

Bachelor's degree in Economics

Title: The early economic development of the Soviet Union (1921 – 1932): Analysis, comparison and assessment

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To everyone I know or once met that made me who I am

ABSTRACT

Economic researchers have studied the Soviet economy from different perspectives and backgrounds. However, the early years of the Soviet Union lack a comparative analysis of its two representative growth strategies or periods, the New Economic Policy (1921 – 1928) and the First Five Year Plan (1928 – 1932). Hence, this work focuses on the analysis of the sources of economic growth along with the functioning and organization of each growth strategy in order to identify the main differences between the New Economic Policy and the First Five Year Plan. In that sense, the analysis of the historical context and the treatment of data is initially developed in this study. Furthermore, the functioning and results of each growth strategy analysed in this thesis are presented and assessed in order to, finally, identify the differences between the early soviet growth strategies which are found in their functioning and results.

Key-words: Growth strategy, early years Soviet Union, industrialization, economic structure, economic organization, collectivization and investment.

Diversos economistes han estudiat l'economia de la Unió Soviètica des de diferents perspectives i contextos. Tot i això, els primers anys de la Unió Soviètica es caracteritzen per dos estratègies de creixement, les quals no s'han analitzat de forma comparativa, la New Economic Policy (1921 – 1928) i el First Five Year Plan (1928 - 1932). D'aquesta manera, aquest treball es centra en l'estudi de les diferents fonts de creixement econòmic igual que el funcionament i l'organització de cada estratègia de creixement econòmic per tal d'identificar les principals diferències entre la New Economic Policy i el First Five Year Plan. Així doncs, l'anàlisi del context històric i el tractament de les dades s'expliquen al principi d'aquest treball. A més a més, el funcionament i els resultats de cada estratègia de creixement analitzada en aquest treball són presentats i valorats per tal de, finalment, identificar les diferències de les diverses estratègies de creixement dels primers anys de la Unió Soviètica que es poden trobar tant en el seu funcionament com en els seus resultats.

Paraules Clau: Estratègia de creixement, Unió Soviètica, industrialització, estructura econòmica, organització econòmica, col·lectivització i inversió.

INDEX

I.	Introduction.....	4
II.	Methodology.....	5
III.	Context	6
3.1	Statistics in the USSR	6
3.1.1	<i>The Material Product System (MPS) and the Greschenkron effect</i>	6
3.1.2	<i>Hidden inflation</i>	7
3.2	The Tsarist Russia: The fall of the Romanov.....	7
3.2.1	<i>Economic structure</i>	8
3.2.2	<i>Gross Domestic Product (GDP) evolution</i>	9
3.3	The Russian Civil War (1917 – 1921): A brief contextualization	11
3.3.1	<i>War Communism</i>	11
IV.	The New Economic Plan (1921 – 1928).....	13
4.1	Motivations for a policy change	13
4.1.1	<i>Trouble with the peasantry</i>	13
4.1.2	<i>The trade unions debate</i>	14
4.2	Structure and functioning of the NEP	15
4.2.1	<i>Market dynamics in the Soviet economy.....</i>	15
4.2.2	<i>Economic organization</i>	16
4.2.3	<i>Prices and monetary reform</i>	19
4.3	Economic results of the NEP.....	19
4.3.1	<i>The Scissors Crisis and hyperinflation (1921 – 1923)</i>	19
4.3.2	<i>National Income evolution</i>	22
4.3.3	<i>Industry</i>	25
4.3.4	<i>Agriculture</i>	26
4.3.5	<i>Foreign trade</i>	28
V.	The First Five Year Plan (1928 - 1932).....	30
5.1	Motivations for the policy change.....	30
5.1.1	<i>Rates of growth during the late NEP</i>	30
5.1.2	<i>The industrialization debate</i>	31
5.2	Structure and functioning of the First Five Year Plan.....	32
5.2.1	<i>Preferences and industrialization in a planned economy.....</i>	32

5.2.2	<i>Functioning and organization of the Soviet planned economy</i>	33
5.2.3	<i>Elaboration and reasoning under the First Five Year Plan</i>	34
5.2.4	<i>The Investment policy</i>	35
5.2.5	<i>Agricultural collectivization</i>	37
5.3	Economic results of the First Five Year Plan.....	39
5.3.1	<i>National income evolution and general assessment of the plan results..</i>	40
5.3.2	<i>Industry</i>	42
5.3.3	<i>Agriculture</i>	44
5.3.4	<i>Foreign Trade</i>	45
VI.	Discussion	47
VII.	Conclusions.....	50
VIII.	Bibliography.....	51
IX.	Annex.....	54

I. INTRODUCTION

The Union of Soviet Socialist Republics (USSR) transformed totally the way Russian society and economy was organized. The way resources were distributed, the goals of the economic policies among others are examples of the changes in those republics integrated in the USSR. This transformation, or at least a transformation of the society, has recently been claimed by several left wing sectors of western societies to be of great interest. Also, because the economic situation has worsened during the recent crisis, this idea of social transformation has reached higher levels of popularity, especially among those who suffered the most. Therefore, in this context of political and economic instability, the study of different socioeconomic systems to the one of western countries, capitalism, has become highly requested. Nonetheless, this work does not try to compare capitalism to different growth strategies under a socialist economy, but it analyses those strategies in order to identify its ins and outs.

In addition, the USSR can be considered as an historical anomaly, as no other socialist economy of such dimensions has ever existed. Hence, the analysis of an economic and social transformation in such a country gains even more relevance as a possible alternative to capitalism. Nevertheless, the controversy regarding several economic analyses of the USSR and databases makes the study even of greater interest. Furthermore, it can be pointed out that the USSR, although having quite a constant economic policy along its existence, had initially two ways of conceiving economic growth. Those policies can be represented by the New Economic Policy (NEP) and the Five Year Plans. In that sense, the NEP involved a market economy system by which economic growth could be achieved whilst the Five Year Plans were based on a planned economy that controlled and assigned the rates of growth that each economic sector had to achieve. The analysis of those strategies may provide a little light in the different strategies of growth in an economic system such as the Soviet socialism.

Consequently, the objective of this study is to distinguish the main differences regarding the method and results of the early soviet economic growth strategies (NEP and Five Year Plans). Regarding the study of the results, this work focuses on the analysis of the main sources that boosted national income growth (or not) and to which extent. Accordingly, the aim of this work is to corroborate (or not) the following statement: The NEP phase and the First Five Year Plan phase during the early economic development of the Soviet Union presented totally different views of economic growth in a socialist economy. All in all, this study incorporates a general analysis and comparison of both growth strategies which can be considered as a novelty, since no author has ever compared the results nor the functioning of the NEP period with the First Five Year Plan.

II. METHODOLOGY

The aim of this work, as has been presented in the introduction, is to distinguish the main differences regarding the method and results of the early soviet economic growth strategies (NEP and Five Year Plans). Nonetheless, the previous resolution can be achieved in a wide variety of ways. In that sense, this work presents a methodology based essentially in a dual assessment and analysis of the two growth strategies that will be compared.

First of all, in order to have a wide perspective of how each economic system worked, a descriptive analysis of the economic structure and functioning is presented. In fact, this description enables further analysis and assessments to differentiate theoretically and structurally the NEP from the First Five Year Plan.

Additionally, providing a practical view of each growth strategy, this work presents an assessment of their economic results. Furthermore, the analysis and assessment of the results of each growth strategy are based on the evolution of national income data. A part from the evolution of national income, the weight of each economic sector in the national income is also analysed. Therefore, the analysis and assessment of each growth strategy results is done through the study of the national income in each period.

The reasoning for this type of analysis is the following: Firstly, it has been considered that data on national income represents the main factor in order to analyse the results of a growth strategy. Secondly, national income embraces all economic sectors and its analysis can lead to further study of each economic sector to provide a deeper analysis of the economic situation in the period analysed. Finally, the study of further economic aspects, for instance income distribution, presents two problems that might be unsolvable: Some data on certain economic aspects is only available in Russian or even is not available. Moreover, to introduce a complete and rigorous analysis of other economic aspects would lead to an extremely extensive work.

Finally, it is important to underline the fact that this work focuses exclusively in the analysis of the First Five Year Plan (1928 - 1932) and that is the case for several reasons: First of all, it was the first plan and so, it was successive to the NEP period, hence, minimum contextual and temporal distortion is expected when comparing both systems. Furthermore, the First Five Year Plan introduced a total change in the economic organization and functioning of the USSR (as well as the introduction of the New Economic Plan).

III. CONTEXT

3.1 Statistics in the USSR

The veracity of statistical analysis and databases provided by the USSR official institutions, especially during the Stalin era, has usually been questioned by western scholars. Moreover, those credibility issues that some data related with the Soviet Union have are not just due to a presumable lack of independency between the statistical institutions and the government itself, but also due to the way some data were measured in the USSR. In this context, this work does not aim to determine which databases were manipulated or not (as this would be totally out-of-scope for this document). Furthermore, according to Harrison, M. (1999) “Instead of searching for lies, Western scholars looked for a mechanism of distortion, i.e., a methodology that would lead to exaggerated real growth estimates without any deliberate intention or special instruction to lie.”. Hence, this work is going to focus its statistical treatment exclusively in the possible methodological biases that could have been generated.

Finally, the aim of this section is to define how the statistical databases were made in the USSR and which effects or elements can distort (or not) the data, in order to correctly understand the statistics of the Soviet Union used along this work.

3.1.1 The Material Product System (MPS) and the Greschenkron effect

In order to define the national income, a different concept to the standardized GDP for western countries was used. The Material Product System (MPS) was not only used in the USSR, but it was also used in other socialist countries like China. In this sense, the MPS used the Net Material Product (NMP) to define the national income. The NMP was measured through the value of final output of material goods (but not services, although some, as transport, were included in the NMP computations), net of depreciation, valued at transfer prices which included indirect taxes. This kind of measurement does not really present an unsolvable problem if a conversion to western GDP is aimed as Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) suggest “[...] here is a technical difficulty at most, relatively easy to overcome, and not a source of major distortion or bias”. Therefore, data measured in GDP form the Soviet Union should not, in itself, be a source of worrisome regarding its accuracy.

Nonetheless, more important problems arise when indexed data is used. In the case of the period between 1920's and 1930's, it is of great importance the fact that Soviet series were calculated in terms of the initial-year prices of the economic year 1926/27. In this sense, it is generated an effect in the measurement of the data known as the

Gerschenkron effect. This effect is described as the gap generated between the rates of growth that come out of measuring the NMP indexed in initial-year prices and the NMP indexed in late-year prices (which can be, according to W., Harrison, M., & Wheatcroft, S. G. (1994) from 1937 onwards).

In this sense, imagine a production index as the following: $O_i = \frac{\sum P_i \cdot Q_f}{\sum P_i \cdot Q_i}$, where P_i is the price of each product at early-year, and consider a country with an industrialization process (economic structural change) going on during the period. In such a case, attention must be taken in the evolution industrial goods. At the beginning of the period, those goods have a high price (as they are scarce) (high P_i). Hence, a production index in early-year prices (P_i) will show an overrepresentation of industrial goods in total output, generating some distortion in the measure of growth (in this case, growth would be inflated).

Therefore, in the use of output data, how it is indexed (if it is) should be taken into consideration in order to evaluate correctly the real growth that the data shows.

3.1.2 Hidden inflation

Finally, the analysis of early soviet statistics can present other biases, like the hidden inflation effect. This phenomenon may appear in national income due to the introduction of new products that were counted in the national income with a price for the year at which the series was indexed. Thus, according to Harrison, M. (1999) "In the early years, new products were given plan prices on the basis of either "the price relating to the initial moment of mass production of the given type of product, or the average for the first three months of its manufacture" (Rotshtein, 1936, p. 241).". Following this argument, it can be said that new products were usually valued at a high price (as the prices in what can be called prototype production period are high).

Nonetheless, hidden inflation may appear to be more important the year after 1928, by which product innovation widespread in Soviet industry. Therefore, the impact that hidden inflation may have in the early 20's data (during the period of the New Economic Plan (NEP)) can be considered to be minor to the one generated in the First Five Year Plan period.

3.2 The Tsarist Russia: The fall of the Romanov

The Tsarist economy was what the former USSR inherited. Therefore, in order to establish an objective starting point for the analysis, it is of incalculable necessity to start the economic analysis of the industrialization of the USSR revealing the ins and outs of the Tsarist economic system and structure. Nonetheless, it must be said that Russia

suffered from a Civil War (1917 – 1922) which also influenced the initial years of the USSR and that will further be analysed.

3.2.1 Economic structure

It is widely accepted by the scholars that, the Tsarist economy was always an agrarian economy, even at the final years of the Tsarist leadership. For instance, according to Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) “The Tsarist economy on the eve of the First World War was still primarily an agrarian peasant economy. Agriculture was responsible for over half the national income, and three-quarters of all employment”. Supporting the previous assessment, the following table presents the national income of the Russian Economy in 1885 and 1913 is decomposed in its different components.

Structure of the Russian economy, 1885 and 1913 (value added in 1913 prices)

	1885 VA		1913 VA	
Agriculture	5044	58.7%	10294	50.7%
Heavy industry	175	2.0%	1632	8.0%
Light industry	400	4.6%	1391	6.9%
Handicrafts	565	6.5%	1311	6.5%
Transportation/communications	199	2.3%	1173	5.8%
Construction	445	5.1%	1035	5.1%
Trade	869	10.1%	1640	8.1%
Government	186	2.2%	565	2.8%
Housing	386	4.5%	743	3.7%
Medical	47	0.5%	126	0.6%
Domestic service	206	2.4%	264	1.3%
Utilities	71	0.8%	118	0.6%
National income	8594		20292	

Figure 3.1. Source: Allen, R. C. (2003). *Farm to factory: A reinterpretation of the Soviet industrial revolution*. Princeton University Press

Despite having an increasing trend on the weight of the national income, industry was far from the overwhelming contribution of the agricultural sector on the national income. Moreover, the relative increase on the total weight of the industrial sector over the Russian economy was merely symbolic and far from representing any structural change in it, since agriculture continued to represent, in 1913, more than 50% of the output produced in Russia¹.

Nonetheless, it must be said that industry (Light and Heavy) experienced a tendency to increase, even though this increase may not be considered a structural change in the economy, in 28 years its weight in the economy went from 6,6% to 14,9%. This increase in industrial value added was basically due to state promotion, tariffs and market

¹ For an international comparison on the levels of industrialization, look at Table 8.1.

integration that enabled industry to develop. In this regard, the tsarist state implemented tariffs in order to protect Russian production from the world integration provoked by the globalization process that was taking place during the 19th Century shaped by Imperialism². Moreover, the integration of the domestic market provided by the railroad building provoked an increase in the domestic demand leading to a rise in prices of both, the agricultural and the industrial sector. This final statement is clarified in the following figure:

Agriculture and Industrial Prices between 1890 and 1913

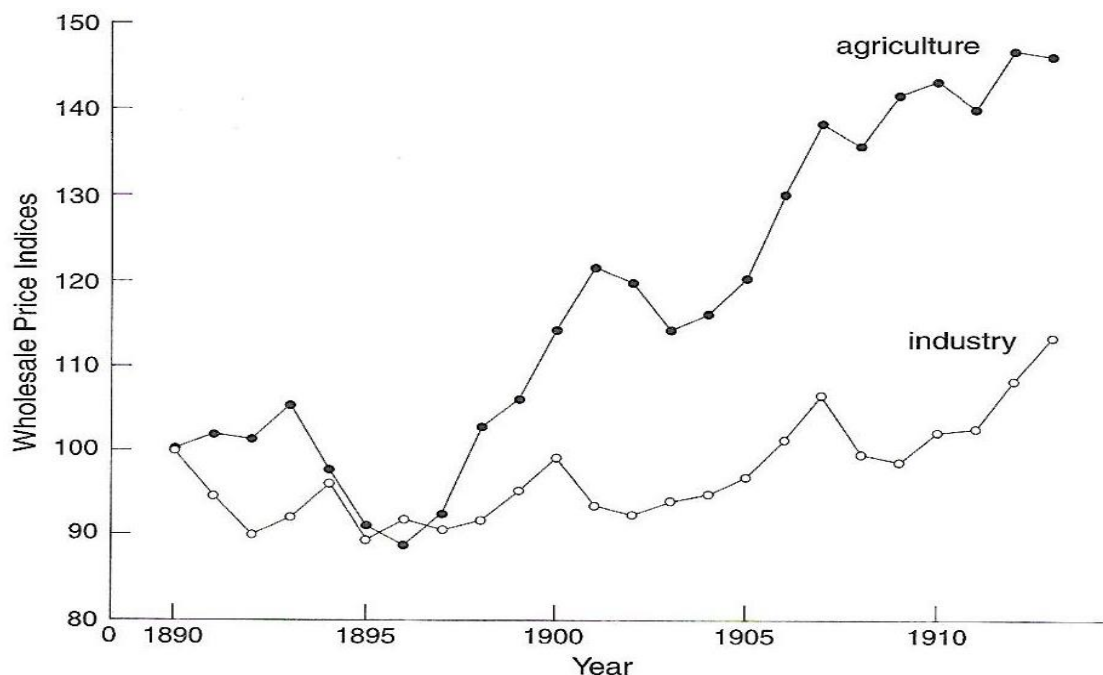


Figure 3.2. Source: Allen, R. C. (2003). *Farm to factory: A reinterpretation of the Soviet industrial revolution*. Princeton University Press.

Therefore, it can be said that even though some progress was made at the late years of the Tsarist regime, the Russian economy had an agrarian economic structure much closer to an underdeveloped country than a European one or an offshoot.

3.2.2 Gross Domestic Product (GDP) evolution

Regarding the national income levels in the pre-soviet Russia, some clarifications can be made considering the economic structure analysed in the previous chapter. Individually, Russian GDP pc increased smoothly, showing the domestic market integration that boosted the domestic demand which, combined with the tariff policy, generated a situation in which Russian productive sectors may have fulfilled the demand generated

² Wars like the opium wars (1839 - 1842) and (1856 - 1860) as well as the British conquest of India (ending in 1857) among others lead to a major openness of the world to European markets and so, a process of globalization.

by this domestic market integration. However, according to Carstensen and Guroff (1983) “Russia was not so much demand-constrained and therefore in need of a substitute market as it was constrained by institutions and policies”. In this sense, it might be considered that the growth generated in the latest years of the Tsarist regime might not have been sustained in the long run because of “uncertainty in the property rights and limited access to capital, markets, and skills”. Nonetheless, economic growth was achieved, as is shown in the following figure:

GDP pc in Russia (1885 to 1913)

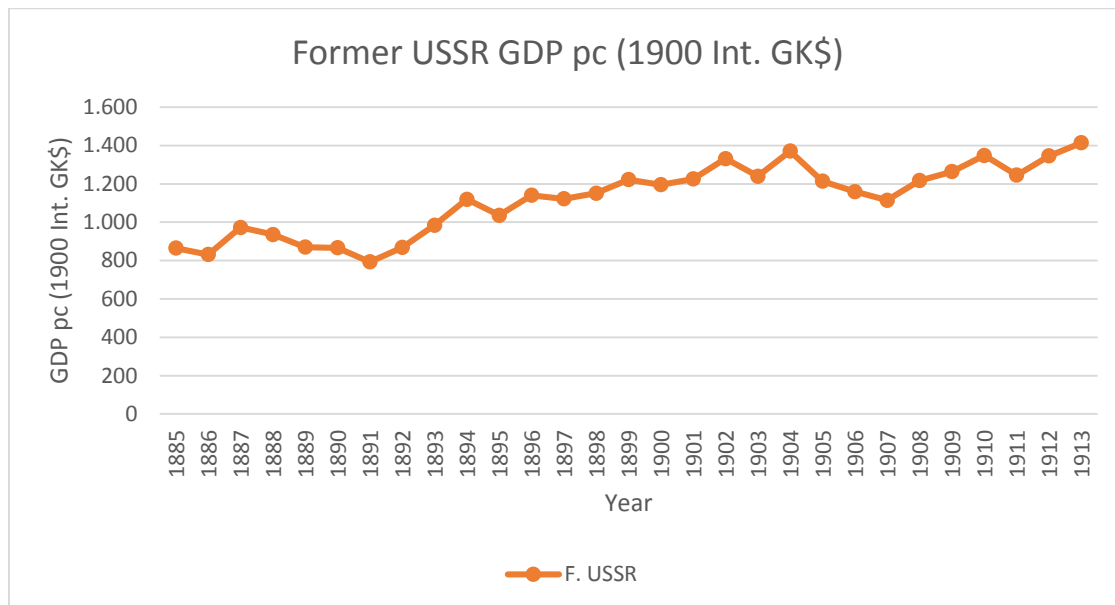


Figure 3.3. Source: The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version.

GDP pc in Russia went from 865 1900 Int. GK\$³ in 1885 to 1.414 in 1913. This data means that along this period, Russia grew at a mean of 2,06%, which is slightly better than countries like USA (1,87%), France (1,70%), Germany (1,81%) and Argentina (1,94%) but worse than Canada (2,85%) or Peru (2,18%). Hence, it can be said that Russian economic performance between the end of the 18th Century and the 19th Century (until de 1st World War) embarked this country into a process of convergence with the developed world (Western Europe and Offshoots). Nevertheless, if the Russian GDP per capita between 1885 and 1913 is compared to that of the Western Europe and the Offshoots, the difference is overwhelming Figure 8.1. For instance, the USA GDP per capita at 1913 was 374,88% of the Russian one, the German was 258% and it is not until Russia is compared with the poorest countries in Latin America (Venezuela 78,07% and Peru 73,01%) or the richest ones in Asia (Japanese GDP per capita was 98,07% of the Russian one) when we find similar GDP's per capita.

³ 1900 International GK\$ is a hypothetical unit of currency that has the same purchasing power parity than the US dollar in 1900.

Thus, even though a certain process of convergence with the developed countries happened in Russia from 1885 to 1913, this process was very poor and did not allowed Russia to catch up with the developed country category regarding the GDP per capita.

3.3 The Russian Civil War (1917 – 1921): A brief contextualization

The Bolsheviks seized power on 7 November 1917, nonetheless, from 1918 to 1921 it was introduced to the Russian Soviet Federative Socialist Republic (RSFSR) what has been called “War Communism”. This idea or policies were applied during the period of Civil War in Russia resulting in an economy in tatters at the end of the period, according to Allen, R. C. (2003).

3.3.1 War Communism

During the period of War Communism (1918 – 1921), business and factories were nationalized, the hiring of labour was forbidden and the market was declared illegal. According to some Western scholars, the measures taking place during the War Communism were temporary. In that sense, it has been considered that most of the actions made during War Communism were a direct consequence of the emergency of war. Nonetheless, it has also been pointed out that policies taking place in War Communism had Marxian bases and were rather the delivered aim of the revolution⁴.

Nevertheless, to understand the War Communism period and its consequences, it must be first analysed what was made during the period. In that sense, while the peasants had been seizing the property of townsmen, nobles and church since the spring of 1917, the first measure during War Communism was to nationalize all land and transfer it to the peasantry. Although this measure equalized land property, in the desperate conditions of the time, incentives to sow lowered as well as peasant sales of grain. Thus, the agricultural economy of the country was essentially reduced to self-subsistence and war porpoises (since a system of surplus confiscation was stablished in order to finance those porpoises). All this, lead to a production of grain that was just 44% of its level in 1913 according to Allen, R. C. (2003).

Regarding the urban economy, industry almost disappeared during this period, as by 1920, industrial production was only 20% of the pre-war volume. This phenomenon may be considered to have happened due to different factors: First of all, there was a shortage of materials that were essentially imported all along the War Communism period. Moreover, there was also a shortage of those products that were normally not

⁴ See Roberts, P. C. (1970).

imported, either because they were devoted to war efforts or because they were controlled by the White Army. Secondly, as Richman, S. L. (1981) suggests “With industrial production at a near standstill, the towns had little to trade for the peasants for food [...]” and that lead to the already mentioned lowering of the incentives for the peasantry to obtain surpluses and also to a redistribution of the population.

Therefore, after the Civil War and the War Communism, the Russian SFSR economy suffered an important amount of negative factors that ended up reducing the total output of the economy, as Figure 3.4. shows:

Evolution of the GDP per capita during the War Communism period (1917 – 1922)

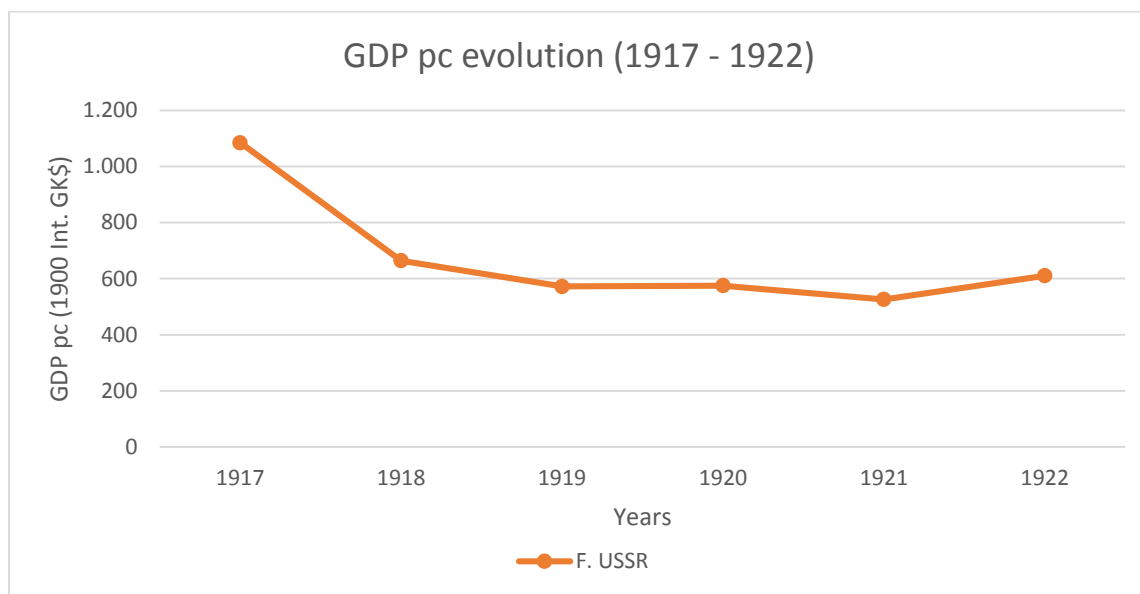


Figure 3.4. Source: The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version.

IV. THE NEW ECONOMIC PLAN (1921 – 1928)

The New Economic Plan (NEP) was an economic growth strategy applied in the Soviet Union during the 1920's (1921 – 1928). Therefore, the NEP can be defined as Fitzpatrick, S., Rabinowitch, A., & Stites, R. (1991) do:

“[...] the period between the end of the Civil War and onslaught of collectivization and rapid industrialization in late 1929 is known as NEP because of a series of new economic policies introduced by the Bolsheviks in the spring of 1921. These had to do first and foremost with ending food requisitions from countryside and eliminating tight restrictions on private trade and production”.

The starting point of the NEP, or historical background, was the end of the Russian Civil War (1917 – 1921) that resulted in an almost complete destruction of the Russian SFSR economy, as has been analysed in the previous chapter.

As Allen, R. C. (2003) points out “Lenin introduced the NEP to reverse this situation [after-war economic situation] as well as to appease the peasants. In many ways, the NEP reflected a retreat from the extreme measures of war communism”. In that sense, the New Economic Plan aimed to restore economic growth in the Russian SFSR. Nonetheless, it was a controversial measure especially among *Bolsheviks*, who saw those policies as a drift to capitalism of the country.

As for the NEP, the study and assessment of this economic strategy would be the core of the analysis made in this chapter. Essentially, the analysis presented is structured in 3 sections: Firstly, it is identified which were the motivations for a change in the soviet economic policy and which factors influenced in those motivations. Secondly, a theoretical description of the structure and functioning of the New Economic Plan is made. In this regard, the economic structure of the Soviet economy in that period is analysed, in order to identify it as a market or socialist economy (or a mixture of both). Finally, an assessment of the economic results obtained under the NEP and so, an identification of which aspects of the results can be attributable to one or another aspect of the economic strategy.

4.1 Motivations for a policy change

4.1.1 *Trouble with the peasantry*

War Communism and the Civil War itself let the peasantry at the edge of rebellion. There are several reasons that explain that situation. First of all, it must be pointed out that the peasantry had its surplus production seized during the War Communism period, as

it has been remarked previously in this work. In that sense, the peasants organized themselves in order to reverse the confiscations of their surplus and several revolts against the Bolshevik's policies took place (like the Tambov Revolt (1920 – 1921)). Although those revolts ended, generally thanks to the intervention of the Red Army rather than a negotiation process, they were a clear sign of the unrest and delicate situation of the peasantry. Taking those events in mind, it must also be considered that during 1921 there was a drought that struck the country resulting in a famine.

Therefore, during the Party Congress on March 8th of 1921, Lenin proposed a change in the policy regarding the requisition of peasant's surplus. In Lenin's words "[referring to the policy change] Its essence lies in the relations between the workers and the peasants. The interests of these classes do not coincide: the small farmer does not desire what the worker is striving for. Nevertheless, only by coming to an agreement with the peasants can we save the socialist revolution". Lenin, V. (1921).

4.1.2 The trade unions debate

Apart from the peasantry, the recently formed socialist state had to deal with another remarkable issue, the role of the trade unions in a socialist state. The scope of this debate is connected to the necessity of policy changes as far as it refers to the level of centralization and bureaucracy in the administration of industry.

From 1920 to 1921, this debate on the role of trade unions in a socialist state took place. There were up to three different positions in this debate, according to Dobb, M. (1946):

Trotsky's position was that trade unions had to become brigades in the labour army, with officers subject to appointment and removal from the state. These measures would give the almost absolute control of trade unions to the state. In this sense, Trotsky proposed a highly centralized administration of the trade unions in order to promote industrial efficiency. Nonetheless, a completely opposed view to the previous was the one held by the trade union leader Mikhail Tomsy. Tomsy considered that trade unions had to virtually advocate the handing over of industrial administration. Hence, Tomsy's view consisted essentially on independent trade unions.

Another relevant opinion was the one defended by Lenin, who advocated that trade unions, while maintaining their independent position, should undertake greater responsibilities in organizing labour to solve production problems.

Finally, Lenin's proposal was approved, leading to a more decentralized administration of worker's in industry. Furthermore, this decentralization would lead, as will be analysed later on, a generalized phenomenon during the NEP period.

4.2 Structure and functioning of the NEP

4.2.1 *Market dynamics in the Soviet economy*

During the New Economic Policy period, several novelties were introduced in the way the economy functioned.

Accordingly, economic transactions between the industrial sector and agriculture changed substantially and requisition of peasant's surplus was substituted by a tax in kind. Moreover, the tax was assessed as a proportion of the net production above the minimum subsistence needs of each family. Thus, substituting the War Communism system of surplus confiscation by a tax in kind had several consequences in the functioning of the economy. Firstly, the introduction of a tax in kind allowed the peasantry to start trading with their remaining surplus. In that sense, market mechanisms were introduced in the Soviet economy in the vital economic relations between cities and countryside as the agricultural sector supplied all kind of primary products needed by the industrial sector and also supplied food for the cities. Furthermore, the end of the surplus confiscations lead to a decentralization of the supply of materials and foodstuffs as apart from the control over the state farms and some state enterprises, the State had no direct control over the transactions between the peasantry and urban areas. Finally, since market mechanisms were introduced in the economic relations between industry and agriculture, firms had two ways to be supplied: Through the open market or through the state. However, the way firms supplied was not complementary; either a firm was supplied through the market or through the state. This fact presents a dual economic structure, from one side there was a market operating more or less freely⁵ and a state controlled economic system.

Regarding the industrial sector and market dynamics, the introduction of the NEP supposed some changes. The system that organized the management of industry during the war communism was eliminated and industry reorganized as Dobb, M. (1946) remarks "[...] industry was grouped into financially autonomous units, which (with certain exceptions, including the major part of heavy industry) were "removed from the state budget" and transferred to "commercial basis"". In that sense, trusts were formed and the management of those was far more decentralized and based on a commercial basis. Moreover, those trusts traded freely their production in the market (except those producing in strategic sectors⁶). Trusts and production organization will be analysed with more depth later on.

Considering the foreign trade, it can be said that after the war it was restored, and with it, the need to introduce a new system for that kind of trade. Since market mechanisms were introduced, as has been explained in this section, within the Soviet government

⁵ Look at pages 15, 16 and 18 of this document.

⁶ See pages 15 and 16.

there was an important debate regarding the optimality of a foreign trade monopoly. However, as Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) comment “[...] while trade remained fully under state control, the power to engage in foreign trade was delegated to a number of other state and cooperative bodies and some joint ventures were established for this purpose”. Essentially, trade management was done through direct control over the trade flow and currency exchange. Moreover, regarding imports and exports, policy makers recognised necessity to attract foreign industry in order to obtain technology from abroad. Nonetheless, this attraction of foreign industry (through concessions) was not successful as western firms did not want to make long-term investments in the Soviet Union as Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) outline.

However, markets were in some cases under price controls established by the Price Committee under the Commissariat of Finance, basically after the hyperinflation experienced during the first years of the NEP and which will be analysed later on this work.

In conclusion, the introduction of the NEP provoked important changes in the economic system of the Russian SFSR and lately of the USSR. Those changes consisted in the introduction of market mechanisms in the economy (such as the free trade of agricultural surplus and the introduction of open market in industry). Nonetheless, although complete free market was achieved in some cases, State control (regarding prices and supply) was still established in some sectors.

4.2.2 *Economic organization*

Regarding the organization of the industrial sector, during the second half of the 1921 and the 1922, trusts were created. Trusts could be defined as financially autonomous units that were managed on the basis of commercial principles. Those were part of the introduction of market mechanisms commented in the previous section.

In fact, as Dobb, M. (1946) outlines “By a decree of October 27th, 1921, enterprises were divided into two classes: those still dependant on centralised State supplies and those endowed with complete financial and commercial independence”. Therefore, not all enterprises during the NEP were managed by the government itself (or through *Vesenkha*’s departments). Nonetheless, a decree from February 6th, 1922, established that some enterprises’ production of several strategic sectors could not be placed on market circulation, as the greatest part of that production had to be delivered to the State.

Among those strategic sectors we can find certain metal industries, war industry, locomotive and the railway’s industry. Furthermore, those sectors were managed similarly to how enterprises were during the War Communism, as *Vesenkha*’s departments were responsible for the administration of those strategic sectors.

Nonetheless, once the USSR was formed (December 1922), trusts were classified in three different categories based on to whom each trust was subordinated (*Vesenkha*, Economic Council of the Republic or the local government (*Gubsovnarhoz*)). In that sense, the majority of the trusts were subordinated to *Vesenkha*.

Moreover, industrial management of trusts was done through a Board of Directors appointed by *Vesenkha*. Furthermore, the Board choose the different managers for each factory of the trust and those managers' aim was to define and structure the internal management of each factory. Furthermore, considering management from the worker's point of view, union representatives, managers and party secretaries supervised production and tried to increase productivity.

Howbeit, it is important to remark that trusts were not private enterprises. Trusts could sign independent contracts, as part of the decentralization measures that were taking place during the NEP. However, trusts could not sign those contracts as owners of the property but as trustees of the State, which had, by law, preference against other agents as far as trade conditions were equal. Furthermore, the State could not acquire any property or products used by trusts unless it was through contractual agreement.

In fact, according to Bandera, V.N (1963) the industrial structure through ownership can be divided in 3 main types of owners in the USSR during the NEP. Those were, Private and concessionary (foreign enterprises investing in the Soviet Union in the form of a concession), State and cooperatives. Moreover, classified by ownership, industrial output during the NEP can be presented as in Table 4.1.

Essentially, industrial output was dominated by the state firms (in which trusts can be included and were normally large-scale industrial enterprises) and along the period, industry owned by the state gained more importance relatively in the industrial output. However, it is remarkable that the majority of the State industry was not managed directly by the State. In that sense, trusts and non-state managed enterprises generated the most part of Soviet output during the NEP period. In fact, according to Dobb, M. (1946) "By the summer of 1923 there were 478 trusts chartered by *Vesenkha*, embracing 3651 enterprises with about a million workers, or some 75 per cent. of all the workers employed in nationalized industry". In that sense, it is clear that management of enterprises was generally decentralized during the NEP.

Gross industrial output according to the type of ownership

Period	State	Co-operative	Private and Concessionary
1923–24.....	70.3	5	24.7
1924–25.....	72.2	9.1	18.7
1925–26.....	74.7	9.0	16.3
1926–27.....	77.1	8.8	14.1

Table 4.1. Source: Bandera, V. N. (1963). The New Economic Policy (NEP) as an economic system. *Journal of Political Economy*, 71(3), 265-279.

Regarding internal trade in the USSR during the NEP, a private figure had major relevance in order to explain trading in the Soviet Union. The *Nepmens*, were businesspeople that took advantage of the allowance to privately own small-scale industry and to trade in a market. Furthermore, In that sense, as Bean, J. (1997) “By 1926, the private sector handled 75 percent of retail trade” adding also that “*Nepmen* industrialists produced one-third of all consumer goods and played an important role in the service sector by opening restaurants, inns and publishing houses”.

Nonetheless, it is remarkable that state enterprises had various advantages in order to compete with the *Nepmens*. In fact, lower taxes and financial backing of the government were some of the advantages that state enterprises held against the *Nepmens*. In spite of all those disadvantages, the *Nepmens* were able to compete successfully essentially during the first years of the NEP. In that sense, by the years 1927 to 1928, *Nepmen* had a reduced 22 percent of retail trade and by 1929, *Nepmens* disappeared with the introduction of the First Five Year Plan (1928 – 1932). Finally, the reasons for the disappearance of the *Nepmens* can be classified in two categories: First, politically, the existence of *Nepmens* was not consistent with Marxist theory and, therefore, *Nepmens* should be expelled from the system, according to most Bolsheviks. Secondly, many *Nepmens* prospered through their business and were seen by many as new capitalists (which indeed they were) that were perverting the soviet system.

Finally, it is important to consider how agriculture was organized during the NEP period. In fact, economic organization of the agricultural sector was totally different from the industrial organization (which has been presented previously). Hence, agricultural output was dominated by private production, as according to Bandera, V. N. (1963) “Thus, in 1925- 26, 87.8 per cent of the total value of agricultural output was produced privately, 11.4 per cent by the state farms, and 0.8 per cent by co-operatives. Control figures for 1926-27 increased the absolute totals for all three categories, but retained their proportion”. However, private farms were generally small/middle-scale farms as the distribution of land was made in the first years of the NEP. The results of that land distribution are defined by Allen, R. C. (2003) as “[...] a radical equalization of properties as large farms were divided and small holdings enlarged”.

Moreover, this organization of the agrarian sector led to the creation of a new social class, the so called *kulaks*. Those were rich peasants that already existed during the late years of the Russian Empire and that prospered again with the introduction of market mechanisms in the soviet economy. Politically, the prosperity of *kulaks* was seen by many Bolsheviks as representative of a development of capitalistic dynamics and social stratification⁷.

⁷ Ladejinsky, W. (1934) and Richman, S. L. (1981).

In conclusion, the economic structure of the Soviet Union with the implementation of the NEP policies can be summarized as follows: The State owned almost all industrial enterprises, although the majority of industrial production was not directly managed by the State itself or any institution dependant on the State. As for private sector, it was relegated to a marginal weight in the total industrial production. Furthermore, private enterprises were essentially small-scale ones, while the State owned large-scale industrial enterprises. In the agricultural sector, it was the other way around, production was dominated by the private sector and state presence in the sector was not dominant. Nonetheless, large-scale farms were generally owned by the State and small-scale ones were private. Finally, a trade figure (*Nepmen*) surged by which an important weight of trade in the USSR went through during the NEP years.

4.2.3 Prices and monetary reform

After the end of War communism and the introduction of market mechanisms lead to a situation in which price controls generally ended. However, in some cases price controls persisted, as in some industrial goods and the grain market. In this last case, industry and urban areas needed grain prices to be lower in order to be able to consume them. Therefore, it can be said that markets implemented during the NEP worked generally without state intervention (understood as price controls and requisitions), although some concrete markets were still regulated. Furthermore, a process of hyperinflation was taking place in the Russian SFSR lead by product scarcity and an imbalanced government budget leading to an over expansion of the monetary supply to finance it. At 1922, the Bolsheviki decided to introduce a complete change in their fiscal policies, as Efremov, S. M. (2012) emphasises “They [referring to the Bolsheviki] resolved to balance the budget and issue a new currency, known as the *chervonets* that would be based on the gold standard”. In that sense, from 1922 to 1923, existed in the USSR two currencies: the *sovznaki* and the *chervonets*. The first currency was abundant in the market and had an extremely low value while the *chervonets* were based on the gold standard and were scarcely supplied and highly demanded. With those measures, the Soviets were able to gain enough credibility to hold a stable currency (*chervonets*) for their new market economy and control inflation.

4.3 Economic results of the NEP

4.3.1 The Scissors Crisis and hyperinflation (1921 – 1923)

The scissors crisis was a phenomenon that appeared during the first years of the NEP (1922 – 1923). It can be presented as the first outcome of the New Economic Plan (1922 – 1928) although as the attentive reader may imagine, NEP policies were not the only cause of the Scissors Crisis. That crisis can be divided in two different periods.

After the Civil War, the famine of 1921 the Russian SFSR was immersed in an important inflationary pressure, market mechanisms implementation, as has been explained previously, and shortage of raw materials. In that context, at the beginning of 1922 an important price differentiation appeared between agricultural and industrial prices. The reasons for that were two: Firstly, no marketing apparatus (understood as selling and contract infrastructures) existed to sell industrial output and exchange it for raw materials. Thus, in order to sell their output buy the needed inputs to continue producing, trusts followed a strategy that Dobb, M. (1946) explains as follows “To secure the means they lacked for continuing production, the trusts opened small shops or set up stalls in the streets in the locality of the factories, or employed itinerant pedlars to barter their products directly with the peasants in the village for materials and food”. Secondly, and probably more importantly, agricultural output had lowered to self-subsistence levels for the peasantry. Finally, it is also remarkable that the introduction of the agricultural tax that substituted the requisitioning system lead to a reduction of the incentives for peasants to sell their products in the market since peasant’s production was already reduced by the tax. Thus, agricultural marketing, which can be defined as agricultural net sales to the rest of the economy, fell sharply. All in all, prices for agricultural products rose compared to industrial prices as Table 4.2. shows for 1922:

Terms of Trade during 1922

Month	Year	Prices	
		Agriculture	Industry
-	1913	100	100
January	1922	104	92
February	1922	105	90
March	1922	109	82
April	1922	111	77
May	1922	113	74
June	1922	106	89
July	1922	104	92
August	1922	100,5	99
September	1922	94	112

Table 4.2. Source: Dobb, M. (1946). *Soviet economic development since 1917*. London.

Nonetheless, this situation of agricultural advantageous terms of trade did not last for long. At the end of 1923, the terms of trade were in favour of manufactured products by a ratio of 3 to 1 according to Dobb, M (1946).

This drastic change in the terms of trade can be explained by the difference in the recovery of industrial and agricultural output. Agricultural output recovered faster from the famine of 1921 and the Civil war than industrial output. Hence, once marketing apparatus were implemented, agricultural output started its recovery as well as agricultural marketing, agricultural prices fell relatively to industrial prices as the previous Figure 4.1. shows. Last but not least, price controls on agricultural products had an important influence in the terms of trade evolution in favour of industry at the end of 1922.

Agricultural Terms of Trade, 1913 – 1927/28

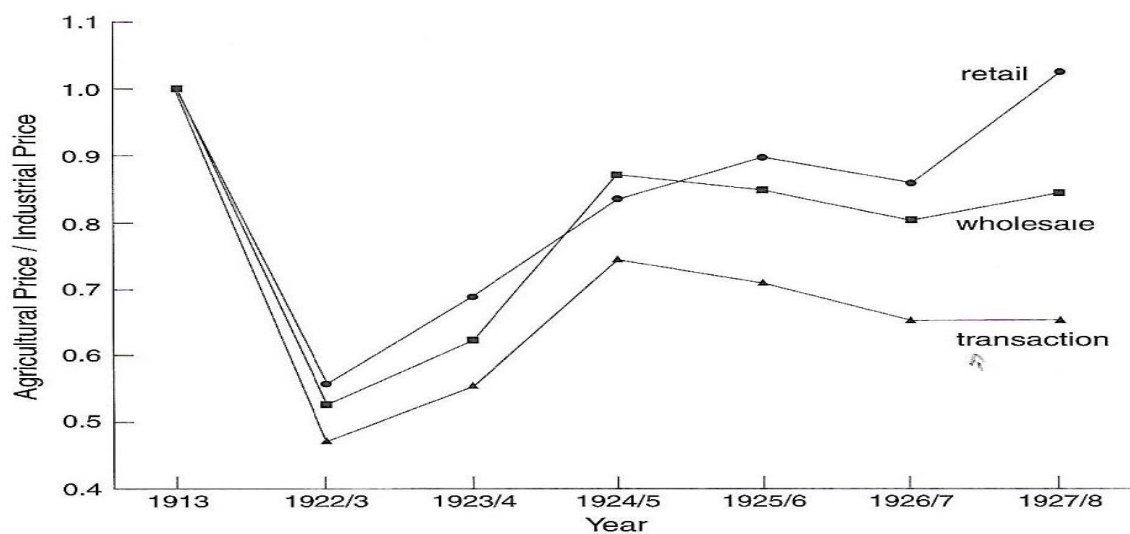


Figure 4.1. Source: Allen, R. C. (2003). *Farm to factory: A reinterpretation of the Soviet industrial revolution*. Princeton University Press.

In fact, Figure 4.1. represents the relation of agricultural and industrial prices during the NEP period in three different ways: Retail and wholesale series represents the retail and wholesale price relations respectively. Finally, transaction series represents the ratio between wholesale agricultural prices and retail prices for non-food manufactured goods.

In conclusion, at this point of the analysis it is relevant to remark that the causes of this phenomenon can be classified in two different classes: Firstly, there were circumstantial factors like self-subsistence production of agricultural products during the 1922 or the famine of 1921 or the lack of raw materials which partially provoked such important fluctuations in terms of trade. Secondly, there were a systemic factors that influenced this situation which were the lack of marketing apparatus and the introduction of the agricultural tax that substituted the requisitioning system.

Although, probably systemic factors were not the most explicative of the Scissors Crisis⁸ they are the most important ones in the analysis of this work. In that sense, it is

⁸ See Dobb, M. (1946).

important to highlight that the marketing apparatus introduction problem can be extrapolated to every change in the economic system. For instance, it is reasonable to believe that if changing from war communism to a market system generates temporary distortions, a change from a market system to a planned economy would also lead to temporary distortions. However, taking into account everything said before, it can be said that the difficulties in the introduction of marketing apparatus had not a devastating impact in the Soviet economy, although they had some negative impact on it.

4.3.2 National Income evolution

The evolution of the National Income in the Soviet Union during the NEP period has been scarcely analysed. Nonetheless, a rigorous analysis of this data is of major importance in the scope of this work.

In order to start the analysis, it is important to consider and take into account some elements that may distort the data. In this sense, it will be considered as the most representative data is that one valued with 1913 market prices (data from Markevich, A., & Harrison, M. (2011), *Gosplan* and *TsSu*). That data can be understood as ideal due to several factors: Firstly, because economic structure in 1913 and in 1928 (the year in which the NEP finalized) changed at almost no level as Markevich, A., & Harrison, M. (2011) point out. In that sense, it can be said that by using prices of 1913 the Greschenkron effect is avoided at its greatest part as no important change in economic structure can be observed in the former USSR between 1913 and 1928. Furthermore, in 1913, the Russian Empire had a relatively open and free market economy which was not exactly the case for the year 1928 as there were some price controls and state monopolies as has already been analysed in this document.

Moreover, the national income will be compared to 1913 as the base year. That is the case as it has been considered that a way to consider the success or failure of the NEP in terms of national income is to compare it to the pre-war levels. Nevertheless, as will be commented later on, this comparison may not be ideal as some bias has been identified.

Taking into account everything said before, Figure 4.2. presents different series of the evolution of soviet national income during the New Economic Plan period.

National Income evolution during the NEP period

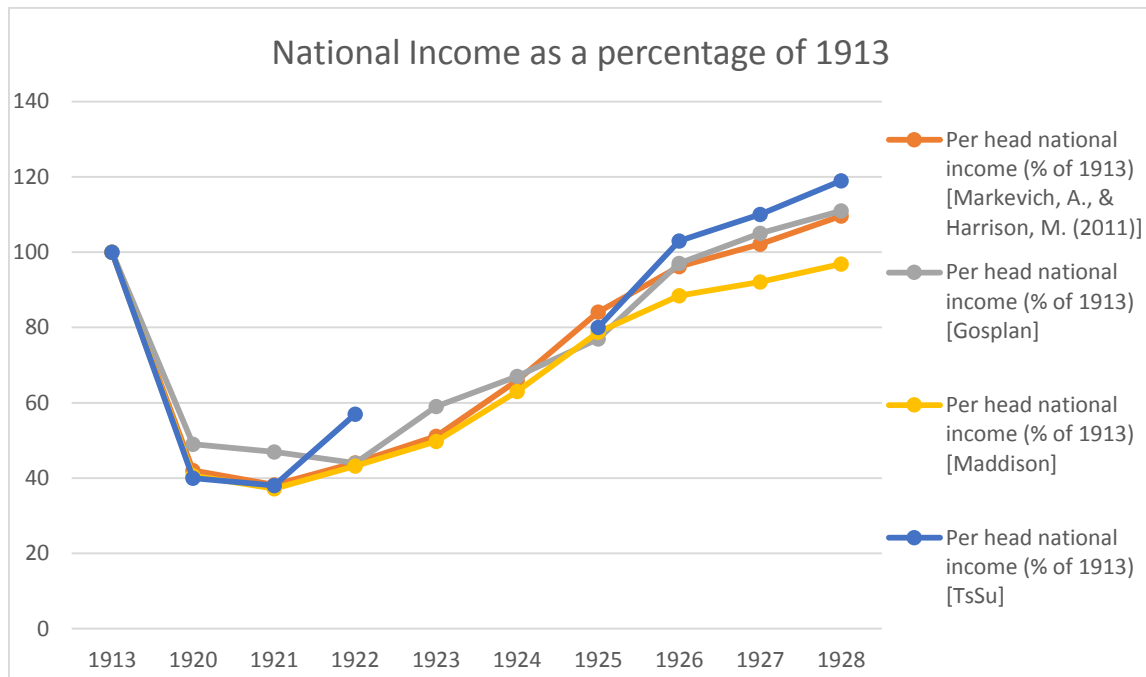


Figure 4.2. Sources: The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version and Markevich, A., & Harrison, M. (2011). Great War, Civil War, and recovery: Russia's national income, 1913 to 1928. *The Journal of Economic History*, 71(03), 672-703.

In the previous figure, it could be observed that data generally suggests that the NEP policies indeed allowed the Soviet economy to recover pre-war income levels by the end of that period (1928). Data from the *Gosplan* (State Planning Committee) and the *TsSU* (Central Statistical Directorate) even suggest that by the end of the NEP, the USSR achieved levels of income far superior (111% and 119% respectively) than those in 1913. Moreover, both *Gosplan* and *TsSu* data were measured at 1913 prices which, as has been commented previously, can be identified as ideal. However, this data has been criticised by some scholars⁹. Nonetheless, the recently published data from Markevich, A., & Harrison, M. (2011) suggests that for 1928, soviet national income was slightly superior to the 1913's one (109.6% of 1913's national income). In that sense, only data from The Maddison-Project indicates a lower income (96.9%) in 1928 than in 1913. However, it should be emphasised that 1913 was abnormally prosperous as, according to Mark Harrison in Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994): "The net harvest of food grains in 1913 was 17 per cent above the logarithmic trend for 1885-1913". Hence, an outstanding harvest took place in 1913 and so, that fact can present a downward bias in the comparison between pre-war (1913) Russian and national income in the NEP period.

Therefore, it can be said that the NEP period facilitated an economic recovery from the Civil war leading to a year on year growth rate that is presented in Table 4.3.

⁹ See Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994).

Soviet National Income year on year growth rates during the NEP

Year	National income growth rate
1922/23	15.3%
1923/24	26.6%
1924/25	24.9%
1925/26	12.3%
1926/27	4.1%
1927/28	5.2%

Table 4.3. Source: Markevich, A., & Harrison, M. (2011). Great War, Civil War, and recovery: Russia's national income, 1913 to 1928. *The Journal of Economic History*, 71(03), 672-703.

Taking into account everything said before, in order to provide a complete comparative assessment of the economic results of the NEP, it has been elaborated a comparison of the evolution of different economies after the First World War (UK, Austria, Germany, Hungary, Belgium and France). In that sense, all those countries participated actively in the First World War and are geographically close to Russia (all countries are European). It must be pointed out, however, that none of those countries suffered from a Civil war after the world war and so, it must be taken into account that the years in which countries were involved in war were 4 (1914 - 18) while Russia was at war during 7 years (1914 – 21). With this analysis, it can be observed that by 1927, all countries (except Russia (1930 according to The Maddison-Project and 1928 according to Markevich, A., & Harrison, M. (2011)) recovered their pre-war levels of national income. However, the impact of the war period was far superior in Russia (1st World War and Civil war) than in any other country. As a matter of fact, Russia lost by 1922 (once the Civil war was over and the NEP policies just started to be implemented) almost 60% (56.8%) of their income in 1913 while Germany (8.69%), Austria (16.97%) and the United Kingdom (5.76%) had much minor losses in this regard. Furthermore, France and Belgium registered already higher levels of income by 1922 than those in 1913 (103.60% and 104.60% respectively).

National income comparison for recovery after the 1st World War period

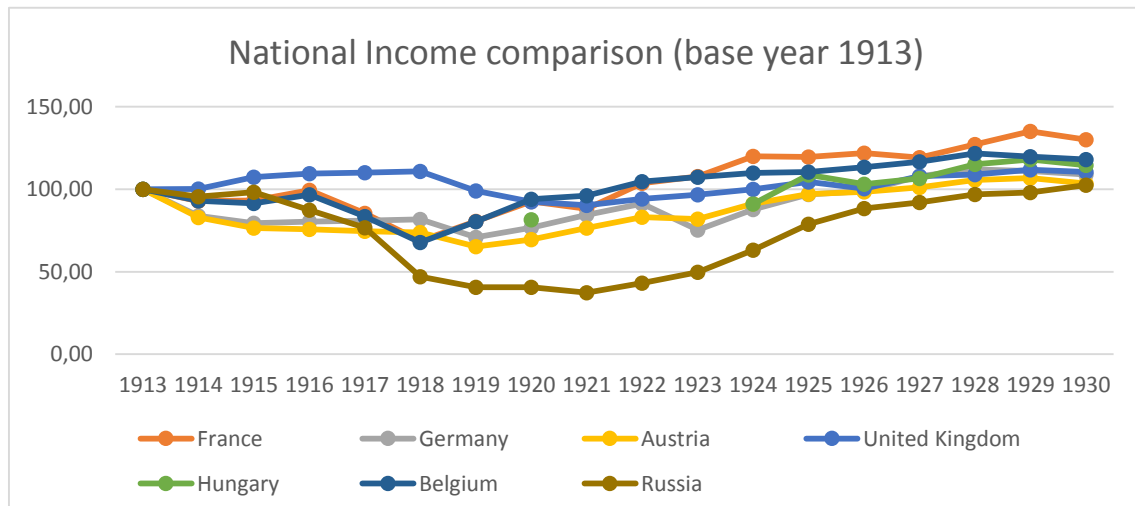


Figure 4.3. Source: Own elaboration with data from The Maddison-Project, <http://www.ggdcd.net/maddison/maddison-project/home.htm>, 2013 version.

Therefore, once an international comparison is made, NEP's results can still be considered successful as provided a comparatively fast economic recovery to 7 years of war destruction and social changes. However, this success must be qualified as the NEP may have been able to restore the national income level, but did it provoked a structural change in the pre-war agrarian Russian economy? This qualification and the analysis of NEP's results by sectors is analysed in the following chapters.

4.3.3 Industry

In order to get a deeper analysis on the results of the NEP, a sectorial study of the NEP period is compulsory. Regarding the industrial sector, economic results can be classified in two types of industry (as was done in the 5th *Planovoe khozyastvo* or 5th economic plan which was elaborated by the *Gosplan*): Large-scale industry and Small-scale industry. Furthermore, as has been commented in previous chapters¹⁰ the major part of Large-scale industries were owned generally by the State, although the majority of them were managed by independent Board of directors (trusts) while Small-scale industry was generally owned by private owners.

Industrial contribution to national income of Russia and the USSR: millions of rubles at 1913 market prices

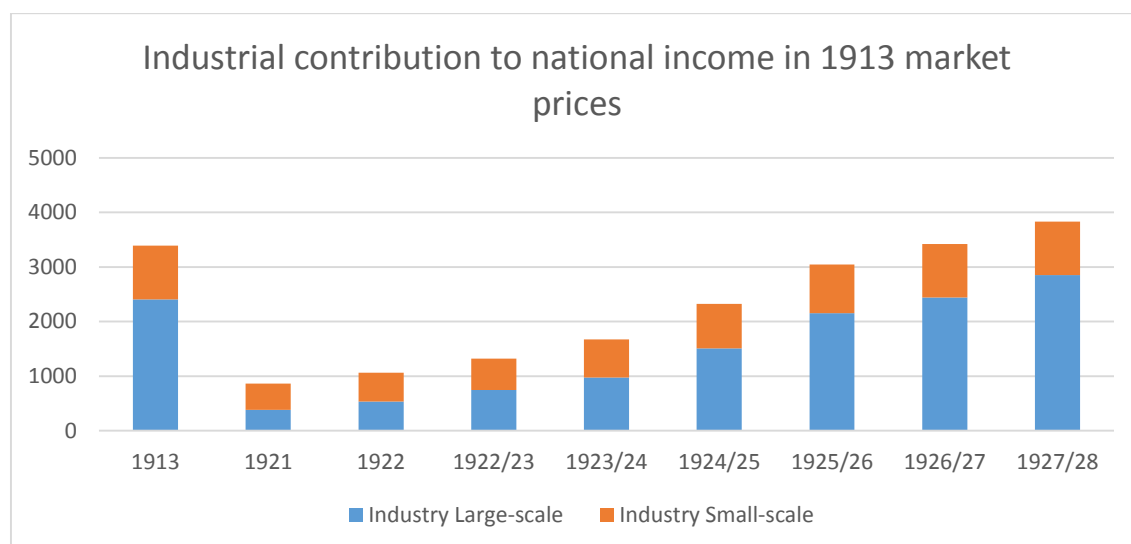


Figure 4.4. Source: Markevich, A., & Harrison, M. (2011). Great War, Civil War, and recovery: Russia's national income, 1913 to 1928. *The Journal of Economic History*, 71(03), 672-703.

¹⁰ See 4.2.2 Economic organization section.

Several aspects stand out from Figure 4.4.: Firstly, the economic value of output produced by the industrial sector in the USSR during 1928 had already recovered 1913 level and slightly over performed it. Nonetheless, it cannot be said that a structural change occurred neither in the distribution of national income inside the industrial sector (large or small – scale industry) nor in the total weight of industry (small and large - scale) over national income.

Concretely, some capital goods industries (like coal and oil industries) reached in 1926/27 a greater production than the one in 1913. However, iron and steel industries which almost disappeared in the war period still lagged behind their 1913 respective levels. Generally speaking, as Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) point out, “Contrary to expectations, and to the assumptions of many historians, the consumer goods industries as a whole lagged behind the capital goods industries”. Hence, apart from a difference in recovery between large and small-scale industries, it can be said that capital goods industries and consumer goods industries also presented different rates of growth during the NEP.

From the point of view of the differences between consumer goods and capital goods industries, several reasons can be presented to explain that difference in results. Resulting from the low agricultural marketing explained by the War communism period and the destruction of agricultural output, a shortage in raw materials stroke consumer goods industries especially during the early years of the NEP.

Regarding the large and small scale industries, their evolution was different although both industries recovered their pre-war levels. Essentially, large-scale industry presented much higher rates of growth than small-scale industry during the NEP period. This difference in economic results of large and small scale industries shows the success of the trusts system as the fall of large-scale industry compared to the fall of small-scale industry during the War communism period was notably larger.

In conclusion, regarding the industrial sector it can be said that the NEP enabled the soviet economy to recover pre-war levels of industrial output. However, no process of structural economic change in the Soviet Union was enhanced as the weight of industry over the economy was the same in 1913 than in 1928.

4.3.4 Agriculture

The evolution of the agricultural sector during the NEP was similar to the one of the industrial sector. In that sense, agriculture reached its net national income contribution of 1913 by 1926¹¹ although agricultural marketing did not recovered its pre-war level as

¹¹ See Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994).

Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) point out “According to Gosplan estimates, marketed production in 1926/27 amounted to only 17 per cent of gross production, as compared with 22.5 per cent in 1913”. Thus, although policies were introduced during the NEP to increase agricultural marketing, as the introduction of the tax in kind on agricultural products, it failed to encourage enough agricultural marketing to recover its consumer goods industries to pre-war levels. Furthermore, price controls on markets like the grain market in order to lower raw material prices also influenced the lack of agricultural marketing as it reduced incentives to sell agricultural products in the market.

As Figure 4.5. shows, during the first years of the NEP (from 1922 to 1925) agricultural output grew at impressive rates. However, from 1926 agricultural expansion was limited to a lower rate of growth. This reduction of agricultural output growth can be explained by the lack of technological change in farming production. Moreover, focusing in concrete agricultural products, industrial crops, potatoes, fruit and vegetables were produced in larger quantities by 1928 than in 1913.

Nevertheless, some technical change with the introduction of metal plough and horse-drawn implements. Nonetheless, at the edge of the First Five Year Plan introduction, the majority of farming production was non-mechanised leading to no major structural change in farming production. In fact, this lack of technological change can be demonstrated by the rate of population living in the countryside, which was about four-fifths of the total population, a slightly lower ratio than the one on the pre-war years (in 1914, a 17.5 per cent of the population lived in urban areas according to Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994)).

Agricultural contribution to Russian and USSR national income: 100 = 1913 in 1913 market prices

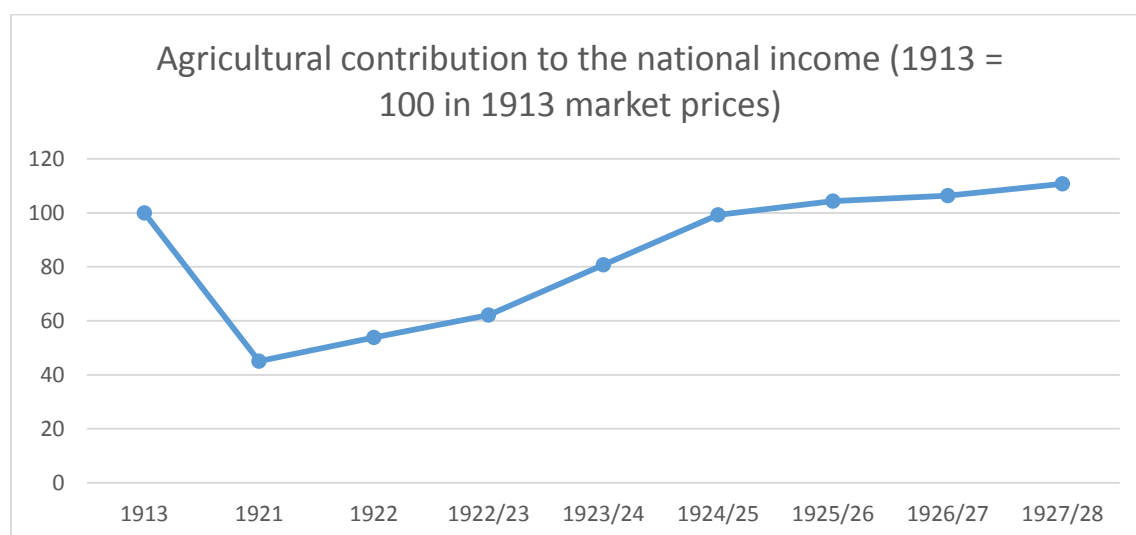


Figure 4.5. Source: Markevich, A., & Harrison, M. (2011). Great War, Civil War, and recovery: Russia's national income, 1913 to 1928. *The Journal of Economic History*, 71(03), 672-703.

Taking everything said before into account and similarly to what happened with industry, agriculture did recover from its utterly devastated production (in 1921 agricultural output was just a 45% of the one in 1913). However, no major improves in agricultural productivity (compared to the pre-war levels) occurred during the NEP. Hence, it can be said that the NEP was once again successful in recovery but unable to produce structural changes.

4.3.5 Foreign trade

As has been explained previously ¹² foreign trade during the NEP period was monopolized by the Commissariat for Foreign Trade using plans for imports and exports. Under this situation, foreign trade recovered from the Civil War, although as Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) highlight “[...] it proved particularly difficult to rebuild or replace structures and economic mechanisms which had been destroyed, and to reestablish confidence.”. Proving those lines, by 1927/28, Soviet Union’s exports were only about 40% of the 1913 level although some initiatives were introduced by the government to improve exports. In fact, during the NEP period, the government sharply increased exports on precious metals and agricultural products. However, as has been previously commented agricultural marketing did not fully recovered and with it, the main exports source for the Soviet Union had almost disappeared. As a result, trade deficits were generalized during all the NEP period. Nonetheless, the government tried to reduce its foreign deficits by importing less consumer goods which were generally consumed by the old nobleness which had either emigrated or impoverished notably.

Exports and imports in the Soviet Union (1913 = 100)

	Exports	Imports
1918 ^a	0.0	0.1
1919 ^a	0.0	0.0
1920 ^a	0.0	0.0
1921 (Jan.–Sept.)	0.0	0.1
1921/22	0.1	0.2
1922/23	0.1	0.1
1923/24	27.7	23.3
1924/25	25.9	42.5
1925/26	34.0	51.4
1926/27	40.0	53.9
1927/28	41.2	70.6
1929	54.1	68.0
1930	80.1	88.6
1931	90.1	111.0
1932	74.0	77.8
1933	71.0	52.9
1934	67.3	51.8
1935	59.9	54.8
1936	47.3	54.8
1937	46.3	50.9
1938	39.1	56.5

Table 4.4. Source: Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994). *The economic transformation of the Soviet Union, 1913-1945*. Cambridge University Press.

¹² See page 15.

As Table 4.4. shows, during the NEP exports did not recover even half of their value in 1913 whilst imports reached more than 70% of its value in the base year. Therefore, it can be said that the NEP was unable to boost foreign trade as it did with agriculture and industry.

V. THE FIRST FIVE YEAR PLAN (1928 - 1932)

The First Five Year Plan (1928 – 1932) was the first of the thirteen plans that were executed during the plan era in the Soviet Union (1928 – 1991). The First Five Year plan was not, ironically, the first as many other plans were made by the *Gosplan*¹³ (Central Economic Planning Agency) during the NEP. Nonetheless, during the NEP period, plans made by the *Gosplan* were only perspectives of development for the following years. In fact, the First Five Year Plan was based on those perspectives of development elaborated by the Gosplan during the NEP.

In that sense, the First Five Year Plan represented, from Wheatcroft, S. G., Davies, R. W., & Cooper, J. M. (1986) perspective “[...] the first attempt at comprehensive state planning of a major economy, is an important if controversial turning-point in the history of world industrialization.”.

Concerning the contents of this chapter, it is firstly developed the reasoning behind such a determining change in the economic policy and organization of the Soviet Union that supposed the substitution of the NEP system for the First Five Year Plan. Furthermore priorities, debates, development strategies and economic functioning during the years of the First Five Year Plan are described and analysed in depth in the second part of the chapter. Finally, the last part of the chapter is devoted to the assessment of the economic outcomes resulting from the period analysed in this chapter.

5.1 Motivations for the policy change

5.1.1 Rates of growth during the late NEP

Until 1926/27, the soviet economy was generally considered to be recovering its pre-war levels, as Dobb, M (1946) describes it “The year 1926/7 had been designated as the first complete year of the so called “reconstruction period”, when restoring the production on the basis of existing capital equipment had been completed”. Furthermore, Lenin’s death in 1924 did not just provoke the disappearance of the inventor of the NEP and the undisputed leader of the Soviet Union but also the progressive disappearance of the main supporters of the mixed economy program. Taking into account the previously presented background, data presented from 1926/27 onwards did nothing but to support the detractors of the NEP and the general believe that it was the time to implement a true planned socialist economy. In that sense, national income growth in 1926/27 and 1927/28 experienced a substantial reduction. Precisely, national income growth slowed down from a 24.9% in 1924/25 to a 4.1% in 1926/27 as Table 4.3. shows. All in all, a clear slowdown of the

¹³ Like the 5th *Planovoe khozyastvo* mentioned in page 24.

national income occurred after reaching the pre-war economic capacity, which seems logical and coherent as part of a process of economic recovery. However, it represented a clear change in the trend for economic growth in the Soviet Union, which ultimately represented the end of the NEP. In that sense, it was considered by many Bolsheviks (including Lenin) that the NEP was a temporary policy as many authors point out¹⁴ and so, the slowdown in growth rates was the signal to change the economic policy.

5.1.2 *The industrialization debate*

Following the slowdown of national income and the end of the so called reconstruction period, some issues remained to be solved. In that sense, as has been previously presented, from the Bolshevik's perspective, the need to industrialize the country was unavoidable. Hence as Joseph Stalin pointed out in a speech in 1931 *"We are fifty or a hundred years behind the advanced countries. We must make good this distance in ten years. Either we do it, or they will crush us."* However, how to proceed with the industrialization of the country? Was rapid industrialization possible? Regarding those questions, there were two clear positions which can be represented by prominent people of the Communist party. On one side, Yevgeni Preobrazhensky, member of the Central committee of the Communist Party argued that rapid industrialization and thus, rapid capital accumulation or primitive socialist accumulation, as Preobrazhensky called it, was possible without sacrifices in the consumer side of the economy. From his perspective, the emphasis of the industrialization process had to be in the promotion of heavy industry. Thus, Preobrazhensky was the first of the so called superindustrializers according to Allen, R. C. (2003). Nonetheless, rapid industrialization, as has been presented before, needed of a process of primitive socialist accumulation of capital. On that, Preobrazhensky proposed the acquisition of wealth from the peasants in order to finance the accumulation of socialized capital. Furthermore, to do so, direct taxation as in the NEP period was not considered optimal and Preobrazhensky proposed a pricing policy to artificially reduce the price of agricultural products in order to extract the agricultural surplus and pay for the investment.

Regarding the primitive socialist accumulation, some remarks can be done. In that sense, it should be said that when referring to primitive socialist accumulation, it is being pointed out the necessity to finance the initial investment processes through pre-accumulated capital after the introduction of a new socio-economic system such as socialism. In fact, Marx, K. (1867) defined primitive capital accumulation as the process in which peasants proprietors were disposed of their land and livestock that were then

¹⁴ Bean, J. J. (1997), Richman, S. L. (1981), Allen R. C (2003) and Dobb, M (1946).

owned by their feudal lords, leading to a transformation of the lords into capitalists and peasants into salaried employees.

On the other hand, Nikolai Bukharin General secretary of the Comintern and leader of the Right opposition, stated that the speed of industrialization was directly related with the speed of agricultural output growth. In that sense, it was compulsory, according to Bukharin, to promote a balanced growth between agriculture and industry. Regarding the pricing policy proposed by Preobrazhensky, Bukharin argued that such a policy would reduce notably the so problematic agricultural marketing since the terms of trade in the soviet economy would be in favour of the industrial products and hence, the reverse policy should be applied leading to lower prices for manufactured goods in order to easily improve agricultural marketing and output.

In conclusion, industrialization was a high priority in the political agenda of the Soviet Union at the end of the 1920's. However, the way in which this process had to be done was under discussion, until the introduction of the First Five Year Plan, when Stalin's policies defined a clear strategy for the process.

5.2 Structure and functioning of the First Five Year Plan

5.2.1 Preferences and industrialization in a planned economy

Before starting with the proper analysis of the First Five Year Plan, it may be illustrative to define some of the most prominent debates on economic planning. Furthermore, it is relevant to describe the main functioning differences between market economies and planned economies. Among those debates, it can be remarked the preferences debate referring to the dichotomy between the planners' preferences and those of the consumers.

In that sense, it is straight forward to assume that in a planned economy, the economy is developed through the planners' preferences. Moreover, some scholars claim that it could happen that planners' preferences differed from those of the consumers. In fact, it is straightforward to the attentive reader to identify the planners' preferences with the increase of its power. Therefore, investment goods and military equipment instead of consumer goods may be the major priority for planners. Thus, the presented view would lead to a low or null increase in the standards of living in a planned economy where the planners' preferences dominated. Nonetheless, it must be pointed out that in a market economy, future consumption depends on the level of investment which is determined by the rate of time preference of potential savers as the economic orthodox theory postulates. However, as Allen, R. C. (2003) outlines "While this theories usually abstract from the distribution of income, it is important for the discussion at hand that most savings is, in fact,

done only by the well-to-do. In that case, the preferences of the overwhelming majority are irrelevant.”. Moreover, the previous point is still more relevant in such an unequal and low income economy as the tsarist one. Hence, it is reasonable to believe that the majority of the population would prefer a higher savings rate than the one rich people wanted. Thus, planners’ preferences do not differ from those of the consumers systematically, as there may be cases in which the majority of consumers’ preferences coincide with those of the planners.

Furthermore, it is important to consider that even assuming that the planners’ preferences do not coincide with those of the consumers in a country without democratic control mechanisms as the Soviet Union, a planned economy presents a clear advantage for an industrialization process with respect to a market economy. Taking it from the previous statement, a planned economy is able to coordinate its investment efforts to provide a self-sufficient economic push through the industrialization of a country as Allen, R. C. (2003) underlines. On the other side, a market economy has different dynamics regarding investment. In that sense, in a market economy investment is done generally through uncoordinated¹⁵ individual decisions which may lead to a situation in which the economy is trapped in a low income equilibrium. It is especially illustrative of this situation the famous model developed by Robert Solow and the poverty traps reasoning¹⁶.

Hence, there is a wide variety of debates and views regarding the optimality of a planned economy in a process of rapid industrialization as the one that engaged the Soviet Union during the 1930s.

5.2.2 *Functioning and organization of the Soviet planned economy*

Regarding the functioning of the planned economy that emerged from the introduction of the First Five Year Plan, some remarks should be done in order to differentiate the NEP from the planned system. During the development of the soviet five year plans, the surplus was produced in state enterprises and then appropriated and distributed by state entities such as the *Veshenka*. To do so, the state had shops and bazaars in order to, in principle¹⁷, allow citizens to buy the consumption products they wanted. In that sense, as Fitzpatrick, S. (1999) outlines “With the outlawing of private enterprises at the end of the 1920s, the state became the main and often the only legal distributor of goods. All large social goods like housing, medical care, higher education, and vacations were distributed by state agencies”. Nonetheless, for consumer goods such as food and clothing, the state was not the only

¹⁵ Here, uncoordinated is referred to the fact that investment is not directed and organized but responds to other factors such as individual incentives.

¹⁶ For more information, see Kraay, A., & Raddatz, C. (2007). Poverty traps, aid, and growth. *Journal of Development Economics*, 82(2), 315-347.

¹⁷ This freedom of choice did not occurred during the rationing years as is explained later in this chapter.

supplier as in May 1932 peasantry was allowed to sell products of this kind in *Kholkhoz*¹⁸ markets.

Furthermore, between 1928 and 1935, hence during the first and second five year plans, a rationing system was implemented. This system was not introduced by any government neither the national nor those of each soviet republic. In that sense, municipal and local governments individually implemented rationing for certain commodities leading to an almost universal rationed distribution system in 1931 according to Chossudowsky, E. M. (1941). However, not all goods were rationed as cultural articles and luxury goods remained without rationing. Hence, with this situation, it was not until 1931 when rations became standardized and classifications among different workers were made (the most privileged were those working in heavy industry). Nonetheless, it must be pointed out that the rationing system was temporary and its reasoning was purely circumstantial and not systemic.

Essentially, the introduction of the rationing system was justified for the exceptionality of the industrialization process and the presumably incapacity of the soviet economy to initially sustain an important industrialization process. In that sense, consumers were “forced” to consume less in order to have a greater investment in the industrial sector. The policy of investment and consumers’ preferences will be analysed later on in the following sections of this work.

Finally, the relations between the state and the peasantry were regulated by a system of delivery quotas. The *Otovarivanie* was a system in which contractual obligations between the agricultural sector and the state were established similarly to a barter system in which the peasants had to provide certain amount of their production, and depending on that amount, the government had to supply those peasants with a proportional amount of consumption goods according to the state fixed prices. Hence, according to Allen, R.C. (1998) “Starting in 1930, [...] the state imposed substantial delivery quotas on each farm and paid relatively low prices for this produce.” and so “The Soviet state financed its investment program with this revenues”. Thus, a process of primitive socialist accumulation at the Preobrazhensky’s way took place in the Soviet Union during the First Five Year Plan period.

5.2.3 *Elaboration and reasoning under the First Five Year Plan*

Initially, plans elaborated by the *Gosplan* were just perspective plans (hence had no direct application in the economy) and were thought to cover five years. However, as

¹⁸ See page 36 for a definition of *kholkhoz*.

Dobb, M (1946) remarks “The need for a perspective of development over an even longer period of 10 or 15 years was urged by some, and a draft of “a general plan for 15 years” was actually prepared”.

Nonetheless, those general plans for 15 years were too general and imprecise to provide the soviets with a useful guideline, as too many variable and external factors distorted the economy for such a long period of time.

Furthermore, by 1927, the Supreme Soviet of the National Economy (*Vesenkha*) had already elaborated a draft of the First Five Year Plan for industry which gave much more importance to heavy industry than the previous proposals. In that sense, there was a debate regarding the possibility that the first perspective plan made by the *Gosplan* underestimated the rates at which soviet industry could be developed. However, *Gosplan* economists based their perspective plan on the idea that major industrial growth had to be the main goal of the plan, but it had to be sustained by an important expansion of agricultural output and agricultural marketing. On the other hand, *Vesenkha*’s plan was based on the idea that a great expansion of industrial output, which was also the principal aim of the plan, could be achieved without translating the growth dynamics of the industrial sector on the agrarian sector.

In 1928, a final form for the Five Year Plan was adopted by the *Gosplan* which was presented as Dobb, M (1946) explains:

“This [referring to the First Five Year Plan made by the *Gosplan* in 1928] was drawn up in two variants: the one an “initial” or “minimum variant”, resting on a cautious estimate of a number of uncertain factors in the situation; the other, the “optimal” or “maximum variant”, built upon more optimistic assumptions. It was the latter that was finally approved in the spring of 1929 by the government as the definitive First Five Year Plan”.

Moreover, it is remarkably important to highlight, for a further precise assessment of the First Five Year Plan the assumptions under which the definitive version of the plan was written according to Dobb, M. (1946): First of all, the *Gosplan* assumed no major failure of the harvest during the plan years as well as a wider expansion of intercourse with world economy resulting from an increase in exportable resources available and in long-term credits from abroad. Also, it was assumed that there would be a fall on national defence expenditure relative to the national income of the Soviet economy.

Finally, it is important to underline the way calculations and estimations were made in the First Five Year Plan: First of all, the goals for investment and production were established and from there, costs’ reductions and productivity targets were fixed so as to be able to fulfil the production goals. Thus, productivity and costs’ reduction targets were calculated as residuals according to Davies, R. W., & Wheatcroft, S. G. (1975).

5.2.4 The Investment policy

As the First Five Year Plan was being elaborated and implemented, one of the most relevant factors was how to determine the allocation and amount of investment.

Hence, the First Five Year Plan became the beginning and guideline of a major process of massive investment in all sectors but with an especial emphasis on the industrial sector. In fact, according to Dobb, M (1946) “Annual net investment meanwhile was to increase by three times when expressed in the current prices of each year, and by appreciably more when expressed in real terms”. In that sense, the following table presents a dimensional idea sector by sector to where was investment allocated:

Fixed Capital Capacity in 1928 and Planned for 1933, at the Beginning of the Year (in millions of 1925/26 rubles)

Sector	1927/28	1932/33	Abso- lute incre- ment	1932/33 as per- cent- age of 1927/28	1927/28 percent share	1932/33 percent share
Agriculture	15,162	19,503	4,341	129	25	22
Industry	6,489	15,640	9,151	241	11	18
Transport	10,724	15,308	4,584	143	18	17
Construction	595	2,100	1,505	353	1	2
Housing	21,729	25,863	4,134	119	36	29
Other sectors	5,808	10,054	4,246	173	9	12
Whole economy	60,507	88,468	27,961	146	100	100

Table 5.1. Source: Hunter, H. (1973). The Overambitious First Soviet Five-Year Plan. *Slavic Review*, 32(2), 237-257.

Nonetheless, it must be pointed out that even though the investment structure was planned to specially focus on the industrial sector, investment was expected to increase in all sectors of the economy. Furthermore, focusing on the previously presented dichotomy of planner’s versus consumer’s preferences, consumption was to relatively fall from a 76% of the annual deliveries of final output in 1927/28 to a 57% in 1932/33. However, the plan presented an absolute increase in annual deliveries of final output to consumption, which can be extrapolated from what Hunter, H. (1973) underlines in the following quote: “The industry and construction sectors were to be expanded far more rapidly than the agriculture and housing sectors. The plan called for *disproportional* growth in sectorial outputs”. In that sense, investment and consumption were also planned to grow *disproportionally*. Hence, at least initially, the First Five Year Plan presented a relative trade-off between consumption and investment although this trade-off did not mean, at least on paper, that as investment increased, consumption had to be reduced in absolute terms¹⁹.

Consumption in the Fel’dman Model

¹⁹ However, as has already been remarked, rationing systems were imposed in the Soviet Union between 1928 and 1935.

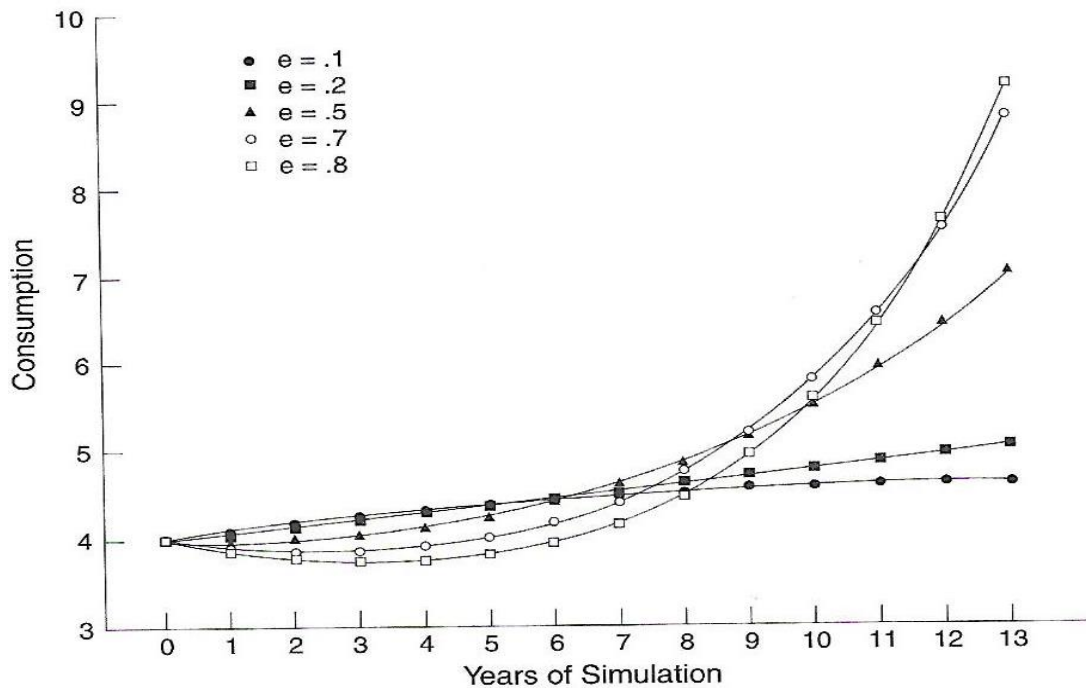


Figure 5.1. Source: Allen, R. C. (2003). *Farm to factory: A reinterpretation of the Soviet industrial revolution*. Princeton University Press.

In that sense, the plan was coherent with the *Fel'dman Model*²⁰. Essentially, this model made by an economist from the *Gosplan* which gave its name, divides the economy into two sectors (producer and consumer goods). Its main conclusion is that depending on the fraction of producer goods output reinvested in the sector (e), consumer goods may or not decrease as the previous figure shows.

5.2.5 Agricultural collectivization

During the development of the First Five Year Plan, a massive movement of collectivization took place in the agrarian sector. As a matter of fact, some collectivized farms were already implemented during the NEP, however, as Ladejinski, W. (1934) emphasises "The percentage of farms collectivized [in 1928] was 1.7, representing 1.6 per cent of the total population and 1.2 per cent of the total cultivated area.". Therefore, at the edge of the First Five Year Plan, the level of collectivization in the villages can be considered to be insignificant. However, by that time, there were up to 3 different types of collectivized farms:

- The *Kolkhozs*: This kind of collective farm was an agricultural commune. Work, consumption and income were all divided equally. Moreover, individual

²⁰ For more information on this model and its mathematical development, look at Allen, R.C. (2003).

properties were all collectivized. It was the type of collective farm with the highest degree of socialization.

- The *Artels*: Those entities involved the collectivization of the basic means of production and generally presented a complete consolidation of the fields held. In those, a part of the income was divided equally, but another part was divided according to the property contributed.
- The *Tozs*: It was an organization in which some of the means of production were socialized temporarily. Thus, there was no physical consolidation of land nor an equal division of income, as the share of it that each peasant earned depended upon the amount of labour and equipment it temporarily provided to the *Toz*.

From that point, in 1929 when the “maximum variant” of the First Five Year Plan was adopted as the definitive plan version, it presented a deep reorganization of the agricultural sector. The aim of the plan regarding the agricultural sector was a socialization of the sector. Hence, this process of massive collectivization in the agricultural sector was introduced due to several reasons: Firstly, as has been presented previously²¹, there was a group of important landowners called *kulaks* which were considered as petit-bourgeois. In that sense, as Ladejinski, W. (1934) outlines “The economic power of the *kulak* group was considerably greater than their numbers would seem to indicate. They controlled more than one-third of the total means of production in the village, cultivated 23.5 per cent of the entire sown area, and produced 40% of the total amount of grain sold on the market.”. From the point of view of the majority of the Communist party, the existence of the *kulaks* had to end as soon as possible as it represented the introduction of capitalistic dynamics in the agricultural sector. Secondly, the problematic during the 1920’s of the low agricultural marketing provided incentives to the collectivization of the countryside in order to supply enough raw materials to allow industry to fulfil the First Five Year Plan. Finally, as Allen, R. C. (2003) emphasises: “Stalin, however, favored the view that the farm size distribution determined the propensity to market. According to this view, extrarural sales were lower in the 1920s than they had been before the war primarily because of the elimination of large gentry and *kulak* farms after 1917 and the corresponding expansion of medium-sized, self-sufficient peasant farms.” Hence, this reasoning lead to the generalized idea around the party that a reorganization orientated to an expansion of the scale of farms in order to avoid economic and potentially political troublesome.

Therefore, in November 1929, it was announced a movement to join collectives and a campaign was launched in which government officials tried to make peasants vote for the establishment of collective farms. In that sense, the official policy was to make peasants form those collective farms voluntarily, although excesses occurred according to Allen, R. C (2003). To see the effect of this policy, Table 5.2. is remarkably illustrative.

²¹ See page 18.

The collectivization process during the beginning of 1930

1930	Collectives Organized	Peasant Farms	Collective Farms as % of Total Number of Peasant Farms as of Spring, 1929
Jan. 20, 1930.....	59,400	4,393,100	21.6 %
Feb. 1, 1930.....	87,500	8,015,100	32.5 %
Feb. 10, 1930.....	103,700	10,935,300	42.4 %
Feb. 20, 1930.....	108,800	13,675,900	52.7 %
March 1, 1930.....	110,200	14,264,300	55.0 %

Table 5.2. Source: Ladejinsky, W. (1934). Collectivization of Agriculture in the Soviet Union I. *Political Science Quarterly*, 49(1), 1-43.

However, it did not take long until this rapid collectivization process experienced some slowdown. The reasoning behind it was, essentially, the homogenization of the different types of collectives into the *Kolkhozs* or agricultural commune types. In that sense, for many peasants the previously described collectivization process resulted in a transformation to the highest form of collectivization overnight. This process led to protests from the peasantry and a campaign for the slaughter of peasants' cattle, which ultimately forced the government to change its mass collectivization policy²². In conclusion, this protest movement provided the peasantry with a more lax policy of collectivization (introduced at the beginning of 1931) that moderated the reduction of the collectivization movement and allowed a steadier and stable growth of collective farming. All in all, as Ladejinsky, W. (1934) indicates "While in 1930 [at the end of the year] the collective farms were responsible for 27.8 per cent and the individual sector for 68.3 per cent of the total grain produced, in 1931 the respective positions of these two sectors were practically reversed.". Furthermore, *Kulaks* disappeared as the collectivization process developed and with them the majority of the most skilful peasants that forced the government to try to correct this shortage of qualified peasants. According to Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) "In the early 1930s, the state attempted to fill the gap [referring to this lack of skilful peasants] by sending in tens of thousands of urban workers and others to assist in the running of the collective farms. But they had been hastily trained, and often lacked all experience of any kind of farming."

5.3 Economic results of the First Five Year Plan

²² For more information on this new policy, look at Ladejinsky, W. (1934). Collectivization of Agriculture in the Soviet Union II. *Political Science Quarterly*, 49(2), 207-252.

5.3.1 National income evolution and general assessment of the plan results

From the National Income perspective, the Soviet Union experienced a very rapid growth by international standards during the period of the First Five Year Plan according to western scholars²³. Nonetheless, the official data from the TsSU has been considered to be exaggerated by multiple factors: Firstly, 1926/27 was used as base year for the calculations, which meant that the Greschenkron effect increased the growth rates of capital goods (which were the most rapidly growing component of material production according to Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994)). Finally, the hidden inflation problem was not tackled by the official data.

Taking into account everything said before, it is important to consider the following table:

Annual net national income growth as a percentage per year

From: To:	1870 1885	1885 1900	1900 1913	1928 1937	1937 1940	1948 1950	1950 1955
Soviet official . . .	—	—	2½	16	9	19	11
Clark, 1951 ^a . . .	—	—	—	4½	8	—	—
Clark, 1951 ^b . . .	—	—	—	2½	7	—	—
Grossman, 1954 . . .	—	—	—	7	—	7	—
Jasny, 1951 ^c . . .	—	—	—	8	6½	—	—
Jasny, 1951, 1954 ^d . . .	—	—	—	9	7	12½ ^e	—
Wyler, 1946 ^f . . .	—	—	—	7	6	—	—
Wyler, 1951 ^g . . .	—	—	—	5½	8	—	—
Block, 1955 . . .	—	—	—	—	—	10	6 ^h
Composite . . .	3½ ⁱ		4½ ⁱ	7 ^j	—	9 ^j	

Table 5.3. Source: Kaser, M. C. (1957). Estimating the Soviet National Income. *The Economic Journal*, 67(265), 83-104.

For the period of our interest in Table 5.3. (1928 – 1937) annual rates of growth of the national income vary substantially. However, several remarks can be done: Firstly, the rate of growth considering the mean of the different calculations made by the western economists that appear in Table 5.3. is 6.21%. In that sense, it can be said that the soviet economy presented an important rate of growth during the first two five year plans (from 1928 to 1937). However, if the rate of growth during the First Five Year Plan is the only one taken into account, according to data from The Maddison-Project, the per year rate of growth was minor to the one achieved in the Second Five Year Plan (2.04%).

Furthermore, if the evolution soviet national income during the First Five Year Plan is contextualized in the international background, the results of the soviet economy can be clearly stated. To do so, an international comparison has been done between the national income evolutions during the period of the most developed countries at the

²³ See Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994).

beginning of the 20th century and those countries with a similar national income per capita to that of the Soviet Union at the beginning of the period.

In that sense, 8 different countries (Colombia, Brasil, Peru, Honduras, Portugal, Sri Lanka, Philippines and Japan) with a GDP per capita in 1927 similar to the one of the USSR (1303 (1990 Int. GK\$) according to The Maddison Project) have been compared with the evolution of the USSR during the First Five Year Plan period. Moreover, countries from different geographical areas have been included in order to avoid inconsistencies. From that analysis, there was no country that reached the rate of growth of the Soviet Union during the period, as Figure 8.2 and Figure 8.3 show²⁴.

In order to present a wider and deeper comparison of the soviet first plan period regarding the national income, it has been also compared the per capita income level of the most developed countries, among which can be found the USA, United Kingdom, France, Germany, Belgium and Canada. As in the previous comparison, none of those countries grew as much as the USSR between 1928 and 1932. Hence, it is clear that even though there might be biased data (as the official soviet data), the First Five Year Plan provided the soviet economy with a rate of growth that although does not appear to be impressive, it is one of the best when it is compared internationally.

USSR per capita GDP in 1990 Int. GK\$ (1920 = 100)

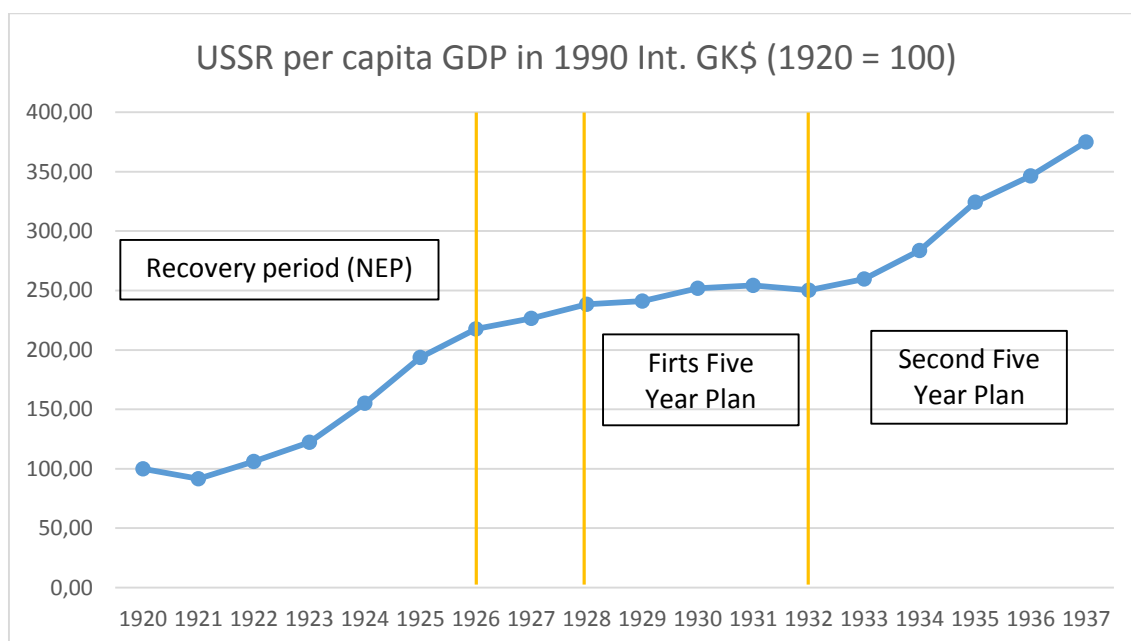


Figure 5.2. Sources: The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version

Regarding the achievement of the goals proposed in the definitive variant of the First Five Year Plan, it can be stated that except for transport, the other sectors of the

²⁴ See Annex.

economy did not matched its expected results by the end of 1932 according to Hunter, H. (1973). Furthermore, it is also remarkable the fact that even though the plan originally did not considered a reduction in the general level of consumption at the end, total consumption was reduced due to several reasons (which also explain the failure to achieve the goals proposed by the first plan): Firstly, all the assumptions made by the *Gosplan* did not hold at the end leading to a reduction of consumption in order to hold an important rate of investment. In that case, it is clear that the planner's preferences prevailed over the ones of the consumers. Finally, according to some western scholars²⁵, the goals presented at the First Five Year Plan were overambitious and the predicted growth unachievable without a reduction of consumption.

5.3.2 Industry

The industrial output was the most dynamic sector in the soviet economy during the First Five Year Plan. Highlighting this last statement, Hunter, H. (1973) outlined "Even if one rejects the official Soviet series as reflecting improper price weights, it remains clear that industrial output expanded markedly, by at least 50 percent over five years and 80 percent over six years, though the aggregate target for 1933 was far from met.". However, as has been pointed out in the previous section, this impressive growth in industrial output was not enough to achieve the goals presented by the plan.

Furthermore, reassessing the growth of the industrial sector, several western scholars have modified and corrected some biases in the official Soviet data. The results of some of those reassessments are shown in Table 5.4.

Indexes of industrial production for 1928 – 1940 (1928 = 100)

	1928	1932	1937
Soviet official:			
gross production ¹	100	202	446
net production ²	100	237	585
Seton ^{3,a}	100 ^c	181	380
Hodgman ^{4,b}	100 ^c	172	371
Nutter ^c			
civilian industry (1928 prices) ⁵	100 ^c	144	266
civilian industry (1955 prices) ⁶	100 ^c	141	233
all industry including armaments (1928 prices) ⁷	100 ^c	150	279
Kaplan-Moorsteen:			
civilian industry ⁸	100	154	249
Unofficial Soviet estimate (1987) (in 1980 \$) ⁹	100 ^f	..	217 ^s

Table 5.4. Source: Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994). *The economic transformation of the Soviet Union, 1913-1945*. Cambridge University Press.

²⁵ Hunter, H. (1973) and Davies, R. W., & Wheatcroft, S. G. (1975).

From Table 5.4. two main assessments can be done in addition to the ones from Hunter, H. (1973) pointed out previously: Firstly, not even the most enthusiastic result obtained by western scholars (correcting the Greschenkron effect and hidden inflation problems) reach the levels of industrial output growth claimed by the Soviet official data. Finally, the growth from the First Five Year Plan period (from 1928 to 1932) was much lower to the one during the Second Five Year Plan (from 1932 to 1937). This impressive increase in the growth rates of industrial output from the first to the second plan can be explained by several factors. First of all, the collectivization process was less traumatic (both economically, as will be seen once the agricultural results are assessed, and socially) during the second plan period, leading to a greater agricultural production that increased the amount of raw materials for the industrial sector. Furthermore, the investment in capital goods industries made in the first plan lead to a major growth capacity for the industrial sector during the second plan. Finally, a certain component of learning-by-doing or adjustment can be considered to explain this difference in the results.

GDP growth by sector in the Soviet Economy

	<i>1937 value added</i>	<i>1928</i>	<i>1932</i>	<i>1937</i>
Agriculture	107.2	1.00	.79	1.08
<i>Industry</i>				
Factory consumer goods	15.4	1.00	1.12	1.79
Kustar consumer goods	.2	1.00	.29	.11
Materials	39.0	1.00	1.84	3.49
Machines	6.0	1.00	2.99	11.40
Military	5.0	1.00	1.50	25.00
<i>Services</i>				
Construction	10.5	1.00	1.73	2.72
Transport and communication	16.8	1.00	2.08	3.58
Trade and restaurants	86.4	1.00	1.16	1.73
Government and services	48.4	1.00	1.35	1.88
Industrial output		1.00	1.46	2.94
GDP index	334.9	1.00	1.07	1.63

Table 5.5. Source: Allen, R. C. (2003). *Farm to factory: A reinterpretation of the Soviet industrial revolution*. Princeton University Press.

Nevertheless, it can be pointed out that a process of structural change in the soviet economy was engaged with the First Five Year Plan, as industrial weight over the total value of the national income increased during the first plan period according to Allen, R. C. (2003). This last statement can be confirmed by the previous table.

Apart from the growth segmentation between the different types of industries (among which machinery and materials have the highest rates of growth for the First Five Year Plan period), it is important to remark that industry grew at a markedly faster rate (during the whole period) than GDP, leading to an increase in the weight of industrial output over the total GDP of the soviet economy.

Regarding the productivity in industry, it is relevant to highlight that even though, according to Wheatcroft, S. G., Davies, R. W., & Cooper, J. M. (1986) “after the substantial investment in industry, labour productivity (output per person-year) increased substantially over the period 1928-1941 as a whole”, during the first years of the industrialization process, hence during the First Five Year Plan, a mass introduction of industrial workers leading to an initial reduction of the productivity in the industrial sector.

All in all, it can be stated that the industrial sector was the main source of economic growth during the First Five Year Plan period.

5.3.3 Agriculture

The agricultural sector can be presented as a sector that did not achieve any impressive positive growth. In this regard, it has been remarked by several authors²⁶ that the introduction of the collectivization process at the late 1920's had disastrous consequences on agricultural output. In particular, livestock and dairy products suffered the worst decline among all agricultural products, as Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) “Between 1928 and 1933 the number of cattle fell by 44 per cent, of pigs by 55 per cent, and of sheep and goats by as much as 65 per cent. This decline – except in the case of pigs – was far greater than that which had occurred as a result of the six years of world war and civil war between 1914 and 1921.”. Nonetheless, there were some exceptions to the general decrease of agricultural output during the first plan period such as raw cotton output, although those exceptions are scarce.

Hence, it is illustrative to this last statement the results presented in Table 5.6., which show a decrease in total agricultural production in 1933 compared to that in 1928 by 16.35% which for animal products is even worse leading to a reduction of 52.60% of 1928 total output.

Annual gross output of different agricultural products 1928 – 1933 (millions of rubles at base period prices)

Year	Grains	Animal products	Other crops	All output
1928	4,148	7,136	7,935	19,219
1929	4,114	6,722	7,860	18,696
1930	4,441	5,209	8,572	18,222
1931	3,987	4,845	9,026	17,858
1932	3,729	3,903	9,176	16,808
1933	3,844	3,382	8,850	16,076

Table 5.6. Source: Hunter, H. (1988). Soviet Agriculture with and without Collectivization, 1928-1940. *Slavic review*, 47(2), 203-216.

²⁶ Allen, R. C. (2003) and Davies, R., W. Harrison, M., & Wheatcroft, S. G. (1994).

Nevertheless, although the introduction of the collectivization process during this period can be considered as one of the main causes for this reduction in agricultural output, it was not the only one. In that sense, it can be pointed out that the delivery quotas leading the *Otovarivanie* system was also an influential factor on the reduction of livestock and dairy products. Hence, excessively high delivery quotas on grain lead to a shortage of it to feed livestock. Furthermore, Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994) also outline bad weather conditions as one of the causes of the global decline in agricultural output. Finally, the lack of skilful peasants brought about by the suppression of the *Kulaks* and the not fully developed program of agricultural specialists presented in the collectivization section²⁷ can be presented as reasons for this output reduction.

As a result of those shortages in agricultural products, the Soviet Union suffered a famine from 1932 to 1933. In that sense, according to Davies, R.W. and Wheatcroft S.G. (2016), deaths were estimated to be between 5.5 and 6.5 million people²⁸.

However, outside the output evolution, the agricultural sector benefited from the industrial achievements that have been presented previously in this work. Consequently, the mechanisation of the countryside lead to an increase in the number of tractors from 2.4 thousand in 1929 to 122.3 thousand in 1933 according to Ladejinsky, W. (1934).

5.3.4 Foreign Trade

The foreign trade situation for the Soviet Union during the First Five Year Plan did not improve from that of the last years of the NEP, in fact, it even worsened. However, it is remarkably important to consider the international trade situation in order to explain the evolution of imports and exports of the Soviet Union during the period.

In that sense, the volume of world trade fell by one quarter between 1929 and 1932 according to Wheatcroft, S. G., & Davies, R. W. (1985). The consequence of this reduction of world trade was the sudden wave of protectionism and falling prices due to the Great Depression. Moreover, the grain and primary products in international markets suffered an impressive price collapse that lead to an important terms of trade decline for those countries that based their export sector in primary products exportations, as was the case of the USSR. Hence, the Soviet Union experienced a sharp decline in its terms of trade as Figure 5.3. shows.

²⁷ See from page 36 to 38.

²⁸ For a deeper analysis on the subject see Davies, R., & Wheatcroft, S. (2016).

Nonetheless, to deal with this adverse international situation, the Soviet Union had a state monopoly for trade as during the NEP²⁹ that allowed the government to have more control over the trade situation. In that sense, soviet exports initially increased as a result of the government policy to expand exports in order to be able to continue with the imports expansion to facilitate the industrialization process. However, the price decline in primary products made it impossible for the government to achieve any surplus during the first plan. In fact, the Soviet foreign debt more than doubled between 1929 and 1931 according to Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994).

Soviet Terms of trade evolution during the First Five Year Plan (1913 = 100)

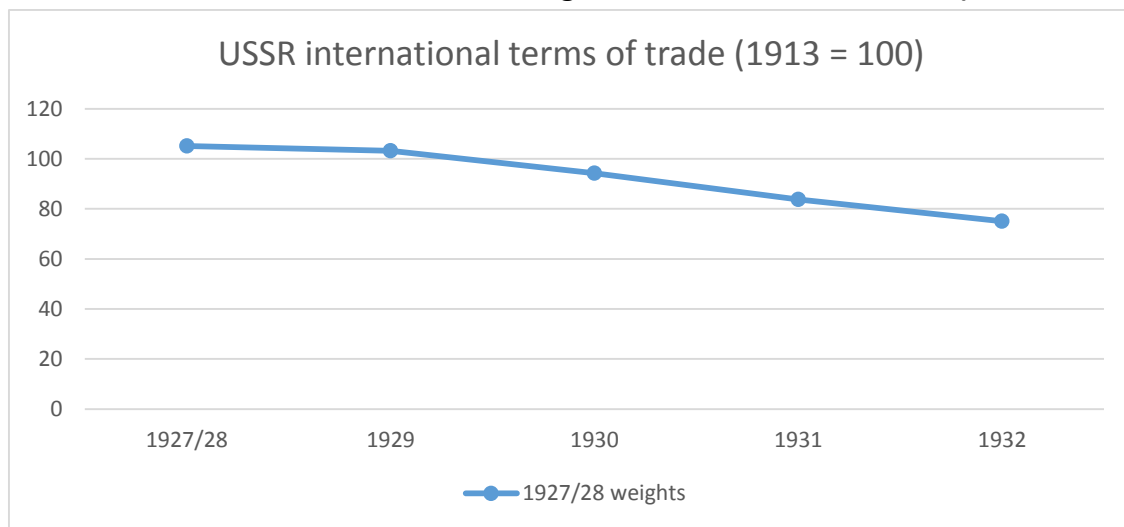


Figure 5.3. Source: Davies, R. W., Harrison, M., & Wheatcroft, S. G. (1994). *The economic transformation of the Soviet Union, 1913-1945*. Cambridge University Press.

²⁹ See page 15.

VI. DISCUSSION

The aim of this chapter is to present some of the most relevant considerations and ideas that can be deduced from the previously presented analysis of the NEP and the First Five Year Plan. Furthermore, a comparison between both growth strategies as well as the limitations that this work presents will be stated in this chapter.

First of all, it is important to outline the fact that many differences between the NEP and the Five Year Plan can be found. In this sense, differences have been divided into three different aspects: The functioning and organization of the two systems, the objectives of both strategies and finally, their results.

Regarding the functioning and the organization of both systems, it is clear that both present different dynamics for resource allocation. Hence, the New Economic Policy (1921 – 1928) introduced in the Soviet Union a market economy in which the state had an important presence in several sectors of the economy. Consequently, the NEP transformed the functioning of the Soviet economy from war communism to a state capitalism system (or mixed economy). Additionally, it should be stated that this last point is extremely relevant in order to corroborate the hypothesis presented in this work as the NEP may not be defined as a socialist economy. However, it must be said that an important percentage of the industrial sector was socialized (either directly managed by the state or owned by the state but managed by relatively independent boards of directors (trusts)). Hence, there were sectors in the economy that were socialized, although the whole Soviet economy during the NEP cannot be classified as a pure socialist economy.

Concerning the First Five Year Plan (1928 - 1932), market dynamics partially disappeared and resource allocations were done through central planning and rationing in some cases. Thus, it might be considered that the First Five Year Plan led to a transformation of the mixed economy of the NEP into a socialist economy and consequently, there appears to be a fundamental differentiation between both growth strategies regarding its functioning and organization.

As for the objectives of both growth strategies, the industrial sector expansion was the main goal of the First Five Year Plan³⁰ whilst the NEP had no such preferences (its main objective could be defined as the economic recovery from the War communism period).

Additionally, it can be said that those different objectives came from different contexts as for the NEP period, the Russian SFSR just came out of 7 years of war with an extremely authoritarian economic system such as war communism (1918 – 1921). In that sense, this last growth method was limited by its context to provide any kind of transformation

³⁰ See Dobb, M (1946).

in the Soviet economy (as the first plan did) as the NEP adjusted to a demand for less state intervention, specially stated by the peasantry as well as to the need to recover the economic levels of the pre-war years. Nevertheless, the context may not be the only reason for the no economic transformation of the Soviet Union during the NEP. It can be stated that a lower state intervention in an economy may lead to a process of investment assignment that follows a potential rate of profits logic rather than an economic transformation logic *per se*.

Concerning the economic results of both growth systems, it is important to assess its results comparatively. First of all, it should be pointed out that this work has focused on a sectorial analysis of the results of each growth strategy. In that sense, the economic analysis of the results could be expanded to other aspects (for instance equality or living standards), hence the analysis presented in this work has limited exclusively to the study of economic growth and the factors that influenced it.

Taking into account everything said before, the growth rates presented during the NEP period are much higher than those during the First Five Year Plan. However, it is the case since the NEP period involved the recovery process, which presented impressive rates of growth during the first years of the NEP (until 1926) boosted by the recovery of the productive capacity of the economy. Additionally, rates of growth for the last years of the NEP (1926 – 1928) are very similar to those obtained during the First Five Year Plan period³¹. Nonetheless, growth during the NEP period can be considered to have been a balanced one since both the industrial and agricultural sector grew and recovered its pre-war levels. However, the First Five Year Plan presented an unbalanced growth among the different sectors of the economy.

Consequently, the First Five Year Plan was able to start a process of transformation in the Soviet economic structure leaded by an intense growth of the industrial sector. In that sense it is worth noticing that although the results of the plan did not match the expectations ³², the Soviet economy undoubtedly engaged in an economic transformation process, which was at the end, the main goal of the plan.

However, the First Five Year Plan also presented some results that can be classified as failures, such as the collectivization of agriculture. In that sense, it is important to highlight the unnecessary nature of this process in order to achieve a successful process of industrialization. Consequently, it can be considered that a policy to increase the agricultural marketing might have avoided the decline experienced in agricultural output during the period and may have allowed the industrial sector to grow at a similar rate to the one it actually grew. Alternatively, a collectivization process in which peasants could freely decide the type and degree of collectivization could also have avoided the decline in agricultural production since no mass slaughter of peasant's cattle

³¹ See Table 4.3 and Table 5.3.

³² See page 41.

would have been made. Nonetheless, all those statements should be analysed in other works and in more depth to reach a proper conclusion on this topic. All in all, the First Five Year Plan can be presented as a partial success since even though not all goals were achieved, it started the industrialization process of the USSR.

On the other side, generally speaking, the New Economic Policy could be classified as a successful policy regarding its results. Nevertheless, it also presented some failures regarding its results, such as the inability to recover the pre-war exportation levels or the price instability of the initial years of the period.

To conclude, it must be pointed out that distinctions have been found. Moreover, further assessments on the way the NEP and the First Five Year Plan functioned and introduced economic growth have also been done. In that sense, this work has introduced a new perspective on the NEP and the first plan growth strategies since the comparison of them has shed light on the establishment of a clear differentiation between both growth strategies.

VII. CONCLUSIONS

In conclusion, differences can be found between both growth strategies which embrace structural and functional factors, the dynamics and preferences as well as the proper results in different sectors. Furthermore, it can be said the first years of the Soviet Union, presenting an important variety in the organization and functioning of their economy, national income growth never stopped. Hence, strategies to boost economic growth (New Economic Policy and the First Five Year Plan) with different ideological and economic perspectives can be considered as a success in a low developed country as the USSR at the 1920s and 30s.

Moreover, another important conclusion of this work is the fact that, between 1921 and 1928, the Soviet economy did not have all sectors of the economy socialized, leading to an economy that should not be defined socialist. On the other hand, the Soviet economy during the First Five Year Plan presented a totally socialized industrial sector as well as an almost completely collectivized agrarian sector leading to a socialized economy.

Additionally, the economic results obtained in the NEP and the First Five Year Plan both presented important growth rates. However, differences between economic sectors (especially during the First Five Year Plan) regarding their results can be stated if the agricultural, industrial and foreign trade economic sectors are analysed. In that sense, different contexts, objectives, organization and functioning of the economy can explain these differences in the results of some economic sectors. Consequently, it can be pointed out that the main source of growth during the First Five Year Plan was the industrial sector, whilst the growth during the New Economic Policy period was far more diversified among the different economic sectors.

Furthermore, this differentiation in economic sector results explains the industrialization process occurring in the Soviet Union that started with the introduction of the First Five Year Plan (1928 – 1932). Concretely, this industrialization process occurred due to the establishment of such a process as the main objective of the first plan and the investment assignment policy in a planned economy framework.

In a nutshell, economic growth can be observed for the two growth strategies analysed in this study, however, different growth sources and economic functioning (socialized economy or not and planned economy or market economy) differentiate the NEP and the First Five Year Plan.

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IX. ANNEX

Industrialization levels (UK 1900 = 100)

Table 8.1 Source: Broadberry, S., & O'Rourke, K. H. (2010). *The Cambridge Economic*

	1750	1800	1830	1860	1880	1900	1913
Great Britain	10	16	25	64	87	100	115
Belgium	9	10	14	28	43	56	88
United States	4	9	14	21	38	69	126
France	9	9	12	20	28	39	59
Germany	8	8	9	15	25	52	85
Austria-Hungary	7	7	8	11	15	23	32
Italy	8	8	8	10	12	17	26
Russia	6	6	7	8	10	15	20
China	8	6	6	4	4	3	3
India	7	6	6	3	2	1	2

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Russian GDP per capita compared to the one of western European countries and Offshoots

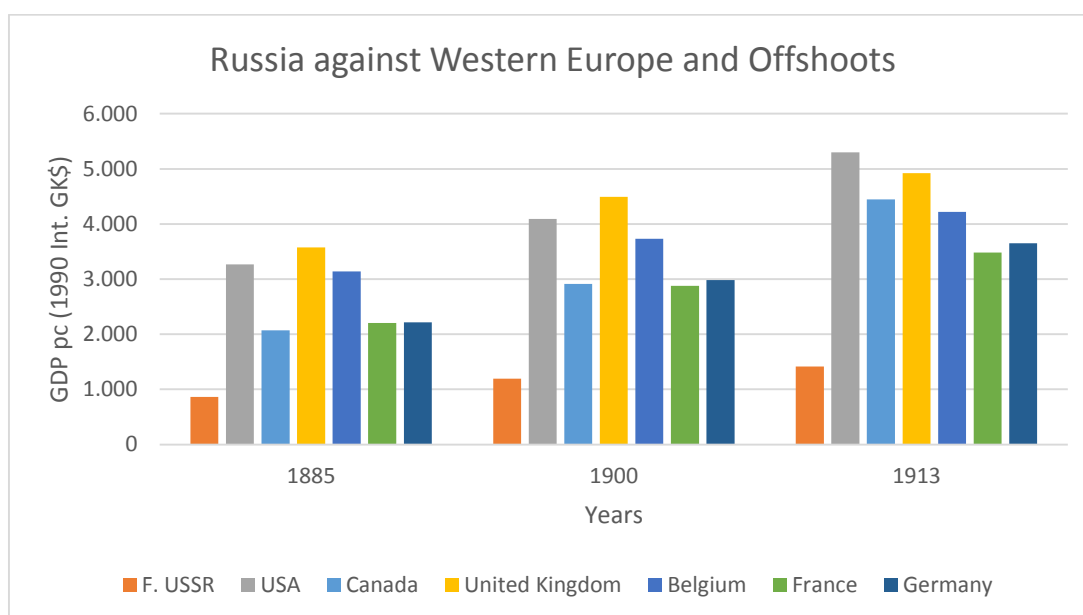


Figure 8.1. Source: The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version

GDP per capita evolution of low developed countries compared to the USSR (1927 – 1932)

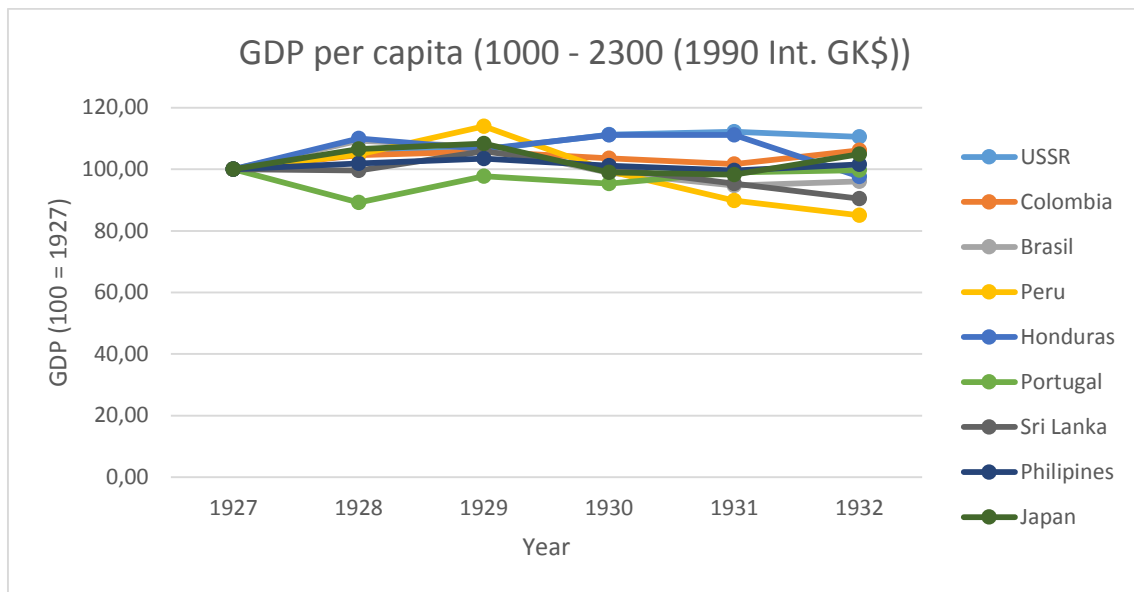


Figure 8.2. Source: The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version

GDP per capita evolution of developed countries compared to the USSR (1927 – 1932)

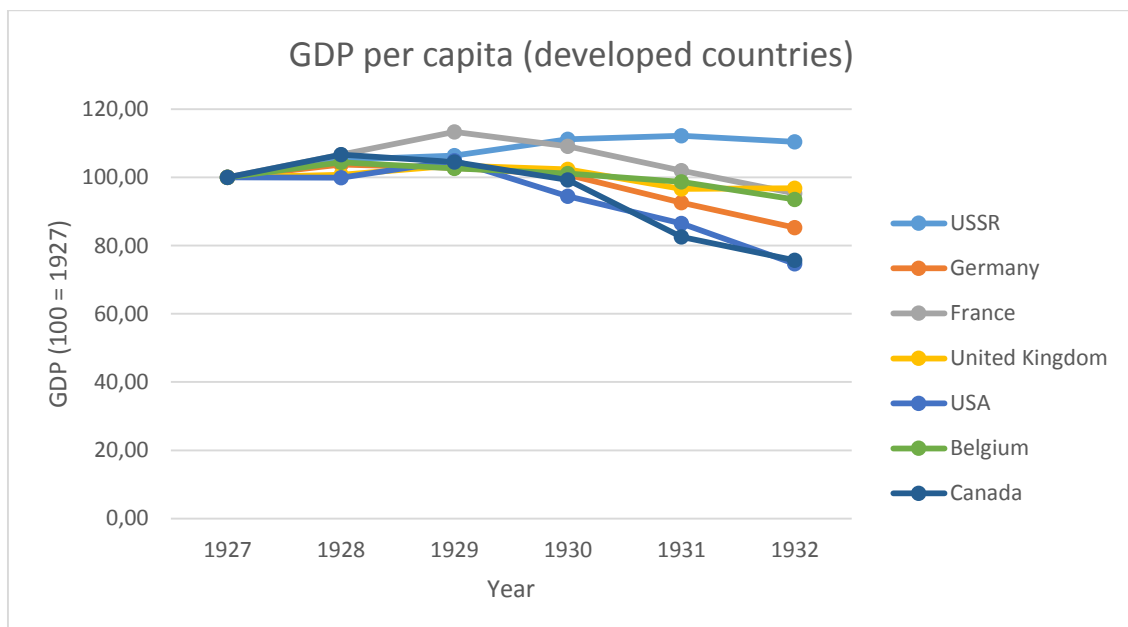


Figure 8.3. Source: The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version