

What Does the Eastern European Growth Experience Tell Us About the Policy and Convergence Debates?

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While the human costs of communism in Eastern Europe were incalculably large, the impact on regional income growth may have been comparatively minor. The performance of Eastern Europe under communism is compared to a global sample. Despite common perceptions of the inefficacy of communism as a system for promoting growth, it appears that the region's performance was better than any developing country group with the exception of the Asian miracle countries. The region would have grown faster if it had been part of a broader European 'convergence club,' however, and the paper discusses how much communism is to be blamed for Eastern Europe not being part of such a grouping –suggesting that this depends on the country. The paper concludes with a look at what these results might mean for the growth and convergence debates.

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INTRODUCTION

The human cost of communism in Eastern Europe –and in particular Stalin’s terror—was incalculably large. The social and environmental legacies have long outlasted the collapse of communist regimes. At the same time, it is the consensus view that communist regimes were also economic failures. This last charge against communism, the least morally compelling, may also be a less accurate one. And that it is less accurate may suggest something about the nature of economic growth and our understanding of its causes.

In 1913, Mexico and the USSR had almost exactly the same income per capita --in 1990 dollars, the Soviet Union’s income was \$1,488, compared to Mexico’s \$1,467 (see Graph One –data here and throughout the paper is from Maddison 1995). Mexico would not be held up as the model of liberalism since then, but having said that, democracy, private property and the market played a far larger role there than in the USSR. Yet, in 1989, Soviet income per capita was 46 percent larger than Mexican income, compared to about 1 percent larger in 1913. Despite suffering through two incredibly damaging world wars, a civil war, the Stalin-induced famines that killed millions in the 1930s, his jail and gulag system that killed millions more, and a range of environmental disasters, the Soviet Union’s growth over the period of communism put Mexico’s to shame. Only with the fall of the communist system did Mexico overtake the USSR --by 1992, Mexican income

was approximately \$450 per capita higher than that of the Soviet Union at the eve of breaking up.

This paper takes a closer look at the comparative economic performance of the countries of Eastern Europe and asks, what might it tell us about economic growth? I will argue that the East European experience might suggest some problems with common formulations of the causes of growth (and methods to test those formulations). The paper will start with a brief review of the literature on Eastern European economic performance before turning to a look at the evidence on that performance, and a more detailed look at the comparative performance of East European countries. While finding no evidence of long-term convergence, the paper notes that Eastern European countries have performed about as well as a global convergence theory would suggest they should. The paper then points to patterns of regional convergence. It goes on to discuss Eastern Europe's status as a 'convergence club,' asking, would Eastern European countries have joined the Western convergence club in the absence of communism? The paper concludes with lessons for cross-country growth theory and statistical tests.

SOVIET AND EAST EUROPEAN GROWTH: MELTDOWN, MIRACLE OR SOMEWHERE IN BETWEEN?

A number of recent studies have suggested that the communist economic system was disastrous for economic growth (see Murphy, 1998, for a comment on this). For

example, Landes (1998) argues that “among the heaviest losers in this [post-war] period of record-breaking economic growth and technological advance were the countries of the communist-socialist bloc: the Soviet Union at the bottom of the barrel, Romania and North Korea almost as bad.”

Yet, this conclusion is difficult to fit with long-run evidence on the economic growth of the Soviet Union and Eastern Europe according to data from Maddison (used because it is the only data set with comparable numbers for a range of countries back to 1913).² In 1913, Russia produced only 7.4 percent of Germany’s per capita coal output, 8.3 percent of Germany’s iron output and 8.1 percent of its horsepower. Seventy percent of Russia’s exports were produced by an agricultural sector that lagged fifty years behind Germany’s or Britain’s in terms of productivity. The First World War and the revolution destroyed most of the small stock of industrial capacity, while decimating the rural labor force. In 1920, the gross value of output in large-scale industry was estimated to have been 12.8 percent of its 1913 level. The country did not return to its pre-war level of production until 1927.

But between then and the outbreak of the Second World War, at the same time as Stalin massacred millions, economic progress was dramatic. Between 1929 and 1937, the

² This makes it difficult to follow the suggestion of one earlier commentator on the paper –that a range of data estimates be used. I am unaware of another data set with similar (or even close to similar) coverage.

production of electricity increased from 6.2 to 39.6 billion kw-h, of steel from 4.9 to 18.0 million tons, and of motor cars from 1,400 to 211,400 (Buchanan and Ellis, 1955).

Between 1928 and 1937, the Soviet Union was the fastest growing country out of the forty for which Maddison has data (the United States, by comparison, was the 6th slowest). Between 1937 and 1950, it was the 9th fastest, despite losing 20 million people and a large proportion of its productive capacity in the Second World War (Roberts, 1992).

Growth did not collapse in the post war period, either. In the 1950s, as Krugman (1997) points out, the general view of Soviet planning was that “it might be brutal, and might not do a very good job of providing consumer goods, but it was very effective at promoting industrial growth.”³ Between 1950 and 1970, the USSR was the 16th fastest growing country out of the same forty-country sample used above. In the 1970-88 period, the USSR did collapse to 7th slowest (although still growing faster than New Zealand, Switzerland, Argentina, Chile, Peru and Venezuela in that period). But even after this

³ Some early commentators were even willing to be forgiving of the totalitarianism that allowed this system of forced saving for heavy industry development: “In most underdeveloped countries the difficulties standing in the way of a rapid rise in industrial growth are immense. The Russian example shows a remarkable rate of industrial growth and attracts the attention of economists in underdeveloped countries who are impressed by the results in industrialization obtained by applying communist methods. The price paid by the use of such methods in terms of either human cost or wasted capital investment does not frighten political leaders in underdeveloped countries whose choice for improvement of marginal conditions of human existence is very limited.” (Bonne, 1957).

slowdown, Anders Aslund (1995) argues that there was no sense of economic crisis in the Soviet Union in the mid 1980s. Official (although clearly inflated) Net Material Product growth in the first five years of the decade was 3.6 percent.⁴ The government's concern was to arrest what it portrayed as this slight downturn and return to a 4 percent per year growth rate. The economy remained stable and unemployment remained low.

Looking more broadly at the experience of Eastern Europe under communism, over the 1937-88 period, no Eastern European country for which Maddison provides data grew as slowly as the UK. Out of the 40 countries for which Maddison provides data over this period, Hungary ranks as the 10th slowest grower (just behind Australia, but ahead of the UK and New Zealand), the Czechs and the Poles are 13th and 14th slowest (just ahead of the Netherlands), The USSR is one place behind the USA, at 20th, (ahead of Belgium, Denmark, China, Turkey and Ireland), Romania is 16th *fastest* (just behind Germany and ahead of Greece), Bulgaria is 11th (ahead of Brazil, France, Sweden and Germany) and Yugoslavia is 7th fastest, just ahead of South Korea. The average ranking (from low growth to high) for Latin America⁵ is 10.7. For Asia⁶ it is 23.7. For Eastern Europe⁷ it is 20.9. Changing the period slightly, over 1950-88, out of the same 40 countries,

⁴ Aslund notes that real growth was closer to 0.6 percent a year.

⁵ Argentina, Chile, Peru, Venezuela, Colombia, Mexico, Brazil.

⁶ India, Indonesia, China, South Korea, Taiwan and Japan

⁷ Hungary, Czechoslovakia, Poland, USSR, Romania, Bulgaria, Yugoslavia.

Yugoslavia is 10th, Bulgaria 11th, Romania 13th fastest, while Poland, Czechoslovakia and the USSR were 13th, 14th and 15th slowest --an average growth ranking of 21.9 compared to Latin America's 7.7. No East European country grew as slowly as the UK, Mexico, Switzerland, Colombia, the US, Australia, India, New Zealand, Peru, Chile, Argentina or Venezuela over that period. It is perhaps hard to see how this experience can be viewed as a meltdown.

EASTERN EUROPE IN STUDIES OF GROWTH

The best known study of comparative Soviet economic performance in a cross-country growth regression has been by Easterly and Fischer (1995). They do note that Soviet growth performance was actually slightly above the global average in the period 1960-89, at 2.4 percent per year. Nonetheless, they argue that this performance was not respectable given the country's low population growth rate, high secondary school enrollment and investment to GDP ratio. Running a regression of these variables and initial income against growth, they argue that, excepting initial income Soviet scores in these variables should have implied very rapid growth --at 4.7 percent per year (or 2.3 percent higher than its actual rate).

There are two possible problems with taking this regression as evidence of the economic failure of the Soviet model. First, levels of secondary school enrollment and (at least public) investment are very much connected with government policy --especially, one

would imagine, in a command economy. Second, the choice of control variables might be questionable. In broader cross country regressions, investment has been found to be at least as much result as cause of economic growth (King and Levine, 1994). Easterly (1999) also notes that investment is a very weak predictor of long-term growth.

Secondary education has been found to be an insignificant growth determinant in a number of studies (see Pritchett, 1996), and population growth in even more (Levine and Renelt, 1991). A study that included ethnolinguistic fractionalization (as did Easterly and Levine, 1998), or religion (Sala-i-Martin, 1997) or natural resource abundance (Sachs, 1997), or the wealth of neighboring countries (Kenny, 1999) as a control variable might well find a smaller residual for the Soviet Union.⁸ A third problem might be that of period –the communist system was in place for 43 years before Easterly and Fischer’s 29-year study. In order to properly estimate the impact of communism on the Soviet Union and Eastern Europe, it is possible that we need a longer time-frame, then.

There is a paucity of data over longer time-periods, however --it would be difficult to construct data sets for Eastern Europe with the usual policy and non-policy variables stretching back to the pre-communist era. Given this, and given the difficulties inherent in cross-country growth regressions using policy, this paper will take a simpler approach.

The paper will use evidence on country income ranking to study the impact of all country

⁸ The Soviet residual in the Easterly-Fischer study is 2.3 percent –this is exactly the same size as the growth handicap that Sachs (1997) estimates Africa suffers from due to its natural endowments.

policies together (and external shocks) on growth. The theory behind this approach is laid out below.

AN ALTERNATIVE APPROACH TO JUDGING COMMUNISM AS AN ECONOMIC SYSTEM

Over the long term in a simple test of the neoclassical growth model, growth is frequently assumed to be inversely related to initial income across countries.⁹ As countries become more wealthy and exhaust the opportunities for increasing per capita capital stocks, they converge to a 'steady state' economic growth rate reliant on technological advance, considered the same for all countries.

The problem with this model is that there has been unconditional divergence in incomes over the last thirty years, and a fairly simple mathematical exercise suggests this divergence must have been occurring for far longer (Quah, 1993, Pritchett, 1998).

Easterly et. al. (199?) have suggested that the *only* developing countries that consistently demonstrate strong convergence since 1960 are the East Asian miracle countries. Because of this, an extension of the neoclassical growth model is now used as a base for many econometric studies of economic growth. In this version it is assumed that the rate of technological progress is not exogenous to the economic system, but an endogenous variable, its rate susceptible to change by policy and other factors. This allows for poorer countries to grow slower than rich indefinitely --at least until the factor(s) that are

⁹ I say 'frequently assumed to be' because the original neoclassical model allowed for steady state growth rates to vary across countries.

reducing the steady-state growth level are removed. Nonetheless, most econometric analyses in this tradition include an initial income term to capture cross-country convergence due to technological catch-up.¹⁰

There is, then, a theoretical claim that, in the absence of policy (and other) differences, country incomes per capita should converge. And there is also a large body of empirical work that has found this ‘conditional convergence’ result --it is almost certainly one of the most robust in the literature (see Levine and Renelt, 1992). If this is the case, variations from the expected convergence outcome should be a measure of the effects of policy (and perhaps non-policy) impediments to growth.

This model in turn suggests two different approaches to judge country performance over the long term. First, in the absence of policy differences and external shocks (and even in the presence of different initial conditions, as long as their effects remain constant) theory suggests that country income rankings over time should remain the same. The gap between richest and poorest should reduce, but the poorest country should remain poorest and the richest, richest. If rankings change, this is a sign of differing policy outcomes, external shocks, or changing effects of initial conditions. Second, in the absence of impediments, a ranking of countries by initial income should be perfectly negatively

¹⁰ More recently, a number of studies have argued that this remaining assumption of some level of cross-country convergence to a common income is over-restrictive (Evans, 1996, Caselli, Esquivel and Lefort, 1996).

correlated with a ranking of countries by subsequent growth. This suggests that any failure in the negative correlation between initial income and growth, must again be due to policies or other features of a country.

How does Eastern Europe perform on these tests? Looking first at the measure of income ranking, Eastern Europe's average ranking in our forty-country sample went from 12.6 (poorest to richest) in 1937 up to 14.0 in 1950 and back down to 12.4 in 1988. At the same time, Asia's ranking went from 7.2 to 12.8 and Latin America's fell from 16.7 to 10.6 (1937 is used as a start-point because there is little or no data on post-war economic performance in the study countries until 1950 –five years after the imposition of communism).¹¹ Apparently, the communist bloc's ranking was fairly stable over the period, suggesting a no worse than average performance. This compares very favorably

¹¹ Using 1950 as the start point would suggest a slightly worse economic performance of the communist system. As noted above, the average ranking of countries in Eastern Europe dropped from 14 to 12.4 from 1950-88. But as is again noted above, this still makes the Eastern European performance far more impressive than that of Latin America, for example. Further, this does miss out five years of communist rule. The countries that dropped compared to Eastern European performance between 1937 and 1950 do include some that might have been worse-affected by World War II than Eastern Europe –Japan, Greece, Italy, South Korea, Indonesia, Taiwan—but also a number that certainly were not –Turkey, Brazil, Spain, Peru, Columbia, and Mexico. It is at least arguable that this suggests the first five years of economic growth under communism were very impressive, then, and leaving those five years out might unfairly bias the data against Eastern Europe's post-war performance.

to Latin America --if policy failures are the cause, whatever the communist bloc did wrong, it wasn't as bad as the mistakes made in South America.

Looking at the second measure, that of convergence, Graph Two shows the relationship between 1937 income and subsequent economic growth in the forty-country sample. As we have said, if policies and external shocks played no role, the poorest countries should grow fastest. As Graph Two suggests, there is in fact little evidence that convergence is occurring in a global sample. Nonetheless, one thing that is interesting is that Eastern Europe's 1937-88 experience sees it outperforming a range of other countries on the relationship between initial income and growth. For example, the USSR outperformed Venezuela, Ireland, Brazil, Mexico, Argentina, Turkey, Chile, Columbia, Peru, India, China and Indonesia. While Western Europe and its offshoots saw a comparatively spectacular performance, outside of this group the only countries to outperform the USSR were Japan, Taiwan and South Korea.

Graph Three shows the relationship between a 'convergence score' in 1937 to 1988 against the score 1900 to 1937 for the 35 countries with data in Maddison (1995). The score is calculated by taking the period rank of growth (low to high) and subtracting from that the rank of period start income (high to low). If a country behaves as basic convergence would suggest, it should score zero (the richest country, for example, should score one on the growth rank and one on the income rank). If it has grown slower than its

initial income ranking suggests it should do, it will score negative --and faster than predicted would yield a positive score.

As can be seen, there is a strong correlation between convergence scores between periods --suggesting in fact a strong tendency toward unconditional divergence (as suggested by Quah, 1993 and Pritchett, 1998). Clearly, if the countries of South Asia and Africa left out of the sample for lack of data could be included, this tendency would be even more apparent. Despite the fact that we don't know their exact incomes, we know they were very poor in 1900 and have grown very slowly since then (Pritchett, 1998) and so most would cluster in the bottom left quadrant.

How does Eastern Europe perform here? On this score, Hungary and Czechoslovakia do not appear to do too differently pre-communism (1900-37) and during communism. They and the USSR again outperform the great majority of non-miracle, non-western countries in both periods.

Despite presenting little evidence for global convergence, we should note that Graph Two might suggest that a phenomenon of regional convergence was occurring. If we look at the dragons (with the possible exception of South Korea), Western Europe and the Western offshoots, the poorer countries (Japan, Spain, Austria, Taiwan) do indeed grow significantly faster over the period than the richer countries (Netherlands, Australia, UK New Zealand). The pattern is repeated in Eastern Europe (Yugoslavia, Romania and

Bulgaria grow faster than the USSR, Poland, Czechoslovakia and Hungary) and in South America (Brazil, Mexico and Columbia grow faster than Peru, Venezuela, Chile and Argentina).

What have we learned, then? First, on average, East Europe's growth experience was about what would be expected if it followed 'average' policies (and policies are a dominant factor behind income growth). It does far better than a large majority of developing countries in the sample. Second, while there is no evidence of global convergence over the sample period, there is strong evidence of regional convergence.

WHAT DETERMINES CONVERGENCE CLUB MEMBERSHIP?

Eastern Europe might be argued to have done comparatively well, then –only outperformed by Western Europe, the Western offshoots and the miracle countries of East Asia. But, under different circumstances, might it have done even better --as well as Western Europe? Did Eastern Europe only become its own 'convergence club,' converging to a lower income than Western Europe, because of communism? Certainly, we know that the USSR made a huge policy effort to tie the economies of Eastern Europe to its own through devices including COMECON. The question becomes, in the absence of communism, would Eastern Europe have taken on Western policies and that alone would have created convergence with the West instead? Or would Eastern Europe remained in its own club anyway, perhaps shackled by non-policy barriers? If policy

alone determines membership (and Azfar, 1999 claims this for a global sample) then Eastern Europe's economies might well have been significantly better off in the absence of communism.

On the other hand, it might be that a range of non-policy factors are significant in determining growth rates, and these bunch in regions –creating a non-policy reason for regional convergence. Such factors have been used to explain lower growth in a variety of ways --the increased transactions costs and reduced efficiency created by a government riven by ethnic division (Easterly and Levine, 1996), increased costs of both specialization and technological progress through learning caused by poor access to trade (itself a result of being landlocked), the cost to human capital accumulation caused by poor climate (both Sachs, 1997), the entrepreneurial spirit encouraged by certain religions (Sala-i-Martin, 1997), the corruption created by natural resource rents (Sachs 1997). A related set of studies looks at the impact of neighbor wealth (Kenny, 1999) and neighbor growth (Easterly and Levine 1996) and suggest another reason why regional membership might be significant in determining growth rates.

If such long-term extra-policy factors are important in determining convergence club membership –and the fairly predictable ranking of income per capita between countries over long periods is more evidence that they might be (Kenny, 1999), it still might be that Eastern European countries were fairly 'Western' in these non-policy factors in the period before communism, and it was only communism that prevented convergence.

Indeed, perhaps the more Western of East European countries *were* cheated by communism on this score. This is suggested by the relative performance of East and West Germany, economies with reasonably similar initial conditions. As can be seen from Graph Four, East Germany had a respectable growth rate under communism, but weak in comparison to West Germany's. It might be here that East Germany was pushed on to a convergence track with Eastern Europe where, had the country remained unified, it would have seen convergence with the West (although, it remains possible that Eastern Germany was already doomed to lower growth than the West, or that the lower performance was due to external factors –such as the imposition of reparations as opposed to the extension of Marshall aid).¹²

Hungary and the former Czechoslovakia also looked more like the West than the East in terms of industrial development early this century –and compared to Austria, until the end of World War One in the same Empire with them, the two countries' post-World War

¹² While, in 1937, East Germany was in fact slightly more wealthy than its Western brother, the Western portion of the country had many advantages in terms of long-term productivity. Much of German industry (and the skilled workforce to operate it) was based in the Ruhr, for example (Cameron, 1989). East and West Germany are both left out of the sample because they do not have GDP per capita data for 1937 (Maddison (1995) also excludes data from his main table). Comparing East Germany's 1936-88 data to the 35 country sample's 1937-88 data, East Germany does fall back from 12th richest to 16th richest.

Two performance was disappointing.¹³ Perhaps they were cheated by communism as well.

On the other hand, agriculture across Eastern Europe in the inter-war period has been described as ‘medieval,’ (Hare 1989). We can also see from Graph Three that Hungary, Czechoslovakia and the USSR bunched as a group in the middle of the convergence score range in Eastern Europe’s pre-communist phase between 1900-37 --not toward the right of the graph with the Western countries and Japan. In the period before communism was inflicted upon Hungary and Czechoslovakia, then, they did not look as if they were about to race toward Western income levels (having said that, nor did Taiwan, Austria, Spain or South Korea).

And as we go further East, the evidence that countries were likely to join the Western convergence club becomes perhaps weaker --and, if that is so, their performance under communism becomes more impressive. The Soviet Union’s initial conditions were certainly not those of Western Europe --indeed, Russian intellectuals of the Nineteenth Century frequently debated the topic of their Europeanness --or lack of same. In the pre-revolutionary period, Russian intellectuals sounded much like Indian thinkers of the same time --wanting their country to be re-made in the image of modern Europe (von Laue, 1993). In 1892, an observer wrote in *The Economic Journal* that “Russia is now in the

¹³ See DeLong (1988) footnote 10.

condition in which Ireland was in the first half of the century, in which India and China still are, that is to say, the bulk of its people live so close to the verge of destitution that they are plunged into famine by the failure of a single harvest.” (Lloyd, 1892).¹⁴

Taking the Mexico-USSR comparison again, initial conditions might suggest Russia should have grown more slowly than Mexico, let alone the poorer countries of Western Europe. Roman Catholicism is considered bad, but surely Russian orthodoxy is worse as a cultural determinant of growth a la Weber. Mexico is, if anything, less ethnically diverse than the old USSR. Mexico has the advantage of being right next to the US, while the Soviet Union was bordered by poorer countries --including some of the poorest at its Eastern end. Both are natural-resource rich, but the Soviet Union must be considered richer --to its detriment, according to Sachs. Mexico does have the disadvantage of latitude, although one wonders at the advantage of the Siberian winter to economic

¹⁴ It should also be pointed out that Russia was no paradise of human rights before Lenin and Stalin. In 1907, Tolstoy wrote that “Everything now being done in Russia is done in the name of general welfare, in the name of the protection and tranquillity of the people of Russia. And if this is so, then it is also done for me who lives in Russia. For me, therefore, exists the destitution of the people deprived of the first and most natural right of man --the right to use the land on which he was born; for me, these hundreds of thousands of unfortunates dying of typhus and scurvy in fortresses and prisons which are insufficient for such a multitude; for me, the mothers, wives, and fathers of the exiled, the prisoners and those who are hanged are suffering; for me the spies and the bribery; for me, the internment of those dozens and hundreds of men who have been shot; for me, the horrible work of the hangman goes on.” (quoted in Clark, 1990).

growth. Overall, then, it is perhaps unlikely that the Soviet Union belonged to the Western European convergence club, and so the communist period might be seen as having produced a very respectable growth performance.

As to other less developed East European states, the period of communism might also appear to have done little harm. In 1937, as we can see from Table One, Romania was the third poorest country in the 40 country sample. In 1988, it had risen to fifth. Over the same period, Yugoslavia went from 7th to 12th poorest and Bulgaria from 10th to 13th. In comparison, Poland fell from 14th to 10th, Hungary from 18th to 14th and Czechoslovakia from 20th to 18th. More evidence, perhaps, that communism was bad for those wealthier countries on the periphery of Western Europe, who might have joined the Western convergence club, while being good for the more backward parts of the region who benefited from convergence toward those very same countries on the wealthy periphery. Post-communist experience might also suggest that Hungary, Poland and Czechoslovakia had a greater chance at convergence with the West, given that they have greatly outperformed other countries in the region and further East.

Thus communism does not look to be too bad an economic system if policy is an important determinant of growth (not as good as the Western model or the miracles, but better than any other). If initial conditions are a strong determinant of growth, communism might look even better. Nonetheless, we have also seen evidence that might

suggest Poland, Hungary and Czechoslovakia (along with East Germany) could have done better if they were able to ‘switch clubs.’

CONCLUSIONS FOR THE GROWTH AND CONVERGENCE DEBATES

What might this tell us more broadly about theories of economic growth and convergence?

First, that any theory (or regression analysis) that places ‘most market-conforming’ on one end and ‘least market-conforming’ on the other, will perhaps have difficulty in explaining global growth outcomes. More recent experience in Eastern Europe might also give us pause in seeing slow growth as the result of easily remediable market-unfriendly policy interventions, given that the collapse of the Russian economy followed, rather than preceded, moves toward a system based on private property and the market. Countries such as (most spectacularly) China and (even) Cuba suggest that, for economies never likely to be on the convergence path with Western Europe, a gentle reform program could be better than shock therapy.¹⁵ This evidence would fit with a range of studies that have found theoretically posited relationships between policy variables and growth very weak when actually applied in common econometric practice (see Kenny and Williams, 1999, for a review).

¹⁵ Cuba’s output fell 35 percent between 1989-93 as the Soviet Union (accounting for 87 percent of Cuba’s trade and providing subsidies worth 10 percent of GDP) collapsed. Since then, however, recovery has been dramatic, with a 4 percent growth rate predicted for 1999 (Jatar-Hausmann, 1998).

One reason for this possibly weak relationship between economic theory and economic fact might be that relationships between policies and growth change over the long term -- either because of changes in the functioning of the global economy or because growth from poor to middle income takes a different set of policies than moving from middle income to rich nation status. Hare (1989) argues that the weakness of the communist system was not to exploit dynamic comparative advantage, for example. This is also explored in Easterly and Fischer (1995), but the recent East Asian crisis gives us another reason to revisit such issues. Krugman (1995) popularized Young's (1995) work suggesting that East Asia's growth had been based on intensive use of capital and labor --much, Krugman argued, as had the Soviet Union's early growth. Presciently, he suggested that this suggested East Asian growth rates could not be sustainable in the long run (as the Soviet Union's had not been) unless they moved toward increasing rates of productivity growth. Although Easterly and Fischer (1995) present evidence that the Soviet Union's inefficiencies went beyond low TFP growth,¹⁶ and Krugman's conclusions have been

¹⁶ Easterly and Fischer (1995) argue that one possible explanation to the lower returns to extensive growth in the Soviet Union than in East Asia was the low substitutability of capital for labor. Although this story might have to be reconsidered in the light of recent events in the dragon economies, it is also a story that predates communism. Davies (1990) argues that the pre-First World War development of mining, engineering metallurgy and large factories producing cotton all saw modern techniques being introduced in an environment of stubbornly low labor productivity, leading to an unprecedentedly high number of persons employed per factory. Further, Easterly and Fischer report that elasticities of substitution above unity have been found in places as disparate as Brazilian, Ghanaian and Egyptian manufacturing before the mid 1970s, and, more recently, Pakistani manufacturing --suggesting even in environments of heavy state

questioned (Roubini, 1998),¹⁷ the experience of Eastern Europe and East Asia might both suggest the conclusion that the early stages of successful development are based on factor growth to a greater extent than later stages. In turn, this might suggest the danger of putting richer and poorer countries into the same cross-country study or assuming that policies suited for one set of countries necessarily apply in another.

The importance of both long-term relationships between variables and growth, and of relationships that change over that long-term, suggest that we might also be concerned over the sample periods which we commonly use to study the causes of growth. Easterly and Fischer's (1995) regression commented on earlier suggests that Soviet economic performance in the 1950s was respectable (it is better than their regression analysis would predict). This in turn suggests either that the policy environment became a lot worse after the 1950s --that Khrushchev was worse than Stalin, or that policies were not to blame, or (the line that Easterly and Fischer take) that policies had a poor effect only over a long (thirty year) period. If this third answer is correct, and this is the length over which some policies come to have an impact, basing studies decade regression periods might be poor econometric practice. After all, the Soviet system looks great from the point of view of its performance 1928 to 1970 --this is for 42 years, longer than the traditional period of 1960-2000 that we can look at using the Summers-Heston data set.

involvement in the economy, a high level of substitution appears possible. If there is a problem to be explained, it has to be explained in a way more convincing than that planned versus unplanned economies.

¹⁷ Although see Crafts 1999 for a rebuttal defending Young's conclusions.

The results here also perhaps suggest we should be wary of the ‘conditional convergence’ result. Convergence *is* a feature of economic growth, but it does not seem to be driven by the availability of a worldwide stock of technology available for simple exploitation by poorer countries. Instead, convergence might be a regional phenomenon, driven (perhaps) by ties of geography, culture or straightforward proximity.

Turning to political economy, it is frequently argued that the Russian empire collapsed because it could not produce economic growth. The last years of the communist regime did see declining growth rates. But, over the long term, the economic performance of the Soviet Union was fairly strong compared to international averages. Further, while growth rates fell in the 1980s, they did so worldwide --the USSR’s performance from 1975 to 1988 remained stronger than Mexico’s, for example. Those who argue that the Soviet Union collapsed solely because of its poor economic performance would also have to explain why Switzerland, with lower growth rates in the 1970-88 period, didn’t collapse first.

The USSR’s economic performance was only dismal as compared to Western Europe’s -- and this was perhaps never a good comparison. The Russian empire had never shown signs of converging with the West. While it caught up some way with some of the richer European nations (the UK, the Netherlands), it did so before the revolution at rates far below what would be expected had it belonged to the Western European convergence

club. To the extent that it was driven by economic performance, the USSR's failure and collapse was probably more of a *political* failure, then, born of false expectations.

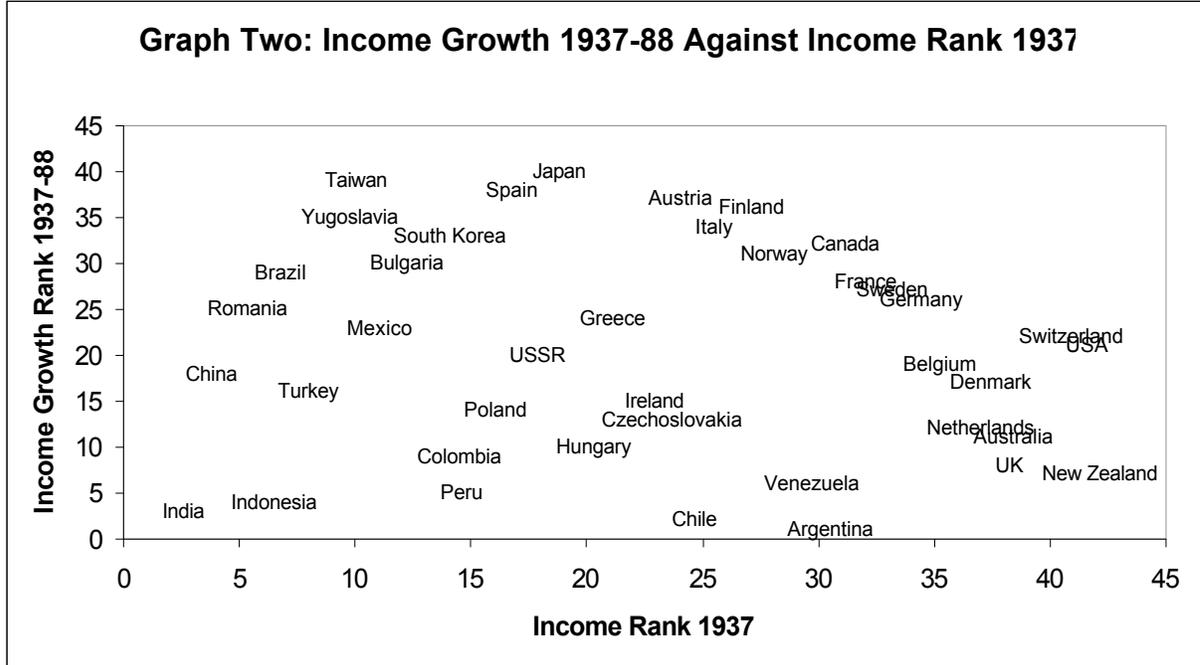
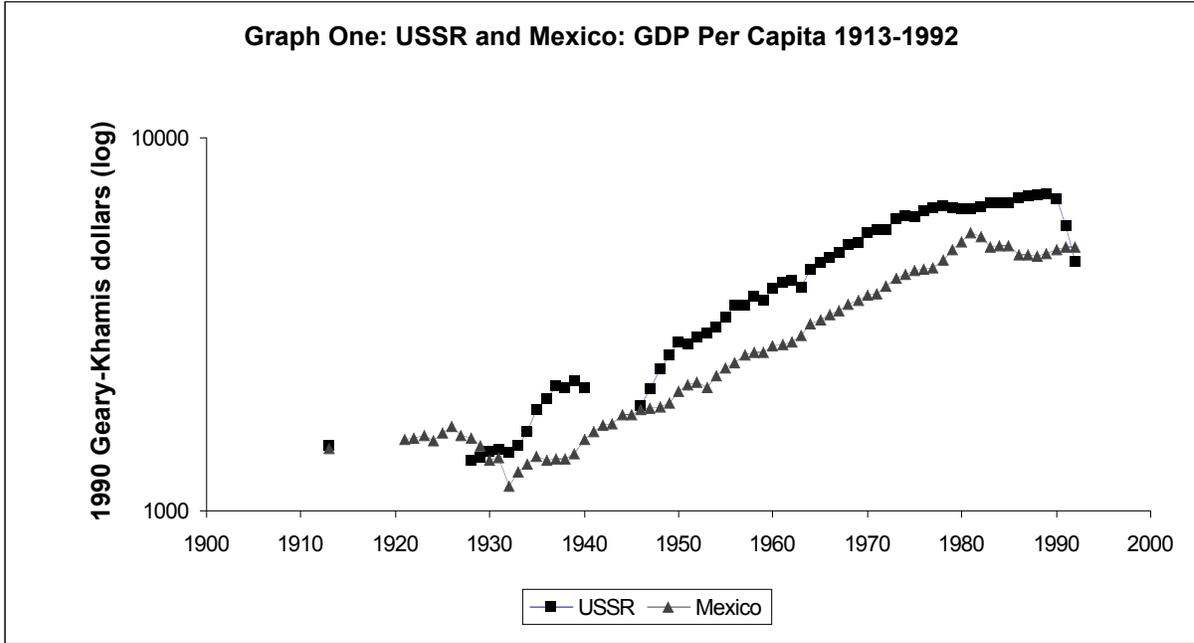
Russian leaders expected and announced that communism would bring convergence, even shoe-thumping global economic domination, and this unrealistic goal was not met. And in terms of consumer satisfaction, the unrealistic goal was missed by a mile –after all, real per capita private consumption was lower than straight GDP per capita figures suggest because of very high investment rates and high military expenditures, and the quality of goods that that consumption expenditure could bring was even lower still.¹⁸ But Russia was never likely to be an economic superpower. That it remained a geopolitical superpower for so long did (in part) rest on an above average economic performance, but this was never enough to bring the country into a path of Western convergence.

Nonetheless, communism provided a rate of growth in the Soviet Union which was both higher than the long term global average and considerably higher than comparable countries such as Mexico.

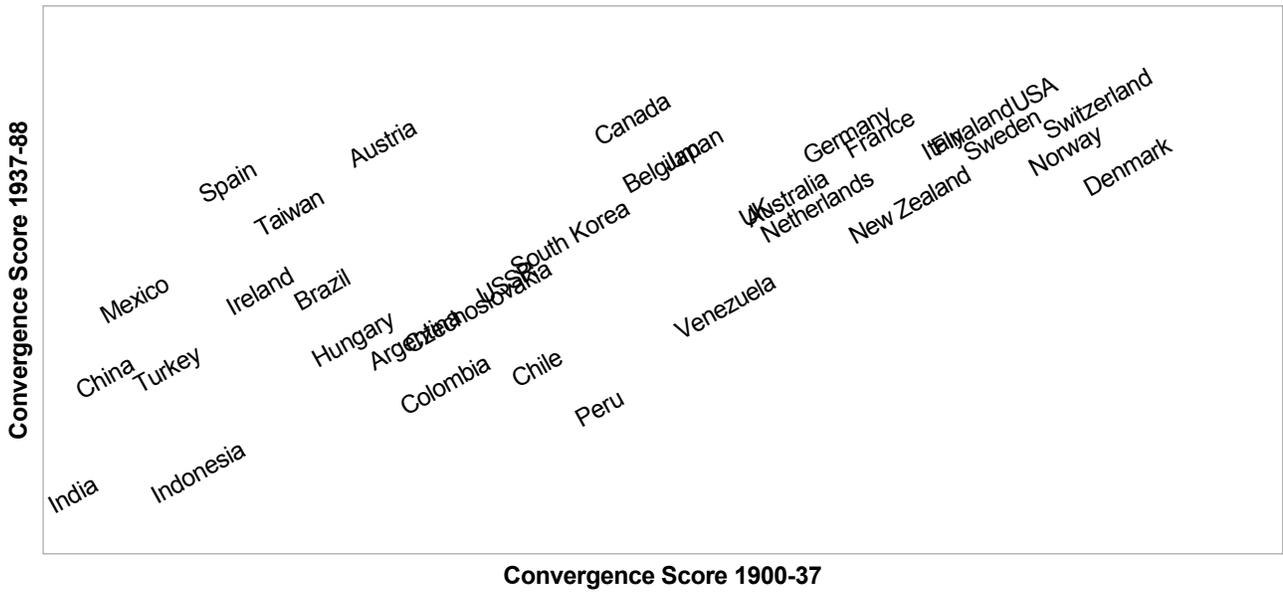
Finally, from the point of view of economic growth practice, Stalin's terror can provide no model. However, the evidence regarding growth under communism might suggest the need for some additional caution in both studies of and prescriptions for growth. The

¹⁸ One commentator went on to conclude from this that it *was* the country's economic failure that doomed it. I guess this might be reduced to a matter of semantics. The Soviet Union's economic performance was too weak to allow it to remain a superpower. But the expectation that it would ever be good enough to remain a superpower was far-fetched, had the country been communist or capitalist.

communist model was not unsuccessful in economic terms --at least for the poorer countries of Eastern Europe -- despite following policies completely at odds with most modern development theory. If the model failed over the long term, it did so in a way that suggests that regression studies based on ten year average growth performance might miss an important part of the *real* story of economic growth --complex, multi-staged and specific to place and period. The phenomenon of regional convergence also suggests that important features of the growth process are missed in studies that concentrate purely on dislocated national economies. If the Eastern European experience hardly provides a model to be implemented, it does, perhaps, provide some reason to revisit the models we have.



Graph Three: Convergence Score 1937-88 Against Convergence Score 1900-37



Graph Four: East German versus West German Economic Performance

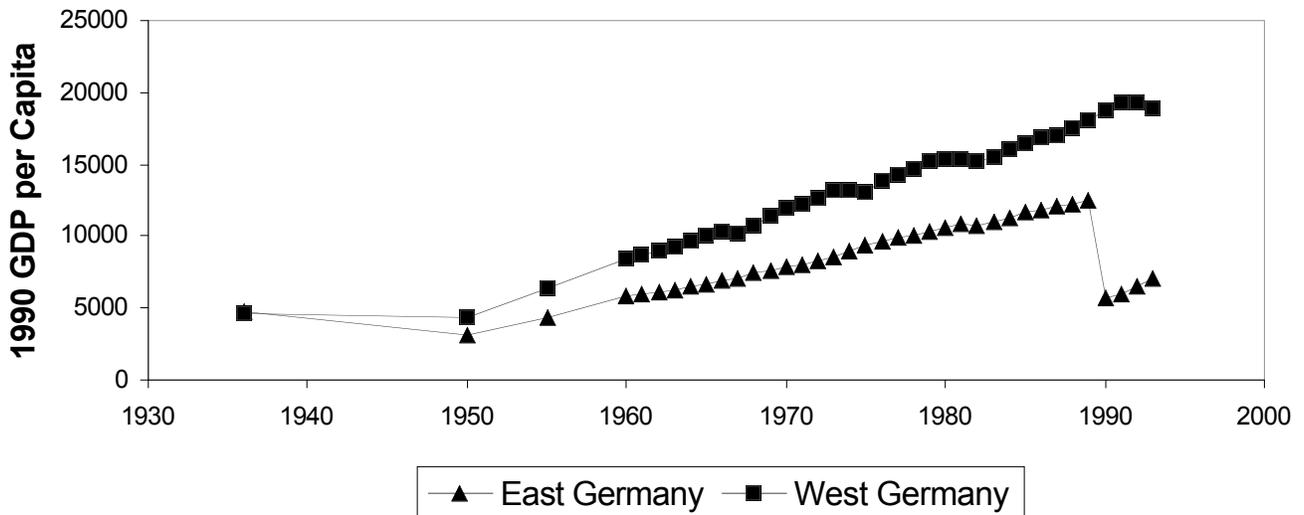


Table One: Income per Capita Ranking by Year 1929-1992

Rank	1929	1937	1950	1970	1988	1992
1	India	India	India	India	India	India
2	China	China	China	China	Indonesia	Romania
3	Turkey	Romania	Indonesia	Indonesia	China	Indonesia
4	Brazil	Indonesia	South Korea	South Korea	Peru	Peru
5	Taiwan	Brazil	Taiwan	Turkey	Romania	China
6	Romania	Turkey	Romania	Taiwan	Turkey	Yugoslavia
7	South Korea	Yugoslavia	Turkey	Romania	Colombia	Bulgaria
8	Bulgaria	Taiwan	Yugoslavia	Brazil	Mexico	Turkey
9	Indonesia	Mexico	Bulgaria	Colombia	Brazil	Brazil
10	Yugoslavia	Bulgaria	Brazil	Yugoslavia	Poland	USSR
11	USSR	South Korea	Japan	Mexico	Chile	Poland
12	Mexico	Colombia	Greece	Peru	Yugoslavia	Colombia
13	Colombia	Peru	Mexico	Poland	Bulgaria	Mexico
14	Peru	Poland	Colombia	Bulgaria	Hungary	Hungary
15	Japan	Spain	Peru	Hungary	USSR	Czechoslovakia
16	Poland	USSR	Spain	Chile	Argentina	Chile
17	Greece	Japan	Poland	USSR	South Korea	Argentina
18	Hungary	Hungary	Hungary	Ireland	Czechoslovakia	Venezuela
19	Finland	Greece	USSR	Greece	Venezuela	South Korea
20	Ireland	Czechoslovakia	Italy	Czechoslovakia	Taiwan	Greece
21	Spain	Ireland	Czechoslovakia	Spain	Ireland	Taiwan
22	Italy	Austria	Ireland	Argentina	Greece	Ireland
23	Czechoslovakia	Chile	Austria	Norway	Spain	Spain
24	Norway	Italy	Chile	Finland	New Zealand	New Zealand
25	Chile	Finland	Finland	Japan	Italy	Finland
26	Venezuela	Norway	Germany	Italy	Netherlands	UK
27	Austria	Venezuela	Norway	Austria	Belgium	Italy
28	Sweden	Argentina	Argentina	Belgium	Austria	Australia
29	Germany	Canada	France	UK	Finland	Netherlands
30	Argentina	France	Belgium	Venezuela	UK	Sweden
31	France	Sweden	Netherlands	New Zealand	Australia	Austria
32	Canada	Germany	Denmark	France	Norway	Belgium
33	Denmark	Belgium	Sweden	Australia	France	Norway
34	Belgium	Netherlands	UK	Netherlands	Japan	France
35	Australia	Denmark	Canada	Canada	Sweden	Canada
36	UK	Australia	Australia	Germany	Denmark	Denmark
37	New Zealand	UK	Venezuela	Denmark	Germany	Germany
38	Netherlands	Switzerland	New Zealand	Sweden	Canada	Japan
39	Switzerland	New Zealand	Switzerland	USA	Switzerland	Switzerland
40	USA	USA	USA	Switzerland	USA	USA

BIBLIOGRAPHY

- Aslund, A. (1995) *How Russia Became a Market Economy* Washington DC: Brookings.
- Azfar O. (1999) Sufficient Conditions for Rapid Convergence, paper presented at a conference on Market Augmenting Government, The Cosmos Club, Washington, DC, March 26-27.
- Bonne, A (1957) *Studies in Economic Development*, London: Routledge.
- Buchanan, N. and H. Ellis (1995), *Approaches to Economic Development*, New York: Twentieth Century Fund.
- Camern, R. (1989) *A Concise Economic History of the World*, Oxford: OUP.
- Caselli, F., G. Esquivel and F. Lefort, 1996, 'Reopening the Convergence Debate: A New Look at Cross-Country Growth Empirics', *Journal of Economic Growth*, Vol.1, No.?, pp.363-89.
- Clark, T. (1990) *The Russian Chronicles*, London: Garamond.
- Crafts, N., 1999, 'Development History', paper presented at "The Future of Development Economics in Perspective," Dubrovnik, May 1999.
- Davies, R. (1991) Introduction in R. Davies (ed) *From Tsarism to the New Economic Policy* London: MacMillan.
- DeLong, B. (1988) Have Productivity Levels Converged?: Productivity Growth, Convergence, and Welfare in the Very Long Run, mimeo, Boston University.
- Easterly, W. and R. Levine, 1996, 'Africa's Growth Tragedy: Policies and Ethnic Divisions', mimeo.
- Easterly, W. and S. Fischer (1995) The Soviet Economic Decline *The World Bank Economic Review* 9, 3, 341-371.
- Evans, P., 1996, 'Using Cross-Country Variances to Evaluate Growth Theories', *Journal of Economic Dynamics and Control*, Vol.20, No.? pp.1027-49.
- Hare, P. (1989) Economic Development in Eastern Europe: A Review Article *Oxford Economic Papers* 41 p. 672-697.
- Jatar-Hausmann, A. (1998) What Cuba Can Teach Russia *Foreign Policy* 113, Winter, 87-103.
- Kenny, C. (1999) Why aren't Countries Rich? Weak States and Poor Neighbourhoods *Journal of Development Studies*
- Kenny, C. and D. Williams (1999) What Do We Know About Economic Growth? Or: Why don't We Know Very Much? mimeo, Lady Margaret Hall, Oxford.

King, R. and R. Levine, 1994, 'Capital Fundamentalism, Economic Development, and Economic Growth', *Carnegie-Rochester Series on Public Policy*, No.40.

Krugman, P. (1995) The Myth of the Asian Miracle *Foreign Affairs* 73, 6 62-78.

Landes, David, 1998 *The Wealth and Poverty of Nations: Why some are So Rich and Some so Poor*, New York: W.W. Norton.

Levine, R. and D. Renelt, 1991, 'Cross-Country Studies of Growth and Policy: Methodological, Conceptual and Statistical Problems', World Bank Policy Research Working Paper, No.608.

Levine, R. and D. Renelt, 1992, 'A Sensitivity Analysis of Cross-Country Growth Regressions', *American Economic Review*, Vol.81, No.?, pp.????

Lloyd, T. (1892) The Economic Condition of Russia *The Economic Journal* 2,6: 398-403.

Maddison, A. (1995) *Monitoring the World Economy 1890-1992* Paris: OECD.

Murphy, A. (1998) A Note on Economic Growth in Eastern Europe *Journal of Economic Issues*, 32, 4: 1150-1152.

Pritchett, L., 1996a, 'Divergence Big Time, World Bank Policy Research Working Paper, No.1522

Quah, D., 1993, 'Empirical Cross-Section Dynamics in Economic Growth', *European Economic Review*, No.37, pp.426-34.

Roberts, (1992) *The Penguin History of the World*, London: Penguin.

Roubini, N. (1998) An Introduction to Open Economy Macroeconomics, Currency Crises and the Asian Crisis, mimeo, stern School of Business, New York.

Sachs, J., 1996, 'Growth in Africa: It Can be Done', *The Economist*, 29 June.

Sachs, J., 1997a, 'The Limits of Convergence', *The Economist*, 14 June.

Sachs, J., 1997b, 'Geography and Economic Transition', mimeo, HIID.

Sala-i-Martin, X., 1997, 'I Just Ran Four Million Regressions', mimeo, Columbia University.

Stites, Richard (1998) The Russian Empire and the Soviet Union, 1900-45 in M. Howard and R Louis (eds) *The Oxford History of the Twentieth Century*, Oxford: OUP.

Young, A., 1995, 'Growth Without Scale Effects', *Journal of Political Economy*, Vol.106, pp.41-63.