour of higher productivity ones itself contributes to economic growth. In fact, economic growth was realised in large part by the shifts between economic sectors in the 20th century in Hungary and all over Europe (Eckstein 1955, p. 189.). Differences between sectors in production values per employee were evident in the first decades of the century in Hungary too (Table 2).

Table 2

Production value per employee in Hungary

(in 1938/1939 purchasing power pengoe)

	1900	1911–1913	1920–1921	1930
Agriculture	774	1012	507	785
Mining and metallurgy	2633	1815	1642	2245
Large-scale industry	1186[a)]	2707	2738	3188
Small-scale industry	–	923	1046	1616
Commerce	1770	1778	1398	1738
Transportation	3489	3497	nda	3487
Services	1352	1577	–	1714
Total	973	1164	902	1301

a) Together with small-scale industry.

Note: 1900–1913: post-Trianon territory; services include personal, government, business, educational and other services.

Source: Eckstein (1955, p. 189.).

During the process of restructuring in 1920s Hungary, the driving force of economic development was the retreat of agriculture and the growth of nearly all other sectors (Table 3). The latter group of economic activities included small-scale industry, considered a mixed category in statistics, as it contained small construction enterprises and the production of small service related firms. Home building and rent-

[8] For details, see, Maddison (1995b, pp. 33–40.); Maddison (1995a, pp. 7–131.); Szirmai (2005); Anderson (1991); Erdős (2006, pp. 9–27.).

al, as well as classic services (finance, education, health services, government activities) were also the carriers of sectoral change, and therefore, of economic growth. Although large-scale industry grew as well, the pace of change was moderate in this sector. Hungary – considering the Trianon territory – came out of the war with a larger industrial capacity than the one it entered with. For example, large-scale industry had approximately 400,000 hp machine stock in 1913, which grew to 600,000 hp by 1921 (Eckstein 1955, p. 177.). Following World War I, metalworking, machine industry and food industry faced a significantly smaller and structurally changed market. Adaptation to these changes took years and it was only partial, as enterprises could only utilise part of their whole capacities in the 1920s. The industrial boom of the second half of the decade was mainly due to the dynamics of the textile industry and that of construction – especially home building.

Table 3

Contribution to national product by sector in Hungary

(%)

	Agriculture	Mining	Industry	Small industry and construction	Commerce	Transportation	Housing services	Services
1911–1913	49.8	1.2	13.8	8.2	4.0	5.1	6.1	11.8
1924–1925	46.3	2.0	16.7	10.7	4.9	3.8	5.8	9.9
1929–1930	36.6	1.2	16.8	11.3	7.5	6.5	7.2	13.3
1931–1932	29.9	1.3	15.3	12.6	8.6	6.7	9.3	16.2

Note: 1911–1913: post-Trianon territory at current prices, as percentage of the net national product (NNP).
Source: Eckstein (1955, p. 165.).

As stated, agriculture essentially stagnated in interwar Hungary. We may look for the cause of this in global economic trends, in the prevalence of large estates in the country, and in economic policy alike. Dominant latifundia were equipped for cereal production, even if cereal price levels had an unfavourable trend due to oversupply throughout the world economy. This process of gap widening between prices of agricultural and industrial products swapped capital into industry. The customs policies of Hungarian governments also facilitated the process, keeping industrial duties high, incidentally, in line with international trends.

The loss of ground for agriculture and the development of higher productivity sectors is a structural change often accompanied by capital stock increase, improvement in human capital and expansion of international trade. These are also important growth factors, although their exact separation from structural change effects is not always possible (Maddison 1995b, p. 40.).

2. Capital intensity. The rapid technological development of the late 19th and early 20th centuries, offered the opportunity for ever-increasing productivity. The new technologies materialised in more expensive machines and equipment, while requiring the building of costly infrastructures. Evidence from economic history suggests that high-level capital accumulation and an increase in capital stock per employee are preconditions for productivity growth (Kendrick 1993, pp. 129–145.). It is equally clear that the size of capital stock accounts for a relatively small proportion – for one-quarter, according to some estimates – in the differences between the output levels of national economies and the remaining greater part is the result of more efficient utilisation of resources (Clark 2007, p. 329.).

Long-term growth is influenced, besides the level of capital accumulation, by the structure of investments. Growth is facilitated if the greater productivity sectors and the infrastructure have an outstanding share in investments. As a thorough analysis of Hungary's capital accumulation is not possible here, we only highlight three major tendencies (van Leeuwen–Földvári 2011, pp. 143–164.). First, the average level of capital accumulation – basically, investments – represented 11.2% of the gross national product in the second part of the 1920s (Tomka 2009, p. 100.). This was equal, largely, to the Western European average. As domestic accumulation was low, all this was possible by increasing reliance on financial transfers from abroad–loans and capital investments. Besides, the proportion of sectors generating higher added value increased in capital accumulation, although with significant fluctuations, while that of agriculture diminished. Finally, we must emphasise the decisive weight of the infrastructure, especially of home building, within investments. This sector accounted for more than 40% of the capital accumulation in the 1920–1930s (Table 4.). Moreover, home building represents a form of investment that has a direct impact on the consumption level and directly improves living standards. Higher value homes have been built in larger cities and in Budapest, first; however, villages too witnessed dynamic home building trends, mainly because of the land reform resulting in 390,000 new small holdings and building plots (Eckstein 1955, p. 206.). Investment efficiency, considering the growth rate associated with the level of investment, could be considered sufficient, and it did not crowd out consumption either. Even more importantly, the high scope of infrastructural investments facilitated growth in the long run.

Table 4

Distribution of capital accumulation by sector in Hungary

(%)

	Agriculture	Mining	Industry	Commerce, transportation	Home building	Government
1924–1925	22.2	0.5	37.6	12.8	23.5	4.5
1929–1930	15.7	0.9	23.1	11.0	42.6	6.6
1931–1932	11.3	1.7	26.0	16.9	38.6	5.4

Note: NNP at current prices.
Source: Eckstein (1955, p. 205., 219.).

3. Technological development. Traditionally, technological change is interpreted as the main source, or at least carrier, of economic growth in economics, and in the economic history literature (Feinstein 1981, pp. 128–143.).[9] A multitude of innovations could serve as examples to prove how technical progress accelerated from the end of the 19th century, enabling productive labour. The development comprised different stages with different areas leading; however, in the early the 20th century, combustion engines and electricity became major sources of growth, especially in transportation and communication.

Passenger cars and telephones began to appear in larger numbers in Europe in the 1920s. It seems that the diffusion of combustion engine in Hungary is similar to the usual trends in East Central Europe, at least in terms of automobiles. In 1930, one automobile came per one thousand people in Hungary, and in Czechoslovakia and Poland. Simultaneously, Hungary was not only leading the region in the number of radios and telephones, but it also surpassed certain Western European countries. In 1930, there were 35 radios per 1000 inhabitants in Hungary, while this number was 33 in France, 30 in Norway, 26 in Switzerland, and 5 in Italy. Although France, Switzerland and Norway caught up and overtook Hungary very quickly in the 1930s, the early advantage of Hungary suggests the presence of capabilities to adopt new technologies. In case of the telephone, Hungary had 12 devices per 1000 inhabitants, which was considered the highest in the region in 1930, surpassing even Italy (Tomka 2013, pp. 232–233.).

Electricity consumption in interwar Hungary lagged significantly behind Austria or Czechoslovakia, but it increased faster than in these countries, meaning that the disadvantage was reduced (Mitchell 1992, pp. 500.). Internationally competitive companies operating in Hungary facilitated electrification. The Egyesült Izzó

[9] For the latter, see, Feinstein (1981, pp. 128–143).

Company was able to conduct significant export activity and its innovations (such as radio valves and tungsten lamps) and the implementation of research and development (R&D) in the modern sense, sustained competitiveness in the long run. The Ganz factory also sold world-class products; however, its exports did not expand to the same degree (Hidvégi 2014, pp. 45–64., Hidvégi 2016). Several large international companies active in the electrical industry operated branches in Hungary, including the Hungarian Philips Works, Standard Electric Co., Hungarian Siemens-Schuckert Works, and so on (Frisnyák–Klement 2017). Besides the competitive economic environment, the capital investment of these firms also played a significant role in technology import. Similar examples exist in other sectors of the economy too. However, based solely on these examples, it is undoubtedly difficult to gauge Hungary's success in technological innovation and adaptation in the 1920s.

4. Human capital. It is unnecessary to emphasise that the capability to adopt leading technologies and knowledge depends crucially on the level of human capital. According to the concept of human capital, knowledge is an equally important production factor as the capital incorporated in machines; furthermore, similarly, it can be accumulated, enhanced and even transmitted from one generation to another to a certain degree (Schultz 1961). Besides knowledge, human capital has other components, too, prominently, the population's state of health. We now examine these two factors.

Measuring the level of human capital is not simple; however, the access to education and changes in mortality may provide comprehensive information. Knowledge facilitates economic growth; schools act as agents of socialisation, passing values and norms necessary for effective social cooperation to the young (Szirmai 2005, pp. 213–224.). The average years of education, an indicator of the average educational attainment in a population, is a widely used indicator of human capital stock in research. The average length of education of the Hungarian population increased by 0.82 years between 1920 and 1930, which is one of the best results during the century, behind the 1990s and the 1940s, and surpassed the progress of any decade in the era of dualism (Table 5.) (van Leeuwen–Földvári 2008, pp. 1003). Improvement in mortality was even more spectacular during the 1920s; average life expectancy at birth increased by 7.7 years for men, and by 8.7 years for women. This is not only the fastest improvement in mortality during the recorded history of Hungary but the best result in this decade in a Western European context (Table 6.) (Tomka 2011, pp. 196–197., Schulze–Fernandes 2009, p. 284.). These achievements were the result of several factors, of which, we must emphasise the development of maternal- and child-care institutions (Stefania Alliance, Green Cross Movement), advancement in epidemics, extension of social insurance and progress in education.

Table 5

Average length of education in Hungary

	1890	1900	1910	1920	1930	1940	1950
Average years of education	4.03	4.63	4.94	4.45	5.27	5.72	6.71

Note: 1890–1910: post-Trianon territory.
Source: Schulze–Fernandes (2009, p. 284.); Leeuwen–Földvári (2008, p. 1003.).

Table 6

Average life expectancy at birth for men and women in Hungary and Western Europe

(years)

	1900	1910	1920	1930	1940	1950
Men – Hungary	36.6	39.1	41.0	48.7	55.0	59.9
Men – Western Europe (average)	45.6	49.8	53.1	57.7	61.9	65.2
Women – Hungary	38.2	40.5	43.1	51.8	58.2	64.2
Women – Western Europe (average)	48.2	52.3	56.5	60.8	64.1	69.3

Note: Hungary 1900–1910: post-Trianon territory; Western Europe: United Kingdom, France, the Netherlands, Belgium, Ireland, Germany, Austria, Switzerland, Sweden, Denmark, Norway, Finland, Italy.
Source: Tomka (2011, p. 271.).

It is necessary to highlight that education and the state of health of the population affects economic growth in the long run; therefore, the improvement of these indicators did not significantly determine the development of the 1920s; rather, they improved the growth potential of the country in the decades to come. In some periods in the 20th century, Hungary consumed sources of future economic development for the sake of short-term goals. The above signs indicate that these resources were rather enlarged in the 1920s.

5. International economic integration. Commercial and capital flows between national economies facilitate productivity growth, as they spread new technologies and offset the lack of natural resources. They also enable national economies to specialise in the goods and services they can produce most efficiently. One must also highlight the significance of free movement of ideas, knowledge and people in improving human capital. Generally, the smaller a national economy the more it has to rely on external trade (Frankel–Romer 1999, pp. 379–399., Dowrick–Golley 2004, pp. 38–56., Maddison 1995b, p. 37., Tomka 2011, p. 208.).

Of the examined growth factors, this promoted economic reconstruction in Hungary during the 1920s the least. Here, we do not need to go into the details of the increase in length of customs-frontiers within Europe after the World War, the rise in tariffs and the implementation of other trade barriers. Adaptation to the international trends was following the *beggar-my-neighbour*-politics in interwar Europe, and the Hungarian government was no exception. Foreign trade essentially stagnated compared to the pre-war period throughout Europe, even during the boom in the second half of the 1920s (Ritschl–Straumann 2010, p. 175.). This undoubtedly moderated the growth of the world economy and also significantly reduced the effects of prevailing beneficial factors in Hungary.

Conclusions

To this day, scholarly literature treats the economic situation of post-Trianon Hungary in a rather one-sided manner, and this is true for the wider public discourse. The contemporary discourse in Hungary, in dealing with the economic consequences of the Trianon peace treaty, focused on the loss in natural resources, supposing – often implicitly – that raw material and other natural resources constitute the main factors of economic growth. This approach was outdated even between the two World Wars and is obsolete today. Moreover, these interpretations take as given that natural resources and economic capacities do not belong to the population of a territory and the labour of factories or other production units but to some impersonal entity, to Hungary, in this case. This is an unacceptable claim for the unbiased observer, and Hungarian analysts refute it in other contexts too. Finally, the traditional Trianon interpretations ignore that the modern, highest value-adding industries (e.g. machine industry) and other economic activities (e.g. financial services) remained in a larger proportion in Hungary than the share of the population warranted.

Owing to these shortcomings of the mainstream interpretations, it is necessary to introduce new approaches in the research on the economic impacts of the Trianon peace treaty. Therefore, we studied the post-World War I economic growth in an international comparison. The results of this analysis suggest that the reconstruction was successful in post-Trianon Hungary, and the economic growth approximately equalled the average rate in Western Europe. Consequently, the peace treaty did not generate such a negative economic outcome in the mid- and long run, as often assumed. One of the primary reasons is that natural resources were not – even between the two World Wars – major factors of economic growth. Structural changes in the economy, technological development and human capital were the driving forces of development, which were largely unaffected by the peace settlements. The final implication of this study is that when exploring the economic consequences of the Trianon peace treaty, we must undertake empirical research and tackle the relevant factors of economic growth.

REFERENCES

ABLONCZY, B. (2015): *Trianon-legendák* Jaffa, Budapest.

ALDCROFT, D. H.–MOREWOOD, S. (1995): *Economic change in Eastern Europe* Edward Elgar, Aldershot.

ALDCROFT, D. H. (1981): *From Versailles to Wall Street, 1919–1929* University of California Press, Berkeley – Los Angeles.

ANDERSON, J. L. (1991): *Explaining long-term economic change* Macmillan, London.

BEREND T., I.–RÁNKI, GY. (1966): *Magyarország gazdasága az első világháború után, 1919–1929* Akadémiai Kiadó, Budapest.

BEREND, I. T. (2003): Past convergence within Europe: core-periphery diversity in modern economic development. In: TUMPEL-GUGERELL, G.–MOOSLECHNER, P. (eds.): *Economic convergence and diversity in Europe,* pp. 9–23., Edward Elgar, Cheltenham.

BEREND, T. I.–SZUHAY, B. (1973): *A tőkés gazdaság története Magyarországon, 1848–1944* Kossuth – KJK, Budapest.

BUDAY, L. (1923): *Magyarország küzdelmes évei* A szerző kiadása, Budapest.

CLARK, G. (2007): *A farewell to Alms* Princeton University Press, Princeton.

DOWRICK, S.–GOLLEY, J. (2004): Trade openness and growth: Who benefits? *Oxford Review of Economic Policy* 20 (1): 38–56. https://doi.org/10.1093/oxrep/grh003

ECKSTEIN, A. (1955): National income and capital formation in Hungary. In: KUZNETS, S. (ed.): *Income and Wealth. Series V,* pp. 152–223. Bowes and Bowes, London.

ERDŐS, T. (2006): *Növekedési potenciál és gazdaságpolitika* Akadémiai Kiadó, Budapest.

FEINSTEIN, C. H. (1981): Capital accumulation and the industrial revolution. In: FLOUD, R.–MCCLOSKEY, D. (eds.): *The economic history of Britain since 1700. Vol. I. 1700–1860* pp. 128–143., Oxford University Press, Cambridge.

FERGUSON, N. (1999): *The pity of War: Explaining World War I* Basic Books, New York.

FÖLDES, B. (1928): A trianoni békeparancs hatása a magyar közgazdaságra. In: APPONYI, A. (et al.): *Igazságot Magyarországnak: A Trianoni Békeszerződés következményeinek ismertetése és bírálata* pp. 259–307., Magyar Külügyi Társaság Kiadása, Budapest.

FRANKEL, J. A.–ROMER, D. (1999): Does trade cause growth? *The American Economic Review* 89 (3): 379–399. https://doi.org/10.1257/aer.89.3.379

FRISNYÁK, ZS.–KLEMENT, J. (2017): *A Siemens története Magyarországon, 1887–2017* Siemens Zrt., Budapest.

HAJDÚ, Z. (2000): A magyar földrajztudomány és a trianoni békeszerződés, 1918–1920 *Kisebbségkutatás* 9 (2): 224–233.

HEILPERIN, M. A. (1946): The Carthaginian Peace, or the economic consequences of Mr. Keynes by Étienne Mantoux *The American Economic Review* 36 (5): 930–934. https://doi.org/10.2307/2193887

HIDVÉGI, M. (2014): A Ganz−Jendrassik dízel motorkocsik Argentínában *Aetas* 29 (4): 45−64.

HIDVÉGI, M. (2016): *Anschluss an den Weltmarkt. Ungarns elektrotechnische Leitunternehmen, 1867–1949* Vandenhoeck & Ruprecht, Göttingen.

HONVÁRI, J. (ed.) (1996): *Magyarország gazdaságtörténete a honfoglalástól a 20. század közepéig* Aula, Budapest.

HONVÁRI, J. (2006): *XX. századi magyar gazdaságtörténet* Aula, Budapest.

JONAS, P. (1982): The economic consequences of Trianon. In: KIRÁLY, B. K. et al. (ed.): *Essays on World War I: Total war and peacemaking. A case study on Trianon* (War and society in East Central Europe. Vol. VI.) pp. 529–544., Columbia University Press, New York.

KEMÉNYFI, R. (2006): Az „ezeréves határok", etnikai területek legitimációs eszközei a 20. század első felének földrajzában. In: BAKÓ, B.–PAPP, R.–SZARKA, L. (eds.): *Mindennapi előítéletek* pp. 325–344., Balassi Kiadó, Budapest.

KENDRICK, J. W. (1993): How much does capital explain? In: SZIRMAI, A.–ARK, B. VAN–PILAT, D. (eds.): *Explaining economic growth. Essays in Honour of Angus Maddison* pp. 129–145., North-Holland, Amsterdam.

KEYNES, J. M. (1919)*: The economic consequences of the peace* Macmillan & Co., Limited, London.

KEYNES, J. M. (1922): *A revision of the Treaty* Macmillan, London.

KOVÁCS-BERTRAND, A. (1997): *Der ungarische Revisionismus nach dem Ersten Weltkrieg: Der publizistische Kampf gegen den Friedensvertrag von Trianon, 1918–1931* Oldenbourg, München.

KÖVÉR, GY. (2007): Az Osztrák–Magyar Monarchia gazdasági teljesítménye. Lépték és tempó. In: GERŐ, A.: (ed.): *A Monarchia kora – ma* pp. 44–72., Új Mandátum Kiadó, Budapest.

LEEUWEN, B. VAN–FÖLDVÁRI, P. (2008): A *magyar lakosság átlagos iskolázottságának becslése, 1920–2006 Statisztikai Szemle* 86 (10–11): 995–1005.

LEEUWEN, B. VAN–FÖLDVÁRI, P. (2011): Capital accumulation and growth in Hungary, 1924–2006 *Acta Oeconomica* 61 (2): 143–164. https://doi.org/10.1556/AOecon.61.2011.2.3

MACARTNEY, C. A. (1937): *Hungary and her Successors: The Treaty of Trianon and its consequences, 1919–1937* Oxford University Press, London.

MADDISON, A. (1995a): *Explaining the economic performance of nations: Essays in time and space* Edward Elgar, Aldershot.

MADDISON, A. (1995b): *Monitoring the world economy, 1820–1992* OECD, Paris.

MADDISON, A. (2003): *The world economy. Historical Statistics* OECD, Paris.

MAGYAR REVIZIÓS LIGA (1931): *Hungary before and after the Treaty of Trianon* Magyar Reviziós Liga, Budapest.

MANTOUX, É. (1946): *The Carthaginian Peace: Or the economic consequences of Mr. Keynes* Oxford University Press, Oxford.

MARKS, S. (1978): The myths of reparations *Central European History* 11 (3): 231–255. https://doi.org/10.1017/S0008938900018707

MARKS, S. (2013): Mistakes and myths: The Allies, Germany, and the Versailles Treaty, 1918–1921 *Journal of Modern History* 85 (3): 632–659. https://doi.org/10.1086/670825

MITCHELL, B. R. (1992): *International historical statistics: Europe, 1750–1988* Macmillan, Basingstoke.

MITRANY, D. (1936): *The effect of the war in Southeastern Europe* Yale University Press, New Haven.

PAP, D. (1934): *A magyar szociálpolitika a háborúban* Grill, Budapest.

POGÁNY, Á. (2014): War finance (Austria-Hungary). In: DANIEL, U.–GATRELL, P.–JANZ, O.– JONES, H.–KEENE, J.–KRAMER, A.–NASSON, B. (eds.) *1914–1918-online. International Encyclopedia of the First World War.* Freie Universität Berlin, Berlin. https://doi.org/10.15463/ie1418.10161.

POPOVICS, S. (1926): *A pénz sorsa a háborúban* A Magyar Tudományos Akadémia, Budapest.

RITSCHL, A.–STRAUMANN, T. (2010): Business cycles and economic policy, 1914–1945. In: BROADBERRY, S.–O'ROURKE, K. (eds.): *The Cambridge Economic History of Modern*

Europe. Vol. 2: 1870 to Present pp. 156–180., Cambridge University Press, Cambridge. https://doi.org/10.1017/CBO9780511794841

ROMSICS, I. (Ed.) (2000): *Magyar történeti szöveggyűjtemény, 1914–1999.* I. kötet Osiris, Budapest.

ROMSICS, I. (2001): *A trianoni békeszerződés* Osiris, Budapest.

SCHUKER, S. A. (1985): American 'reparations' to Germany, 1919–1933. In: FELDMAN, G. D.–MÜLLER-LUCKNER, E. (Hrsg.): *Die Nachwirkungen der Inflation auf die deutsche Geschichte, 1924–1933* pp. 335–383., R. Oldenburg Verlag, Munich.

SCHULTZ, T. (1961): Investment in human capital *American Economic Review* 51: 1–17.

SCHULZE, M-S. (2000): Patterns of growth and stagnation in the late nineteenth century Habsburg economy *European Review of Economic History* 4 (3): 311–340. https://doi.org/10.1017/S1361491600000095

SCHULZE, M-S.–FERNANDES, F. T. (2009): *Human capital formation* in Austria-Hungary and Germany: time series estimates of educational attainment, 1860–1910. In: HALMOS, K.–KLEMENT, J.–POGÁNY, Á.–TOMKA, B. (eds.): *A felhalmozás míve. Történeti tanulmányok Kövér György tiszteletére* pp. 275–289., Századvég Kiadó, Budapest.

SHOTWELL, JAMES T. (1921–1937) (gen. ed.): *Economic and social history* of the *World War* 150 volumes, Carnegie Endowment for International Peace, New York.

SINGLETON, J. (2007): Destruction … and misery: The First World War. In: OLIVER, M. J.–ALDCROFT, D. H. (eds.): *Economic disasters of the Twentieth Century* pp. 9–50., Edward Elgar, Cheltenham.

SZIRMAI, A. (2005): *The Dynamics of socio-economic development* Cambridge University Press, Cambridge.

TELEKI, P. (1919): *Short notes on the economical and political geography of Hungary* (Kiadványok 34.) Magyarország Területi Épségének Védelmi Ligája, Budapest.

TELEKI, P. (1920): *Magyarország néprajzi térképe a népsűrűség alapján* Magyar Földrajzi Intézet, Budapest.

TELEKI, P. (1923): *The evolution of Hungary, and its place in European history* The Macmillan Company, New York.

TELESZKY, J. (1927): *A magyar állam pénzügyei a háború alatt* Magyar Tudományos Akadémia, Budapest.

TOMKA, B. (2009): *Európa társadalomtörténete a 20. században* Osiris Kiadó, Budapest.

TOMKA, B. (2011): *Gazdasági növekedés, fogyasztás és életminőség: Magyarország nemzetközi összehasonlításban az első világháborútól napjainkig* Akadémiai Kiadó, Budapest.

TOMKA, B. (2013): *A social history of twentieth-century Europe* Routledge, London – New York.

TOMKA, B. (2018): Az első világháború és a trianoni béke gazdasági hatásai Magyarországon. In: BÓDY, ZS. (ed.): *Háborúból békébe: a magyar társadalom 1918 után. Konfliktusok, kihívások, változások a háború és az összeomlás nyomán* pp. 47–80., MTA Bölcsészettudományi Kutatóközpont Történettudományi Intézet, Budapest.

ZEIDLER, M. (ed.) (2008): *Trianon* Osiris, Budapest.