

All the Interesting Questions, Almost All the Wrong Reasons

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Here is the bottomline: JMK got his economic theory wrong, and the facts too. But, and not a minor feat, he got all his questions and his guess about the future right. This may prove that while the man was a tad arrogant, he perhaps was not a fool. Perhaps, indeed, he was brilliant, possibly so much so that he never had to bother with logical consistency and facts adequate to convince his audiences that he had got it right. Which is a pity, because he could have spared humanity a whole lot of poor economic advising, and academic economists a never-ending debate about what he “really meant,” had he bothered to ponder a bit longer upon some of his statements and their analytical underpinnings. Bygones are bygones and the questions he posed are among the most important an economist may dare to ask. Let us begin with the questions, continue with JMK’s answers and then figure out why, in spite of guessing it right, he got all the “reasons” wrong.

The Questions

- (1) Is the 1930’s “attack of economic pessimism” due to permanent and fatal causes or is it just a transitory one?
- (2) Until the recent depression got underway, we had been growing at unprecedented speed for the last couple of centuries or so: where did such growth come from?
- (3) Roughly until 1700 A.D., humanity’s standard of living had barely moved since the neolithic age: why did economic stagnation lasted so long and characterize all societies earlier than ours?
- (4) What, if anything, does our understanding of the causes of economic growth so far suggest about our foreseeable economic future?

The Guesses

- (1) The malaise is temporary, and will go away. It may be partly accidental, due to mistakes the banking system has made in not letting the rate of interest fall quickly enough, but its main cause is the exceptional economic growth of the last few decades, which was, in turn, due to major labor saving technological changes. This has led to a fast reduction in the demand for labor while the pace at which we were capable of finding new uses for it has been much slower, hence the high *technological unemployment* we currently experience.
- (2) Historical experience shows that the sources of economic growth are capital accumulation by compound interest, and science cum technical invention. The kick-off was a sudden accumulation of financial wealth – mostly stolen gold – that was wisely invested abroad and which, by compound interest, grew to unexpected amounts.
- (3) The sources of stagnation, first, and, later, of depression have been, respectively, the unexplained failure of every society prior to the British one in A.D. 1700 to

- engage in both technical progress and capital accumulation, and the natural inability of most humans to find something useful to do with the excess time that technical progress frees from work.
- (4) The future can bring us more of this bounty if we steer the ship away from (i) the storms of war and civil disorder, (ii) the sand banks of lack of trust in scientific invention, (iii) the contrary winds of population growth and, (iv) the gorges of investment falling below saving. As the latter – hear it, hear it – tends to adjust by itself as long as the previous three are satisfied, the long run outlook is basically good. The standard of living a century hence will be between four and eight times higher than today.

All right, he got carried away a bit with his claim of “humanity solving its economic problem” and England reaching a per-capita income eight times as high as the one in the 1930s, but more than three times is still a pretty good achievement! More to the point, the old man got his main prediction right: the 1930s depression, even the Great Depression of the United States, was a temporary event that has not repeated since; technological progresses and capital accumulation have continued -in the “progressive countries” and in the few more that joined the club - at an unprecedented speed; finally, our standard of living is already between four (USA) and almost eight (Japan) times what it was back in the 1930s, with twenty-four years to go on JMK’s clock. The man had a superb intuition, an unflinching trust in the capitalistic system, and a hardly matched ability for seeing straight and clear into the long-run trends of our societies, even in the long-run in which he, at least, is dead.

He asked the right questions, and he also made almost all the correct predictions. But, we insist, he incoherently answered the underlying *economic questions*: he guessed the correct outcome, but his guesses hardly followed from the analytical apparatus he set up, or the historical facts, or plain logic. In other words, as our title insists, he suggested all the wrong *reasons* for his correct guesses. Because, as an economist and a thinker rather than as a guru looking into a crystal ball, JMK was highly respected and listened to, it is the analytical apparatus he used and the economic logic with which it was instilled that matter. It is JMK’s economic theory and method, that have survived almost to our day and affected generations of economists and policy makers around the globe, not his lucky predictions about growth continuing at around 2 or 3 per cent a year for the century after him. Let us be clear: that fact is the only one he got right; from that follows the rest of his predictions. Even during those years of widespread gloom he was not, however, the only optimist, and his trust in the capitalist system, while possibly fading in the intellectual circles he spent most of his life within, was not particularly unique in the world at large. It was JMK’s analytical apparatus that left a permanent mark on the pathways of economic science, not his lucky guess, and it is in this sense that, here like elsewhere, he got most of his “reasons” wrong. To see why, we better forget the guesses for a while, and focus upon the internal structure of his arguments and his readings of the facts.

The Answers: JMK Model of Economic Growth

1. Technological change leads to labor saving innovation.
2. This leads to unemployment. First, because the freed labor supply freed does not meet a compensating demand from other sources. Second, because humans are naturally programmed to work long hours, hence cannot adapt quickly to using their free time in activities other than working and producing.
3. Unemployment can be eliminated either if additional demand for consumption goods were to emerge or if humans develop an interest in leisure and activities other than economic ones. This requires even longer time and more adaptation than coming up with new consumption needs.
4. There is a tension between two sides of the human soul, or even two kinds of humans: the wealth-seekers and those that pursue the art of life through leisurely activities. The first side (or kind) will produce, accumulate wealth and make us richer until a state of abundance and satiation is achieved. At which point, the other side (or kind) will take over and we will all be working little, if at all, and enjoying the arts during most of the day.

The closing lines read like the description of realized communism in Karl Marx, when machines will produce everything, everyone will be able to consume according to “his needs” and poetry writing will rule; but never mind. That also JMK could let his imagination fly free and come up with utopian descriptions of the far away and ideal future society is not something either strange or surprising. Equally unsurprising is his (and Karl Marx’s) failure to anticipate how technological progress might not only satisfy existing wants, but create new ones. What we are concerned with here is the internal analytical structure of each one of these steps and, in particular, with the light they may shed on JMK’s better known and still widely believed theories about economic policy and the functioning of the competitive market system.

Can Labor Saving Innovations Cause a Depression?

No one doubts that labor saving technological change may lead to sustained growth in productivity and income per capita. The question then is, how does this happen and is the manner in which labor saving innovations are adopted bound to lead to long-lasting periods of economic depression, as JMK claims in step 2?

What evidence did JMK have to support the statement that technological progress caused the depression that England, and a number of Western economies, experienced in the 1930’s? As far as we can tell, none. Growth in England from 1913 to 1930 was not high – in fact, income per capita did not grow during this period but fell instead of just a little bit [Cole and Ohanian, 2002] – and, what is more important, growth was much lower than during the decades preceding WWI or in the six decades after the end of WWII. The growth of labor productivity, in particular, slowed down progressively both in England and in the rest of Europe, while it continued at roughly the same pace in the USA, until 1929. Had JMK got it right, the great depression should have taken place in the United States only: in Europe the labor-saving innovations he had in mind dated

about thirty years before the time of his writing. So we must conclude either that the depression could hardly qualify as “temporary”, or that JMK had not bothered to look at the data.

Looking at the data would have lead him to realize, among other things, that while all the inventions he listed had been adopted by most European countries, Australia, Canada, Japan and the USA, growth dynamics were uneven across the same set of countries. During the two decades preceding 1930, labor and total factor productivity growth in the U.K. was slow, not booming, and it was turning negative right at the moment of JMK’s writing. Japan was showing no signs of depression and was, in fact, beginning a substantial acceleration. France was growing briskly but would enter a long recession the following year, the same one in which, instead, Australia escaped its own. There is no space for a more detailed examination of the facts, but all the studies we are aware of [for example, Cole and Ohanian, 2002; Crafts, 1999; David and Wright, 1999; Gordon, 2004, 2005] shows that evidence suggesting the depression was due to an extraordinary wave of labor saving inventions is altogether absent.

If the facts militate solidly against JMK’s statement, maybe some economic theory supports his model. Having worked ourselves on the theoretical side of the issue [Boldrin and Levine, 2002, 2006], we can certainly think of labor saving innovations as generating subsequent growth in productivity and income, accompanied by an asymmetric U-shaped path for employment. Maybe the latter is what JMK had in mind: there is no doubt that a labor saving innovation initially decreases employment for given output. That is, after all, how it is defined, in spite of recently popular “Keynesian” econometric research claiming that a positive technological shock cannot induce a short run reduction in employment [Gali 1999, and the literature following it] because the identification procedure defines a “technology shock” as the one that raises employment asymptotically. There is little doubt, though, that even if employment may drop initially it will recover after the innovation is introduced, as more of the technological improved capacity is added and growth resumes briskly. In this case, though, it is the speed at which new productive capacity is accumulated that determines the growth rate of employment and there is little, either in the theory or in the evidence, suggesting that a twenty year long depression would normally ensue, unless the innovations being considered were of a magnitude we have not yet faced.

Pause for a moment, and take stock of one finding: that long-run growth comes from *factor saving, and particularly labor saving, innovation* is a coherent hypothesis, supported by theory and a substantive amount of statistical and historical evidence. While this may sound obvious to most students of actual economic growth, it is not according to recent theoretical trends, hence we use this opportunity to lay bare the essential argument.

Labor saving innovations may be modeled either as exogenous or endogenous. Trivially, everything is endogenous, but it is sometime useful to treat technological progress as exogenous. This is what Robert Solow [1956, 1957], among other, did about fifty years ago, and we have no complaints about that choice: given the state of knowledge and the issue addressed, that was the right way to proceed. Exogenous labor saving technological progress needs to be Harrod-neutral or labor-augmenting in order to be reconciled, if ever vaguely, with long run data. In which case it certainly cannot cause any form of unemployment or even a reduction of employment. Other versions are certainly possible, for example, Hicks-neutral, but they all lead to one kind of

complication or another. Nothing against complications here, some of them are useful and stimulate original thinking. The fact is, though, that among all the interesting complications we know of, a reduction of employment has not yet been found to be the consequence of an exogenous increase in labor productivity. Unless, we should add, one believes that the income effect dominates the substitution effect. In which case, though, employment decreases not because there is less demand for it but because less of it is supplied by the now richer households. This is not what JMK had in mind: his concern is that such an income effect is not strong enough and that people want to work too much instead of taking the leisure they ought to, given their newly acquired productivity and wealth. Summing up: while JMK may have guessed right that labor saving innovations are the engine of economic progress, there is no coherent sense in which their exogenous version can generate the technological unemployment he talks about.

Conceive, then, of labor saving innovations as endogenous. Details of the model aside, when a costly innovation is adopted (free innovations will always be undertaken, hence they are tantamount to exogenous ones) there must be some convenience in so doing. Because a labor saving innovation reduces labor demand for given amounts of output and all other inputs, its cost must be compensated by the implied reduction in the wage bill; hence, such innovations will be more frequent the higher is the real wage, everything else equal. When innovations of this kind are undertaken by many firms the aggregate demand for labor drops and, in the presence of an upward sloping supply of labor, this cannot lead to an increase in the real wage, at least immediately after the new technology is adopted. May this induce a long lasting drop in employment? This question is answered negatively in the model we have proposed, but we can conceive of other situations, in which it may happen, which gives hope of modeling coherently what JMK argued. Two cases stand out as particularly relevant, which are better understood against the background of our preferred parable of labor saving innovations and growth.

After the innovation is undertaken demand for labor drops, and so does employment. Because the wage bill per unit of output is now lower than before, there is an incentive for profit-seeking capitalists to invest in the new technology – an exogenous reduction in the real rate of interest may help, but is not required in what follows. Capitalists invest in the new kind of productive capacity, which increases the demand for labor. This leads to an expansion with increasing labor productivity, wages and output per capita. The expansion comes to an end when productive capacity of the new kind is so large that labor has become too costly to allow further profitable investment. At this junction either the economy reaches a new steady state (with higher income, wages and labor productivity) or a new innovation is found that is profitable, and the virtuous cycle of growth repeats itself. In this story there is no depression, but a temporary drop in employment, the asymmetric U-shaped pattern of employment mentioned earlier. Was this JMK's model? We like to think it is, as it would allow us to enroll in the ever-powerful army of "Keynesianism" and feel part of a larger intellectual community than the one we are currently enlisted in. Unfortunately, everything JMK wrote conflicts with this, personally desirable, conclusion. Nevertheless, if this is what "Keynes really meant", then we were "Keynesian" from the start, and did not know.

Back to the cases in which a permanent reduction in employment can be engineered, then. There are two cases we can think of. One assumes that building productive capacity of the new kind is very costly and therefore proceeds slowly. When

accumulation proceeds slowly, low employment may persist, possibly for a long while. Maybe this is what JMK had in mind, as his reference to the interest rate not having dropped to the new equilibrium would suggest, when interpreted loosely. But this gives us a coherent theory only on the account of pretending that “moody entrepreneurs” are the main driving force behind economic growth, and here is why. If accumulating new capital is very costly this may be because it actually is so on the ground of fundamental facts, or because those that are supposed to purchase it believe it is so on the ground that they are in a period of low-spirit and little desire for it. In either case, reducing the rate of interest may seem helpful. Helpful, though, in what sense?

Begin with the case in which capital is not being accumulated because entrepreneurs do not find it convenient, and this is due to a correct evaluation of the costs and benefits of new enterprises. Consider first the case of a temporary reduction in the rate of interest. This would be of no great use in the circumstances considered. Investment projects last for more than one period and are irreversible, which is particularly the case when productive capacity incorporating new technologies is being built. A temporary drop in the real rate of interest may induce a temporary jump in the investment rate only if the investment game is over after one period. If, instead, the new productive capacity is expected to last for more than one period, while investors know that the drop in the real rate is only temporary, nothing will happen. Entrepreneurs will reason: once the new capacity is installed and the desired rate of return on capital goes back to its original higher level, those undertakings that appeared profitable when the rate of interest was low, will start making losses and be terminated, together with the employment they had only temporarily produced.

Move next to the case in which entrepreneurs are in a bad mood and their “animal spirits” make them pessimistic about the future, even if there is no good reason for them to be so unhappy. If entrepreneurs are in low spirit, then offering them a temporarily cheap price of capital may cheer them up, get investment started again, allowing the price of capital to rise back to the permanent equilibrium level if the joyfulness continues. Indeed, even a reduction in the short-term interest rate might cheer them up. Perhaps so too would a circus.

On the other hand, how can one lower the desired rate of return on capital forever? Lowering the rate of interest permanently is clearly useful both when entrepreneurs are “rational fundamentalists” and when they are “spirited animals”, so consider how this may be achieved. Certainly not by convincing the bankers, as JMK seems to imply, because bankers are also profit maximizers and we do not expect them to lower their prices just to do theorists a favor. They may be “surprised” into it, as we had been taught for many decades, but this, as the 2006 Nobel Prize winner taught us, does not really lead very far and certainly does not lead to a permanent reduction in the real rate of interest. Increasing saving permanently would do it, in fact: it seems to be pretty much the only way in which a permanent reduction in the rate of interest can be engineered. Walking through this door, though, leads us into a complicated world we have not yet well mastered: how do we change the propensity to save and invest forever? This requires a change in preferences of a kind opposite to the one JMK advocates – it requires a generalized increase in thriftiness, avarice and parsimony – so let us leave it at that for now.

The second road to persistent lower employment following a labor saving innovation is more “Keynesian” in spirit: rigid (real) wages. If the drop in labor demand caused by the innovation is not accompanied by a reduction in wages, the accumulation of capital, caused by the initial labor saving innovation in our parable, will be slower. Still, it will not lead to a permanent reduction in employment, just to slower growth and faster adoption of yet another labor saving innovation. If it were profitable to employ one worker at a wage of one apple to produce two apples before the innovation cut the labor input in half, it should be profitable to employ (at least) the same worker at the same wage to produce four apples after the innovation is introduced. Unless, clearly, the cost of innovating exceeds the additional two apples produced by that one worker with the new machine. In which case, though, the labor saving innovation would have never been adopted in the first instance, and the story is over before it even starts. This suggests one extreme possibility: following the adoption of the innovation the drop in the demand for labor induces a sharp increase in the real wage rate, an increase large enough to cancel out the beneficial effects of technological progress. This can lead the economy to a state of higher output, productivity and wages, but lower employment. In a world with trade unions and all kinds of labor market imperfections, this is certainly a possibility and one that a number of European countries appear to have experimented with, on and off, since the early 1970s. Maybe JMK had conceived of “Eurosclerosis” almost fifty years before it materialized, a fascinating conjecture indeed. Nevertheless, again, this is not what his writing suggests: there is no trace of an excessively high real wage in the article, nor does he seem to be blaming unions and other market rigidities for keeping the wage too high and impeding employment growth as, instead, recent literature seems to be convinced was the case [Cole and Ohanian, 2002]. He blames, briefly, the interest rate for being too high and, as we already seen, this road does not lead to the desired implications.

Conclusion: all the facts we are aware of suggest that JMK did not bother to check them before making his statement that labor saving innovations caused the malaise, and there is no coherent economic model of labor saving technological progress, be it exogenous or endogenous, that predicts a persistent employment depression of the kind the UK, and the USA, experienced during the 1930s. Unless, we insist, JMK had in mind super-monopolistic labor unions raising real wages in the face of declining employment. Maybe this was the case, but then: should not our author have told us so, instead of spending various pages debating the socio-psychology of effective demand failure?

The Socio-Psychology of Effective Demand Failure

Let us move forward, then, and consider the second half of point 2. and point 3. in JMK’s putative model. This allows us a glimpse of the socio-psychological foundations of JMK’s most famous “contribution” (quotations marks are *de rigueur*, as you will see) to economics: the theory of effective demand failure. Here are the key phrases in the light of which the whole text should be interpreted:

We are being afflicted with a new disease of which some readers may not yet have heard the name, but of which they will hear a great deal in the years to come – namely, technological unemployment. This means unemployment due to our discovery of means of economising the use of labor outrunning the pace at which we find new uses for labour.

The analytical potential of this most captivating overture we have already examined, and it leads to the theoretical hypothesis, considered earlier and thereby discarded, according to which JMK was assuming that either wages were too high or new investment too costly to keep up with the unusual pace at which innovations were shading labor away. But this is not what he had in mind because, once the paper progresses, it is on another kind of theory that he focuses, that is beautifully summarized by

Yet it will only be for those who have to do with the singing that life will be tolerable and how few of us can sing!

This is JMK's main concern here: the brutish part of ourselves, or the brutish ones among us (the many who cannot sing), still want to work and accumulate instead of taking up music. May we advance the absolutely crazy idea that hereby rest the microeconomic foundations of JMK's theory of aggregate demand failure?

We have been taught in school that JMK is the man that first clearly figured out why the market mechanism is not self-equilibrating, why Say's (or was it Walras's?) Law does not hold and why economic crises and depressions are intrinsic and unavoidable features of a market economy. When we were taught classical Keynesian economics – that is long before the recent explosion of post, new, and neo-Keynesians variations appeared – the logic was relatively straightforward. Wages and prices are rigid, that is both the main assumption and a self-evident truth, and human desires and plans volatile, while installed capacity and the size of the work force, are not. Because of this, demand for goods and services oscillates wildly, following the equally wild movements in animal spirits. The good times come when demand is high, so that plants can run at full capacity and the workforce be fully employed, but in those ugly days or months in which the population is, for whatever reason, depressed and pessimistic, demand is low and, because of price rigidity, lots of productive capacity, both physical and human, goes unemployed. This situation we call one of “Lack of Effective Demand” and it is due to the self-evident failure of free markets to bring about the necessary changes in the relative prices of goods and factors.

Well, maybe: but this is not the impression one garner from reading this particular piece. Why? First off because he never mentions any of these factors: no rigid wages, no animal spirits, no demand for investment incapable of equilibrating with its supply, that is saving. Second, because he explicitly denies such possibility when he states that

[...] and the rate of accumulation as fixed by the margin between our production and our consumption; of which the last will easily look after itself, given the first three.

We read the latter as saying that markets will do their job, and saving will equal investment, as long as “the first three” conditions mentioned earlier are satisfied. No failure of capitalism and free markets here, just the opposite. Still, JMK argues, we cannot currently find uses for the excess labor that technological progress has generated and this is due to (i) approximate satiation of our material needs, (ii) an animal-like impulse to work, work, work. We will spare you the irony of having to consider the mass unemployment of the depression as due to a primitive desire to work even if it would have not been necessary per se. We will not do this, still we will insist on our un-

orthodox thesis that this whole paper and, most importantly, the discussion about the lifestyle of the aristocratic people

[who have] return[ed] to some of the most sure and certain principles of religion and traditional virtue – that avarice is a vice, that the exaction of usury is a misdemeanour, and the love of money is detestable, that those walk most truly in the paths of virtue and sane wisdom who take least thought for the morrow.

has to be read as Keynes' microfoundations of the theory of effective demand failure. The following constitutes, indeed, the biological underpinnings of the "animal spirits" concept, ordained to become the theoretical jack-of-all-trade of Keynesian economics: humans are mostly brutish animals, biologically selected to work and greedily seek satisfaction of a few basic needs. When such needs are satiated, humans will still want to work and accumulate (as workers and capitalists, respectively) but (as consumers) they will be unable to dream up things to demand and new material wants to satisfy. Being satiated they cannot generate additional demand, being brutish they seek to generate additional supply. Notice that the unpredictable and altogether arbitrary "animal spirits" are not needed here to make the theory coherent: some of the people, or a part of people's brain, having reached satiation is no longer increasing its demand for produced goods and services, while some other people, or the other portion of the brain, insatiably wants to work, produce and accumulate. Hence the effective demand failure, hence the need to repeatedly engineer persistent drops in the real rate of interest; to artificially induce demand for goods where there would not otherwise be, waiting for the humans to evolve out of their satiated and brutish schizophrenia. Like it or not, this is the least inconsistent socio-psychological foundation of the theory of effective demand failure we are aware of. Once its aristocratic overtones have been stripped away, it may even have something to do with very recent research in decision theory, as we speculate at the end.

The bio-cultural theory of human preferences JMK proposes, and we are now stepping into the territory of point 4 in JMK's hypothetical model of economic growth, is also a beautiful exercise in stretched coherence. There are two kinds of needs, we are taught: the absolute and the relative. The first satisfy the satiation assumption, while the second do not as their value is determined in a kind of "habit-forming" or "catching-up with the Joneses' fashion. Good, one says, as long as preferences are insatiable along some dimension, economic growth, even if it needs effective demand to be spurred, will continue along those dimensions. But the relief is short lived as the "relative needs" do not seem to have an economic nature: we (well, only some of us) actually like to devote our energies to non-economic purposes, we are told. What a "non economic purpose" is that nevertheless requires expense of human energy, it is not clear and it is never said. What is said is that it is somewhat "non-human" as the whole race has been bred and selected for solving the economic problem. Why a machine that has been built for the exclusive purpose of doing A will suddenly elect to do –A even when it does not know how to do –A and, as a consequence, has a nervous breakdown, we are again not told.

Let us stop here, the point is not to be facetious but to underline a mode of reasoning that is completely unscientific. In the light of contemporary moral values, obviously, JMK statements read as utterly classist, sexist and Euro-centric – just notice how he ignores the economic conditions of about 6/7 of humanity that, especially at the time of his writing, nobody could possibly assume capable of overcoming the economic

problem within a century. Leave these issues aside, the man was after all a man of his time. What is really surprising is that one could try to build a theory, economic or not, of the long-run evolution of humanity on such a badly assorted collection of British upper-class prejudices: the sloppy description of human preferences we just ridiculed, the completely unsubstantiated argument about the existence of two kinds of humans, the neurotic housewives, the vulgar rich person, the lazy but artistically-inclined rentier ...

There is hope, nevertheless, even for the masses of non-geniuses: a little amount of work will apparently be available even in the country of unbounded cornucopia we are fast approaching, and these few hours of work may be enough to keep the inferior among us away from the psychiatric ward while those who can sing will reproduce and spread around, and maybe educate the least brutish among the other humans. Once the transformation process is completed, effective demand failures will forever be gone, and central bankers with them. There is always a silver lining.

JMK's View of Human History and of the Origins of Growth

In 1930, the love for wealth and money, apparently, was only about 200 years old, and bound to disappear into eternal oblivion about a hundred years later. Never mind that today, only 24 years from the end of history as we have known it, you do not yet feel the symptoms and that, apparently, about three billions of Chinese and Indians are going crazy for accumulating wealth and material goods. That much, even JMK was not able to forecast, he was not Karl Marx after all. What is truly amusing, though, is the fact that such a finely educated superior being as JMK had never heard of the Fuggers and the Medicis, of the Roman Senators and the Egyptian Emperors, of the Shylocks and the Gengis Khans. In fact, he had not even heard of the (Christian) Church and of the Jews, as the first had been prohibiting interest (simple or compound, equal sin) for more than a millenium – evidently someone had been sinning– and the second had been sinfully delegated to take care of collecting it.

No doubt JMK was right that he lived in a period of unsurpassed technological and economic wealth and continuing transformation. As we talk today of “jobs being exported overseas” so then JMK worried neurotically about too many workers becoming redundant due to technological change – despite, as we have remarked above, ample evidence that this does not happen, and that it was not happening at the time.

For JMK history starts about three hundred and fifty years before, roughly in 1580. Before that time, certainly for four thousand years, nothing happened – and this was because of the lack of technological progress and the failure to accumulate capital. Then the industrial revolution struck and everything changed. If JMK is to be believed, in 1000 B.C. we already had banking, the state, religion, astronomy and mathematics, they have apparently not changed or improved since, and, indeed, nothing else worth mentioning had been invented by humans until about 1700 A.D. We will leave aside the fact that, as an empirical matter, this is as false and simplistic as anything can be [Diamond 1997, Lane 1963, McNeill 1963, Mokyr 1990, Rostovzev 1926, Trevor 2000], because, unfortunately, JMK is not alone in perpetuating this myth that has made it almost intact to contemporary writers of economic growth. Taking up in the remaining three pages the whole “Nothing Happened ‘Till the Industrial Revolution” narrative is not feasible. So let us focus upon a couple of minor, but revealing, points of theory.

What is truly fascinating is how confused JMK was between real and monetary factors, between aggregate accumulation and private and nominal accounting profits. Accumulation, he say, begins in the sixteenth century and was driven by the price inflation spurred by the arrival of Spanish gold and silver from the Latin America colonies. Such inflation generates profits, we are told. How this could be – how inflation can generate real physical surplus – only JMK knows. For every borrower who profits as the real value of his debt collapses, is there not a lender who loses his shirt?

Nay, assume someone make profits and this is all that matter, maybe because those making the losses do not count or disappear. Forget also the fact that the “inflation” of that period is partly due to fast population growth during a long respite from the plague and it corresponds, as historians have well documented, to a decrease in the average standards of living. Maybe the inflation, by making borrowers richer, transferred resources from an incompetent and primitive social class (the lenders) to a trade-oriented, capitalist, and entrepreneurial one (the borrowers) and this got that great thing called the Industrial Revolution going. Forget the obvious fact that this had happened dozen of times before in Byzantium and Venice, in Florence and Maastricht, in the Flanders and Cadiz, in Hamburg and Marseille, and still the Industrial Revolution had not come.

Forget all this obvious common sense, and just ask: Who were the big borrowers of Europe during the sixteenth century? The autocratic kings, obviously! Like Henry VIII, who debased the currency around 1542 to get (partially) out of his troubled debt position (this is the century of Gresham, after all, later to become an advisor to Elizabeth I) . Or Felipe II, of Spain, the most eternally in debt of them all. If this is not enough evidence to convince anyone that JMK’s theory of the causes of the Industrial Revolution was just a made-up-on-the-spot story meant to impress the audience until he left the room in the midst of applause, nothing else will. Ironically, something did happen during that century, and in England, that JMK did not notice but somewhat favored the accumulation of capital in the hands of the entrepreneurial class: the expropriation of monasteries, carried out between 1534 and 1539 by Thomas Cromwell on behalf of Henry VIII – yes, he was into expropriating anything he could grab – [Youings 1971, Duffy 1992]. But then, if JMK had heard of it he would be ready to argue that the English Reformation was just a consequence of the Spanish bullion inflation.

Let us move on; even if the original accumulation did not come from the inflation of the sixteenth century, maybe it is true that it all started then and there. That is fine: forget the Hanseatic League, the Italian Comuni, the Netherlands and all the rest; assume that capitalism started in England around 1580, as our Cambridge Don would like us to believe because it so pleases his ego. How did it continue? Compound interest, we are told: we, the civilized British people, stole the money from the Spaniards, invested it properly (mostly in colonial enterprises) and the power of compound interest did the rest. It is strange that the power of compound interest kicked in only in 1580 – and indeed, why would compound interest become effective and yield all this wealth if it were purely a matter of receiving interest from borrowers? Where does the REAL stuff come from? Adam Smith founded modern economics by exposing the fallacious mercantile idea that owning lots of gold and silver is a good thing for an economy. And English accumulation only begins with Drake’s capture of a Spanish treasure in 1580! Can any human being suffer of monetary illusion more than this man did? No wonder he believed what he believed about the economic behavior of other humans, monetary illusion and all that: he

was working through introspection. JMK was guilty of the ultimate eurocentrism: he believed that our capital is what we invest abroad and its yield is what the “other guy” pays us. Our wealth is their poverty, our income is their loss. Fortunately three billion Chinese and Indians have learned otherwise, and so, whatever JMK may have really meant, the virtuous cycle of physical production goes on.

Standing on the Shoulders of Giants

Standing on the shoulders of giants requires, sometimes, very good balancing skills. JMK, we are told, was a giant of economics, so we have tried to stand on his large shoulders. We came up empty-handed, but we learned something about how not to theorize about human needs and their determinants.

That, possibly due to our “selfish genes,” human desires are unlimited and that – in spite of the fact that it is always a limited set of “characteristics” we are seeking in goods and services – technological progress itself seems to offer an unbounded sequence of forms in which such characteristics can be satisfied, this we have also learned. How such desires evolve and how predictably we pursue them over time, we do not know. In fact, we do not even know the extent to which the “animal impulses” inside ourselves determine our choices vis-à-vis the more rational, or calculating, pre-frontal cortex. We do not even reject the hypothesis that, maybe, our decision-making procedures are better modeled as a game between two of us, or two parts of our brains [Levine and Fudenberg 2006], as JMK possibly meant to suggest with his metaphors of the brutish animal and the elevated spirit who can sing. We know we know little about this, but we do know this is something worth figuring out.

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