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**The theories of János Kornai and a less known Hungarian economist,
Ferenc Jánosy on unbalanced economic growth****

(First Draft)

ABSTRACT

Although it may sound surprising today, the pace of economic growth in Hungary appeared to be too high in the 1960s. While the professional planners and policy makers were essentially content with the (then) measured 5-6 point average growth of national income, the books of two outstanding theoretical economists, János KORNAI and Ferenc JÁNOSY expressed doubts and attached disapproving labels to the measured rate of growth. In Kornai's terminology the growth path of the Hungarian economy was labelled as "unbalanced", while Jánosy spoke of "quasi development". The present paper revisits the two books of the two men, Jánosy's *The End of the Economic Miracle* (1966) and Kornai's *Rush versus Harmonic Growth* (1972). The paper shows that the two concepts of growth and the similar conclusions pertaining to the "too high" pace of the contemporary Hungarian growth rate rested on different theoretical bases. Jánosy was a Marxist, and the labour theory of value was his starting point. Kornai, by contrast, broke with Marxism well before he wrote the cited book. But there was a common moral point of the two authors: they both had the courage and the energy to think through scrupulously and comprehensively the experiences of the classical model of the planned economy.

Keywords: economic growth, planned economy, disequilibrium, suction and pressure, shortages

JEL codes: B24, D24, D50, E11

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Introduction

Although it may sound surprising today, the pace of growth in Hungary appeared to be *too high* in the 1960s for at least two far-sighted theoretical economists. This happened at a time, when it was considered trivial by virtually all economists that the higher the growth rate, the better for everyone. The two main heroes of the present paper, János Kornai (b. 1927) and Ferenc Jánosy (1914-1997) were then about the same age and they knew each other. They were both fairly renowned in academic circles, but both of them belonged to the “politically tolerated” category of intellectuals. This meant, that they were allowed to work in middle-level research position, could travel to the West if they were invited and were allowed to publish their writings both at home and abroad. But their influence on policy making was indirect at best and – just like everybody else working in the field of social sciences – they were obligated to exercise self-censorship in all of their publications. When the two books were published, neither Jánosy, nor Kornai was allowed to teach at the Karl Marx University of Economics, the flagship institution of the country at that time. Kornai doesn’t need any personal introduction – especially not at the present conference entirely devoted to his *oeuvre*. But Jánosy was less prominent, and is hardly known today among Hungarian economists of the young generation. This is what the readers need to know about him.

Jánosy was the adopted son of the internationally well-known Marxist philosopher, Georg Lukács (1885-1971). He grew up with his parents in Austria and Germany, then worked and completed his engineering studies in the Soviet Union between 1933-46 as a communist *émigré*. Between 1942-1945, he spent three years on the Gulag, in a Soviet forced labour camp based on false accusations. He returned to his native Hungary in 1946 – i.e. after World War II. For biographic reasons, German remained Jánosy’s first language throughout his life; therefore everything he wrote in German had to be translated “back” into Hungarian. His most original idea that made him widely known was that the main driver of the great post-war boom in Germany, Italy, Japan and in Central and Eastern Europe was its reconstruction character. The countries mentioned in the previous sentence merely returned to what he called the pre-war “trendline”.¹ Focusing on industrial production he demonstrated that all post-war economic “miracles” lasted only until production levels reached the levels they should have done had there been no war.

The works of our two authors I am dealing with in this paper were written and published about the same time. Jánosy’s book, *The End of the Economic Miracle* came out in the first Hungarian edition in 1966, while Kornai’s book *Rush versus Harmonic Growth* appeared first in the form of a series of lectures in the Netherlands in the Spring of 1971.² In Kornai’s work, Jánosy’s important publications were duly referenced and quoted in the spirit of full agreement. Subsequently, Jánosy’s book was re-written for a second Hungarian edition in 1975 (this is the version I am using in this paper), while Kornai’s manuscript got a final book-

¹ For a recent, English language study on Jánosy’s post-war reconstruction theory, see Vonyó (2008).

² Kornai was invited to lecture at the annual F. de Vries Foundation seminar series in Rotterdam to honour the memory of the renown Dutch economist who died in 1958.

form in 1972. It is important to note, that these two books made exceptional carrier outside of Hungary, too. Jánosy's book was published in German (1966), Czech (1969), English (1971), French (1972) and Spanish (1974).³ Kornai's work was translated into English (1972) and then to Czech and Spanish (1977). I cannot think of any other Hungarian economists – dead or living - achieving anything close to this international reputation and presence.

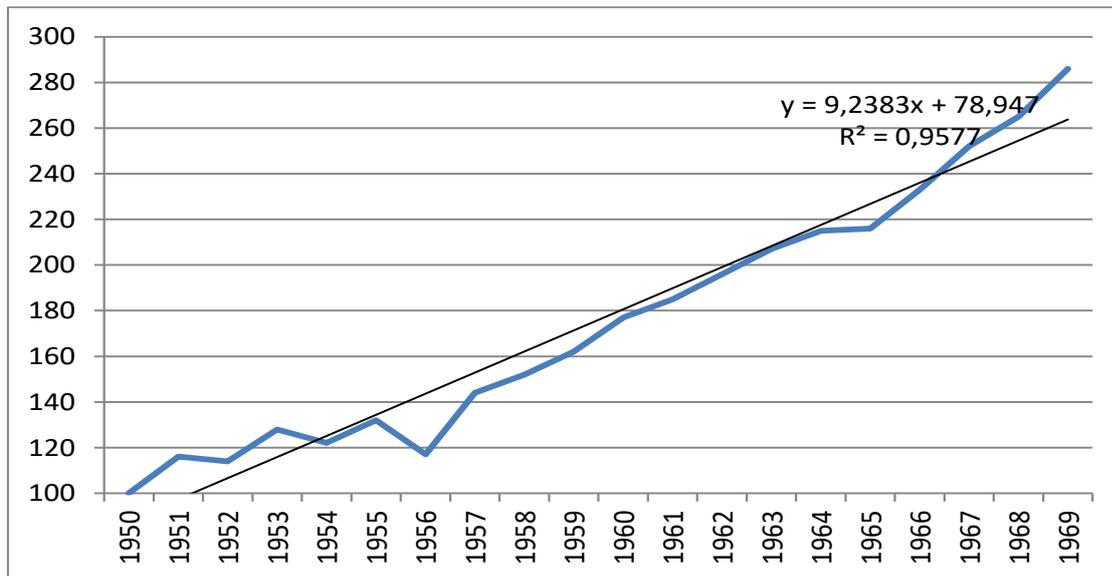
Rush versus Harmonic Growth

Kornai's story started with a descriptive narrative. On p. 5 he quoted the official figure of the Hungarian Statistical Office (HSO) published in 1971, according to which the rate of growth on average was more or less “steady” in the “two previous decades”, meaning the years from 1950 to 1969. For obvious reasons, the closing year of the analysis was pre-determined: there were no later figures available at the time of writing the book. The starting year, 1950 was both a statistical convenience (there were no official CSO figures for the 1945-49 period), and an analytical tool. The planned economy system, based on Marxist doctrines and emulated Soviet practice got its consolidated shape in Hungary about that time. In a later work Kornai (1992) extensively argued why it make sense for him to label this period as the “classical period of socialism” in Hungary, which ended in 1968 with the introduction of important and very ambitious reform measures initiated by the Hungarian party-state (*The New Economic Mechanism*). The precise figure which was starting point of Kornai's analysis on the above mentioned page was 5.7%. If we go back to the original CSO publication, one can easily find out that here Kornai used the national income time series at constant prices, and the rate of growth was calculated as the average annual rate of change between the two extreme years (Graph 1). In other words, the short-term fluctuation of growth was simply disregarded. Using a simple trend-fitting function of an EXCEL spreadsheet (a tool which didn't exist in 1972), as a first approach we can only agree with Kornai: the trend carried the interesting story and not the numerous up and downward deviations from it.

³ I have found indirect references to a Japanese translation as well, but I failed to confirm this information.

GRAPH 1: THE GROWTH OF NATIONAL INCOME IN HUNGARY, 1950 – 1969

(1950 = 100)



Methods and source: Author's calculations. Volume indices, taken from official CSO data.

Evaluating the 5.7% growth rate this is what Kornai had to say:

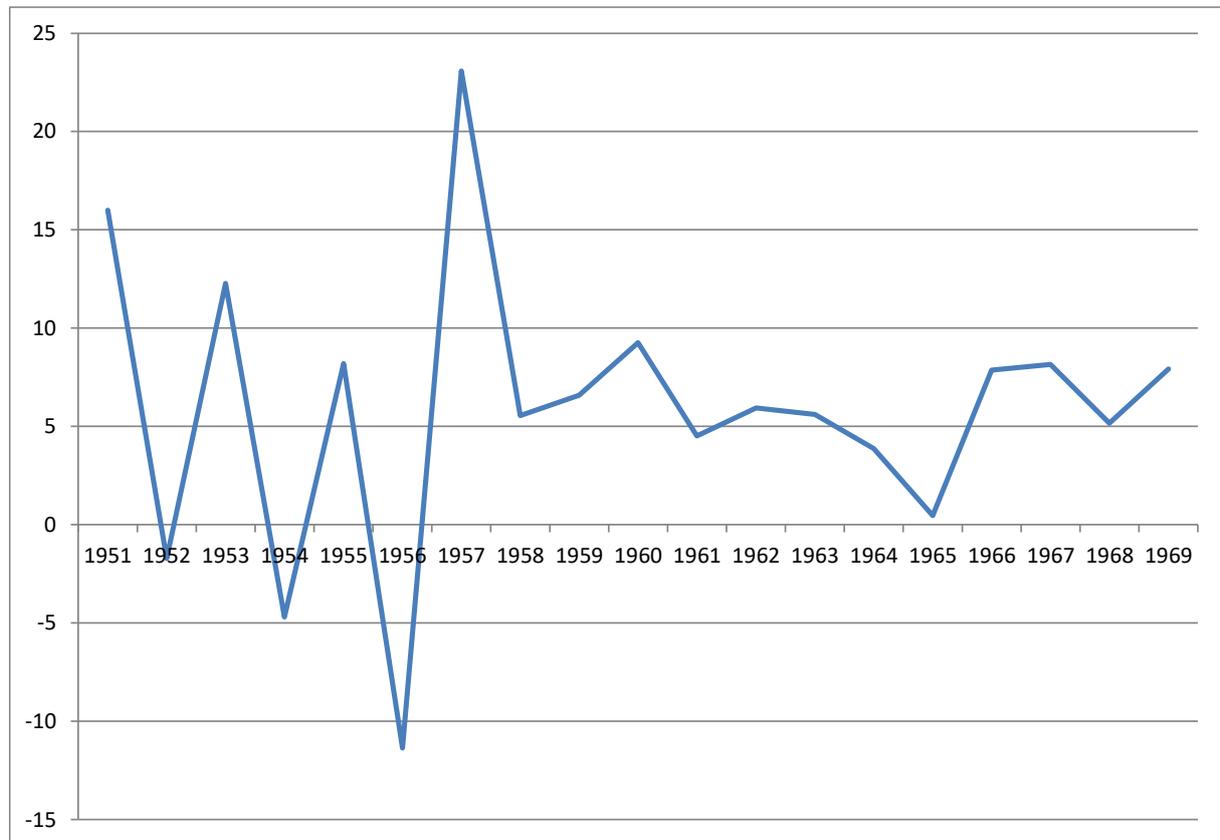
“Apart from minor fluctuations, the growth rate was stable in the past two decades. (...) This is not a bad performance in itself, but growth is faster in many other countries. From among the socialist countries, the rate of growth is higher in Rumania or Poland; from among the capitalist countries, however, it is higher not only in Japan, recently also in Spain of Greece.” (pp. 5-6)

With the benefit of hindsight, however, we can only regret that Kornai didn't think of helping his readers with a visual presentation from another angle. In a very important way, the impressive overall 5.7 growth rate hid something: the “minor fluctuations” were not negligible at all. In fact, they were alarmingly large (Graph 2).⁴

⁴ It is worth noting that another contemporary Hungarian economist, András Bródy (1972, 1983) was already working on the „cycle” problem, but the most valuable research results were born only in the second half of the 1970s. See Soós (1976), Bauer (1978) and Lackó (1980). For a detailed overview of this literature see Mihályi (1992).

GRAPH 2: THE ANNUAL CHANGE OF NATIONAL INCOME IN HUNGARY, 1951-1969

(Annual change)



Method and source: See Figure 1.

But Kornai's main concern in the book we are discussing now was something else. As a Hungarian citizen, living in the country and experiencing the quickly changing living conditions, and – also importantly – as an active participant of the medium-term planning works under the control of the National Planning Office, he saw an **intrinsic contradiction** between the relatively high (“not bad”) rate of growth on the one hand, and the annoying shortcomings of the classical model of the planned economy system on the other. He interpreted this contradiction with a metaphor, characterising the “soul” of the central planners. On the one hand, planners tried to do everything in order to maximize the rate of growth of production in the short-term, but at the same time they had to take into account other needs serving growth only in the long-term. Without saying in an explicit form, Kornai's main conclusions were clear for his sufficiently sophisticated Hungarian readers.

(i) The everyday problems of the Hungarian economy which annoyed and infuriated the men of the street (above all the shortages and the poor quality of consumer goods) were not caused by mistakes in the central planning process or by the improper execution of the plans. These problems were inherently “coded” into the system as such and they will not disappear automatically with time – as many contemporary politicians and ordinary communist party members honestly believed.

(ii) Kornai showed through many examples and statistical facts, that the earlier "not bad" rate of growth (the many times quoted 5.7%) was not sustainable in the long term, therefore the Hungarian economy is likely to slow down in the 1970s and the decades after that.⁵

(iii) With a few cautious references to the experience of other contemporary socialist economies, Kornai demonstrated that the likely slowdown is not a unique Hungarian phenomenon; the same danger threatens the other socialist countries. Thus, if the average past and present growth rates are not sustainable in the long-term in any of the socialist planned economies, the promised catching up of the "socialist camp" with the capitalist world will not materialize, as it had been solemnly promised by Soviet leaders.⁶

Cutting a long story short, in this slim book (86 pages in the original Hungarian edition), Kornai has elaborated a 12-point list of requirements serving the long-term growth process and showed that – *ceteris paribus* – the investments necessary to achieve these objectives will dampen the growth of national income in the short term. In fact, this contradiction – or using a well-known technical term of the economic profession: the trade-off – was reflected in the title of the book: *Rush versus harmonic growth*. If you rush, you can run faster from point A to point B. However, if you are concerned about tomorrow and the years and decades to come, you have to make sure that you create the conditions of fast running for the next generations, as well.

Table 1 below summarizes a long list of goals constituting the framework of a harmonic (or balanced) path formulated and discussed in Kornai's book. For the sake of brevity, I summarised them into 12 headings, although in Table 3 of the book, these 12 goals are further broken down to sub-goals, and thus their total number run to 23.

⁵ In fact, the English language edition contains a short comparison between the first and second decade of the planned economy in Hungary – a sentence missing from the Hungarian edition. According to this, the average growth was 5.9 percent in 1950-59 and merely 5.5 percent in the 1960-69 period. Thus, the first sign of the slowdown was already noticed by Kornai.

⁶ As it was widely publicized in all socialist countries, even the date of the „catching-up” was known. Outperforming America so possessed N. Khrushchev that, defying prudence, he included it as the main economic task in the party program adopted in 1961 by the last party congress, the 22nd, which he controlled. There he even stated the exact year -- 1980 -- when this goal would be achieved, and the USSR, as the program stated, "will have left the USA far behind."

TABLE 1: THE MOST IMPORTANT REQUIREMENTS OF BALANCED GROWTH

1	Continuous rise of consumption	7	Structural proportionality in the non-competitive productivity
2	Proportionate satisfaction of consumer needs (elimination of shortages)	8	Up-to-dateness of production technologies
3	Incentive and equitable distribution of income	9	Equilibrium of trade and balance of payments
4	Social protection (full employment, health and pensions, public safety)	10	Careful maintenance of reproducible of physical capital
5	Care about the next generation	11	Protection of environment and nature
6	Fast development of education	12	High levels of state reserves

Source: Author's compilation based on Table 3 in Kornai (1972).

Kornai's main concern was that in the first two decades of socialist central planning for the ambitious rate of growth dictated by the central planners, the country had to pay a high price in the form

- a) direct sacrifice
- b) indefinite postponement and
- c) neglect.

The rapid industrialization of the Hungarian economy simply didn't leave room for the proportionate satisfaction of consumer needs. In the sphere of retail trade, permanent shortages meant that buyers had to give up their personal preferences (sacrifice). If there was meat in the shop at all, customers had to queue for a long time. If urban families wanted to rent an apartment from the state, they had to wait for many years. If they wanted to buy a passenger-car; they couldn't because the Ministry of Foreign Trade was unwilling to import (indefinite postponement). Since planners' main preference was to build more and more new factories, there remained not enough resources to maintain the existing production capacities, to keep roads, bridges and other infrastructures in good shape, etc.

With the benefit of (better) hindsight, we can identify one more negative consequence of the forced growth/industrialization policies of the 1950s and 1960s. From memoirs and archives we know today, that the 5.7 per cent steady growth was partly financed from brutally expensive hard currency loans provided by Western private banks. Although the country's indebtedness was very small by the standards of today, but they were dangerously high if compared to the country's hard currency generating capacity of those decades.⁷ For the contemporary analysts, the relevant data were not accessible. This is the reason, why Kornai didn't even mention this problem.

Almost at the very end of this short book, Kornai draws the readers' attention to his "recently" written book, *Anti-Equilibrium*, and the theoretical links between the two books. "Rush is a

⁷ Mihalyi (2013).

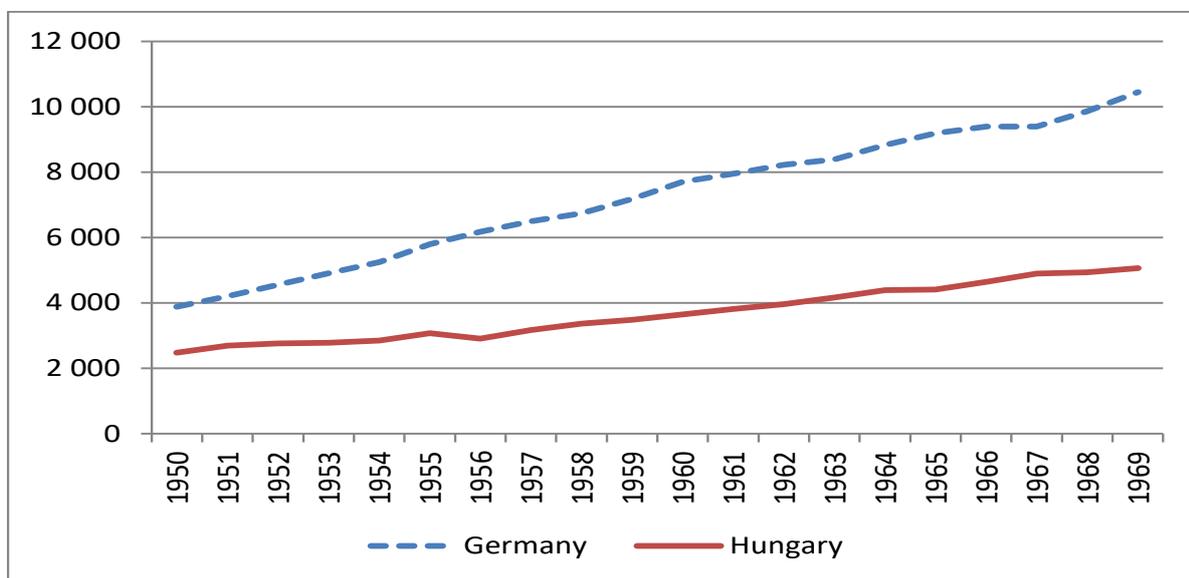
possible path of economic growth”, he explains but on such a policy path shortages are prevalent in many parts of the economy. *“Rush claims great investments. Its financing takes place partly in an inflationary manner: purchasing power swells. On the other hand, government price control puts a brake on the rise in prices. Repressed inflation then leads to excess demand, to ‘suction’ (or shortage – P. Mihalyi’s addition). (...) As long as in major fields investment tension, suction, disequilibrium persist, we (i.e. Hungary – P. Mihalyi’s addition) are at most half-way between forcing the rate of growth and harmony, but we have not yet consistently taken the path to harmonic growth.”*⁸

The End of Economic Miracle

As we already outlined in the Introduction, the starting point of Jánossy’s narrative was not Hungary, but (West-) Germany and other fast growing post-war economies (including the Soviet Union). Both for cultural and economic reasons, the case of the Federal Republic of Germany was the most interesting reference country for Hungary. In the 1950s and the 1960s, the German economy displayed similarly steady and even higher growth rates than Hungary (GRAPH 3).

GRAPH 3: THE GROWTH OF PER CAPITA GDP IN GERMANY AND HUNGARY, 1950-1969

US dollars

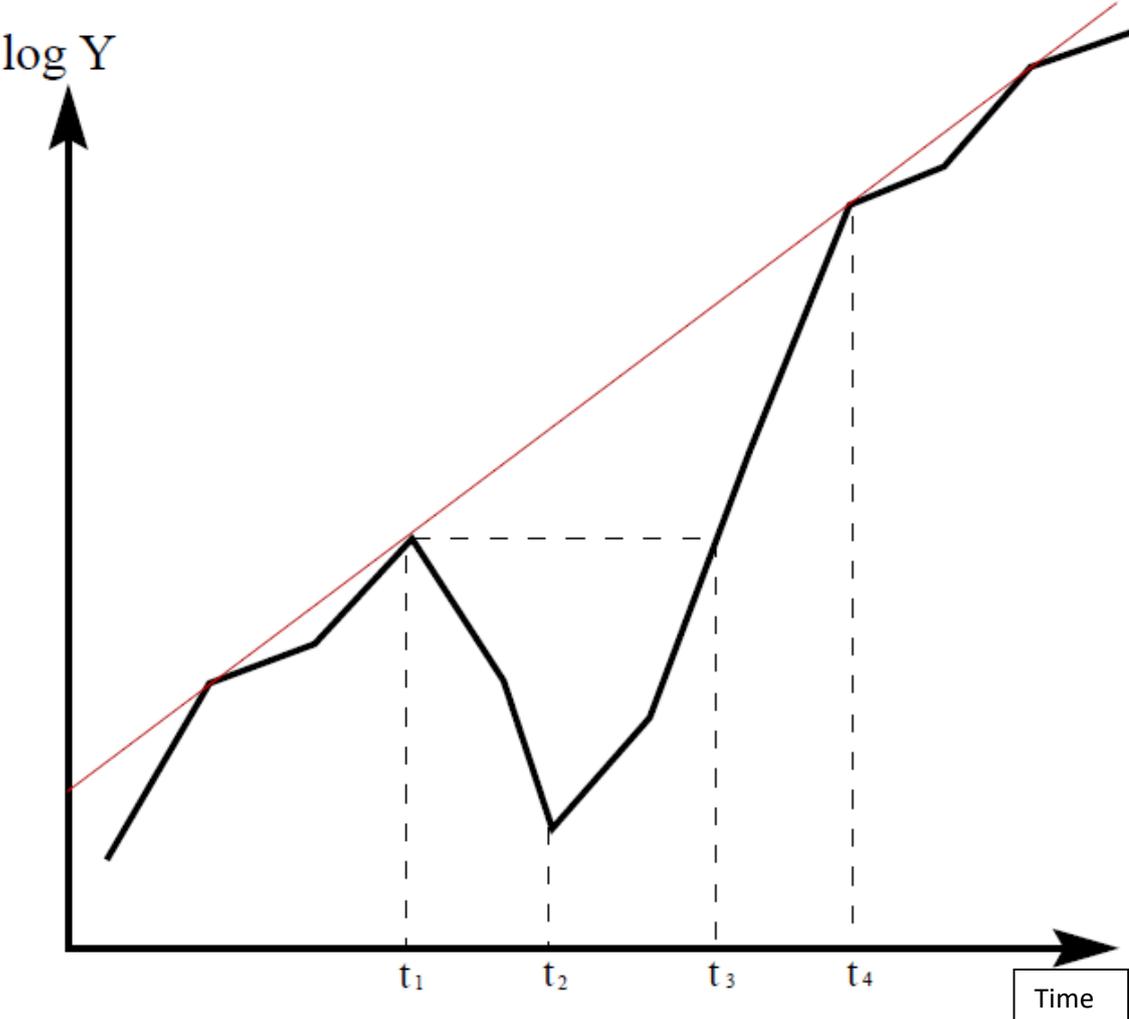


Source and method: Author’s compilation, based on Maddison (2010), expressed in 1990 GK international dollars. GRAPH 1 and GRAPH 3 cannot be directly compared, because the underlying data were calculated differently in more than one aspect (national income vs. GDP; volume indices vs. 1990 constant prices at PPP parities, output vs. output per head, etc.).

⁸ *op. cit.* pp. 133-135.

Jánosy's main contention was that the recorded high average growth rates were not sustainable neither in Germany, nor in Italy or Japan. As already noted above, Jánosy was a Marxist, for him the ultimate source of economic growth was human capital, more precisely the rise in labour productivity, which in turn was driven by the qualitative improvement of average working skills. In every year, a certain number of old workers are leaving the labour market, while new, younger and more productive workers enter the market at the same time. On the basis of past statistical data, Jánosy's estimate for average long-term growth arising from the change of generations was in the order of 2 percent per annum. This is what he called the "trendline" of growth. If the average growth rate was higher than 2 percent for a longer period of time (as indeed it was in Germany and Japan in the first 15 years of the post-war period), this must have been attributed to special, temporary factors, such as the post-war reconstruction. Post-war reconstruction is relatively easy and "cheap", Jánosy asserted, when the existing, but partially broken or dismembered machines and buildings could be repaired with relatively little investment, and those workers who survived the war could return to normal production and use their *previously* acquired skills without any further education or training.

GRAPH 4: JÁNOSY'S TRENDLINE OF GROWTH DURING A POST-WAR RECONSTRUCTION



For Jánosy, as well as for many contemporary economists the most challenging question was whether or not the long-term average growth rate can be increased with some kind of “smart” economic policies *above* the 2% “trendline”. He considered three seemingly trivial options.

More investments? One theoretical possibility – which was actually tried by the central planners in Hungary – was forced industrialization, keeping the share of investments high in the use of national income, or “Rush” to use Kornai’s terminology. In Jánosy’s formulation, the dilemma was as follows. In the manufacturing sector forced industrialization usually evolves through loss making investments, because it takes years for the newly built factories to produce high quality products. To pursue such a policy may makes sense, Jánosy said, only if and when the loss-making investments help significantly the training and the upgrading of the working force in the enterprise concerned. In fact, the internationally well-known concept of “learning by doing” was discovered by Jánosy independently from Arrow. More importantly, his own formulation - learning from the machine - was more illuminating than that of Arrow (1962). As Jánosy wrote “*cutting can only be learned at a lathe, crushing at a milling machine, and driving at the wheel of the car. (...) This transfer of knowledge through the means of production is of particular interest (...) because this is precisely what causes the misleading impression that perfection of machinery is the primary factor of economic development*” (*op. cit.* p. 209). Due to this important link, there is no real substitution between capital (C) and labour (L). Both of them are needed – simultaneously at a given point of historical time and in more or less fixed proportions.

The example of the Soviet industrialization drive in the 1930s proved that such policies were indeed sustainable for quite a time. Between 1928 and 1940 the Russian economy grew by 3.8 percent annually, much faster than Germany (2.3%) or the United States (0.5%).⁹ Millions of peasants were brought into the newly built industrial towns and factories were equipped with imported machinery. The investment decisions were largely based on military and ideological considerations, profitability and the rate of return on the investments were of very little importance. But there were two painful by-products of such a policy based on the presumption that allocative efficiency of assets doesn’t count. Firstly, to maintain such a system, the state needed a large and brutal oppressing apparatus, because these loss-making investments were financed at the detriment of consumption. Secondly, the slow growth of consumption slowed down the qualitative improvement of the labour force. Widespread knowledge of driving supposes private ownership of passenger cars, clean working hands the existence of bathrooms at home, the knowledge of foreign languages cannot be imagined without mass tourism, etc.

In a later work, Jánosy (1969) introduced the concept of “*quasi-development*”. As he argued almost 50 years ago, when a country tries to accelerate economic growth in general and the development of manufacturing industry with protectionist trade policies and the artificial manipulation of the exchange rate etc., there is a danger that the emulation will be successful only in statistical sense. The volume of production will increase, but the quality of goods

⁹ Growth rates were calculated by the author from the Maddison data base (2010) at 1990 international prices with the GK method.

coming off from the conveyor belts of the newly created factories will be hopelessly inferior to the products of the advanced market economies. Many socialist countries went through this bitter experience. Perhaps the most telling illustration to this scheme is the fate of the Soviet Lada passenger cars produced during the 1970s and 1980s, originally copied after a 1966 model of the Italian car manufacturer, FIAT. Millions of such cars were manufactured, but they were outmoded from Day One onwards, and the factory made financial losses on the Western exports of these cars.

Can research and development accelerate growth? Jánosy, who spent many years in the Hungarian Planning Office during the 1960s, warned his contemporary socialist planners not to try to accelerate economic growth through radically increased research and development (R&D) expenditures, either. Although it is not easy to comprehend at first hearing, innovation, the output of research does not generate welfare directly. Innovation is merely a “recipe” which shows how the structure of production needs to be modified in order to increase the productivity of labour (*op. cit.* p. 117). Whether the conditions of implementing the necessary restructuring of production are present or not in a given country and a given industry, that depends on the quality of the labour force at large, and not of the quality of the researchers. It doesn’t help if the R&D activity runs much ahead of the quality of the labour force. If this happens, it leads to massive societal waste, only.

Aggressive spending on schooling? It follows from Jánosy’s development concept that economic growth cannot be accelerated by the forced expansion of schooling, either.

Let us illustrate this point first with present-day pair-wise comparisons. Take Poland and Germany. According to standardised OECD data, the share of persons in the labour force with a *tertiary education* degree is exactly the same in both countries (28%), while productivity¹⁰ is more than 2.1 times higher in Germany. We can take another, even more shocking example. In the 25-64 age group, 54% of the Russian workers had some kind of tertiary education, which is much higher than the corresponding American, Japanese or Israeli figures (all between 45-50%), let alone the comparable Danish figure (37%). In terms of productivity, however, the American level is 2.5 times higher than in Russia.

Similar differences can be identified when the least educated population is compared (*primary education*). The share of Hungarians in the labour force with no more than 8 years spent in school is just 1%, while in Portugal this indicator stands at 32%. On the basis of this strikingly large difference, one would assume that the Hungarian economy must display higher productivity levels. But the contrary is the case: output per hours worked is 10% higher in Portugal than in Hungary.¹¹ It is worthwhile to cite old cross-country comparisons, as well. In 1910, the percentage of illiterates in Hungary amounted 15% and the country’s

¹⁰ Measured as output per hour worked in international US dollars (converted to 2016 price level with updated 2011 PPPs).

¹¹ The source of education and productivity data are https://stats.oecd.org/Index.aspx?DataSetCode=EAG_NEAC (downloaded on 30 August, 2017) and The Conference Board (2017), respectively. All data refer to 2015.

GDP was estimated by Maddison at 2000 \$/head.¹² By contrast, in Italy and Belgium, where the illiteracy rates were 38 and 25 per cent, respectively, the GDP/head figures were 2332 and 4064 dollars – i.e. significantly higher than in Hungary.

Cross-country studies equipped with rigorous econometric tools lead to similar conclusion, too. In Pritchett (2006) study the lack of econometric evidence for the quantitative “knowledge gap” is explained by the fact that over the last 50 year schooling at all levels (from primary to tertiary) has expanded massively on all continents, while there has been a historical and continued divergence in output per capita. Hence the cross national dispersion of schooling per worker and the dispersion of output per head have moved strongly in opposite directions.

Thus, the implication that the level and growth of aggregates schooling per worker will do, at best, a modest amount in explaining the growth of output per worker only confirms Jánosy’s assertion born in the 1960s.

As another Hungarian economist – Polonyi (2010) – already noted, this “over-education” is not a unique Hungarian phenomenon. It holds for all the post-socialist countries that the population’s formal educational level is higher than in market economy countries with similar level of economic development. Quite clearly, this over-education drive was – to a very great extent – driven by the absence of tuition-fees during the decades of socialism. As Holló (1974) and Jánosy (1975) who worked together showed, the extensive growth strategy in general and in the educational sector in particular leads to quasi-development and over-education, or simply **waste** – if we allow for ourselves to use such a brutal term. Later research upheld this speculative finding. McKinsey (2010:14-15) study covering more than 60 countries with comparable PISA-test results found that in low- and middle-income countries “systems with similar education spending have widely varying levels of performance – until the USD 6,000 spend per student (PPP) mark is reached –, system performance spans the full spectrum of poor, fair, good, and great”. Better schools do not necessarily lead to more growth (Hanushek – Woessmann, 2012).

Conclusions: The resistance to change

Jánosy showed with a simple argumentation that fast economic progress is not easy at all, because people for good reasons from their own perspective resist. *“For if no great resistance would stand in the way of diffusion of new achievements and of greater labour productivity, there would be no people left who carry drinking water home in earthen vessels on their heads from the well, no nomad tents, and even no steam locomotives, the last specimens of which would already stand in museums next to waterwheels and hand looms”* (op. cit. p.135). In Jánosy’s growth concept, it didn’t matter much whether in a given country, the means of production are privately or collectively owned. In both cases the

¹² GDP/head data in constant 1990 USD.

resistance to change the structure of production and the accustomed technology is generated by the workers' intrinsic conservatism on the one hand and the similar conservatism of the consumers. The low levels of readiness to learn new production methods are affected by the widespread belief that you can't teach an old dog new tricks. But the same rule applies to a certain extent on the demand side as well: people insist on buying the same goods and services for long times. Thus, his final conclusion was that irrespective to that whether the country capitalist or socialist, the growth rate of a modern, industrialized economy simply cannot surpass the trendline rate for a prolonged period of time.

In Kornai's concept of growth, ownership and the ways and means markets function have always played a crucial role since the beginning of his professional economic career. In 1971, his reading of the recent past – i.e. the 1950s and the 1960s – was that planners do possess the means to keep the growth rate high, but this is not desirable from a societal point of view. Harmonic growth, where planners look ahead for 15 years at least, give autonomy of the enterprises, allow the price mechanism, profits and market processes in general to play a bigger role would be better for his home country, Hungary.

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