



European Transition into a Socio-ecological Market Economy

Erich Hoedl

Vice-President, European Academy of Sciences and Arts

Abstract

The European Union has introduced the Europe 2020 Strategy and Horizon 2020, which contain several elements for a transition into a Socio-ecological Market Economy. But their implementations are mainly hampered by the unduly large financial sector and the political striving for high economic growth. A turn into low growth equilibrium needs a reduction of total capital inputs, which are composed of financial, man-made and natural capital. Whereas the reduction of financial capital needs a strong, but actually lacking political will, the reduction of man-made and natural capital depends on a real capital saving innovation system, which should partly be financed by a transfer of financial capital to the real productive sector. Beyond a strong reduction of financial capital and depending on existing ecological, social and economic problems, the innovation system should save man-made and natural capital accordingly. In all cases these innovations need higher qualification by means of a human-centered educational system. Higher educational investments, i.e. augmented "human capital," are decisive for a transition into a Socio-ecological Market Economy for two reasons: First, higher qualification will augment the wage-profit relation and second, capital saving innovations will reduce productive capital inputs without reducing the profit rate on the reduced real capital stock. Increasing "human capital" intensity will accelerate the transition into low growth equilibrium with a higher consumption-investment relation, which creates more domestic final demand and needs lower export surpluses. Starting from existing high productive and financial capital intensity, during the transition saving surpluses in Europe will decline only step by step; they should not be allocated in financial markets, but for a considerably more human-centered education and real investments in Europe and the Third World.

1. Economic Crisis and Socio-ecological Market Economy

The European economic crisis has suddenly interrupted a fairly good economic development, wiped out nearly all economic progresses made since the last decade and caused a setback of several advances towards a Socio-ecological Market Economy (SEME).¹ After the introduction of the Currency Union, Europe was firmly determined to establish a socially and ecologically sustainable economy and implemented – although the Lisbon Strategy was rather deceiving – a variety of corresponding measures, which made it the global forerunner in developing an SEME.² Following the crisis, the European Union introduced the Europe 2020 Strategy and its collateral programme Horizon 2020 for re-activating and strengthening

initiatives for longer term sustainability. In different respects Europe 2020 is regarded as a strategy to overcome simultaneously the economic crisis and accelerate Europe's transition into an SEME, which would also assure global economic competitiveness. By this, the European Union intends programmatically to create a "new economy", by which it can and should regain and enlarge its role as a global player.³ But the European approach to a transition refers only marginally to the importance of higher "human capital" and contains no coherent concepts for reducing the financial sector and a strategy for a turn into low-growth equilibrium, which are constitutive for an SEME.

In contrast, we will argue that European economic welfare can be assured by low economic growth, if prevailing high total capital intensity will be reduced in favour of considerably higher "human capital" investments, by which qualification and innovation can assure a smaller financial sector and a real capital saving productive system. It will be shown that the creation of high "human capital" and not ever augmenting financial and real capital accumulation can bring about economic, social and ecological sustainability. During the transition high saving surpluses should not be invested in the financial sector and not transferred as financial aids to economically less developed European countries, but for education and real productive investments in those countries and partly for real productive investments in emerging countries instead of further strengthening prevailing financial globalization.

2. Capital Intensity and Low Economic Growth

The European economic policy intends to augment economic growth by higher labour productivity derived from higher total capital intensity.⁴ It follows the classical idea that more capital equipment for a working place augments labour productivity by this economic welfare. It does only marginally consider that economic welfare can be increased by higher "human capital" investments and less financial and real capital investments. In a purely economic perspective, it neglects the profit squeezing effect of permanently augmenting capital intensity. The visible consequence of this profit squeeze in the real sector is the growth of financial investments, which in turn accelerates crowding-out of real productive investments. Low productive investments augment unemployment and public deficits, which can only be marginally reduced by export surpluses. The largely unproductive financial investments are a burden for the productive sector, because "financialisation" augments the money value of real capital. Consequently, the real sector reduces wages to compensate for the increasing cost of financial and real capital. Growing total capital intensity in Europe and the demanded returns on real and financial capital reduce wages and domestic final demand. A further reduction of wages would aggravate European economic development. The remedies are not lower wages, smaller public budgets and higher export surpluses, but the reduction of total cost for capital inputs.

From a macroeconomic perspective, total capital inputs are the sum of financial capital, man-made capital and natural capital and real productive capital is the sum of man-made and natural capital. Therefore, a reduction of financial capital would contribute to lower capital intensity and reducing man-made and natural capital would give room to higher wages and final demand without reducing the profit rate on the reduced stock of productive capital.

Consequently, a lower stock of productive capital would increase economic sustainability, which is mainly defined by a sufficient profit rate. It also augments social sustainability to the extent that lower real capital inputs increase employment. And finally, lower natural capital inputs increase ecological sustainability. Reducing total capital inputs instead of reducing wages augments simultaneously economic, social and ecological sustainability.

A European transition into an SEME is confronted with the growing dominance of the financial sector. European high saving surpluses are a consequence of the uneven income distribution. Together with up-stream savings they have created a speculative financial system with high interest rates, which increases the profit squeeze in the productive sector. On a first view, low real economic growth in Europe seems to be in favour of the above sketched sustainability, because it reduces the consumption of man-made and natural capital. But European economic growth is far from the equilibrium, visible in high unemployment and the increase of purely financial wealth. Saving surpluses and easy money from central banks accelerated financial wealth inflation with minor productive effects in the past. Total economic wealth in Europe consists mainly of high financial wealth and low consumption. Under these conditions, not the real, but the nominal value of the productive system increases and reduces wages and employment. As a result the European economy has a low “consumption productivity of total capital inputs” as well as a declining employment efficiency of the productive system. Evidently, the remedies are not less consumption and employment, but a smaller financial sector and a reduction of productive capital inputs. As productive capital inputs determine real economic growth, a reduction of man-made and natural capital paves the way to low growth equilibrium.

The transition into an SEME is bound to a step by step reduction of real investments and a higher consumption-investment relation. During a transition the volume of total output declines and the relative volume of consumption will increase if the consumption-investment relation increases more than the output-investment relation. In any case, the higher consumption-investment relation needs a change of income distribution towards wages, which depends on higher employment and/or higher wages per hour. If labour is remunerated according to its productivity and the latter does not primarily depend on the reduced capital intensity, but on higher qualification, wages will augment without a parallel increase in capital inputs. This implies that labour productivity will decline because the volume of output will be reduced by lower capital investments. And capital productivity can – depending on the output-investment relation – be increased by a politically targeted capital saving innovation system. Higher qualification augments the volume of work executed per hour and reduces labour productivity for a given volume of output. And capital saving innovation augments capital productivity for a given physical volume of output. This is in conformity with the result that a transition into an SEME is bound to a higher growth rate of capital productivity than labour productivity.⁵

The Europe 2020 Strategy has introduced the flagships Digital Agenda, Resource Efficient Europe and several microeconomic capital saving initiatives, but has not questioned the macroeconomic strategy to augment economic growth by higher capital intensity. By this, capital saving effects are overruled by striving for higher financial and real capital accu-

mulation and the role of “human capital” is down-sized to facilitate more real investments for higher economic growth. Moreover, the Europe 2020 Strategy has not strengthened the regional dimension beyond existing Structural and Cohesion Funds. Economic disparities between Member States have increased since the financial crisis and reducing disparities cannot be expected from high growth in the European region. The region needs not only more productive investments in economically less developed Member States, but above all higher qualification and innovation. Purely financial help packages can – as experiences in the last decade demonstrate – neither have significant employment effects, nor create a more homogeneous European economy.

3. Capital Accumulation, Innovation and Qualification

The key for a transition into an SEME is the augmentation of total capital productivity by means of higher “human capital” inputs. Although a vigorous reduction of financial capital is necessary for a transition we concentrate here on the reduction of productive capital. European economic policy has to refuse the prevailing striving for permanent high economic growth by higher labour productivity via higher real capital intensity. But one has to be clear that this would be a refutation of the classical concept on which traditional economic welfare is based. Historically, high economic welfare was gained by the growth of capital stock, which augmented employment, wages and consumption in the past. But we are at a turning point, because real investment opportunities in Europe have been shrinking, social problems have been increasing and ecological limits have started appearing. Certainly, the “end of the world is not at hand” (Solow), but already for a long time, ever-augmenting real capital accumulation has run into difficulties. After longer waves of increasing capital intensities it had to be reduced by “creative destructions” of new technologies and innovations which emerged as a precondition for new economic growth. It was mainly the economic profit squeeze, formerly without reference to ecology, which needed temporary reductions of financial and/or real capital.⁶ Approximately the same destructions were needed in short run business cycles, even during the Great Crash in the past and in the recent economic crisis. If we look further, high economic growth after great wars has its roots in disastrous destructions of economic resources. To prevent over-accumulation following crises, which is inherent in our “economic machine” (Keynes), economic growth has to be tamed. This is only possible through a capital saving technological progress, i.e. a transition into lower capital intensity.

The European growth policy does not consider the positive consequences of a capital saving technical progress. On the contrary, it follows neoclassical growth theories, which support capital augmenting accumulation.⁷ They neglect longer term diminishing returns, which results in a falling profit rate in every type of growth model.⁸ Then, all advantages of a large real capital stock cannot be earned by consumers. The lack of final demand can only temporarily be compensated by higher public demand and export surpluses. Finally, it is the decline of profitability of over-accumulated real capital, which needs capital saving innovations for a given level of output and increased labour inputs as compensation. In Keynesian growth models the supposed constancy of capital productivity (Harrod) can only be assured by higher labour inputs. Precisely these additional labour inputs prevent a decline of capital productivity and reduce the capital-labour relation. The same follows in neoclassical theories

where permanently augmenting capital intensity converges on a labour augmenting technical progress.⁹ Counterbalancing the decline of returns on capital cannot be derived from price substitution, but needs a politically targeted innovation system.

But innovation has become a wizzleword, becoming increasingly irrespective of its positive or negative societal consequences. For example, “financial innovations” have considerably contributed to the recent financial crisis and “planned obsolescence” is not to the advantage of consumers. To enhance the transition of the European economy into an SEME we have to target innovations towards higher capital productivity and not towards higher labour productivity. Increasing capital productivity cannot be accomplished by higher capital intensity, but only by higher labour intensity.¹⁰ As innovation always springs from human brains, more labour – both in terms of hours and qualification – is needed so that these innovations are labour augmenting. In an innovation-oriented economy labour plays generally an increasingly significant role.¹¹ If human resources are largely targeted to prevent a decline of capital productivity, real production becomes a new character and traditional capital investments lose importance, i.e. real capital intensity declines. This “scientification” of the productive system is in accordance with trends typical of dematerialization and the service economy at large and has distributional consequences.¹² If labour and capital are remunerated according to their contribution to total output, the wage-profit relation has to increase. During the transition into an SEME the wage quota and final demand increase and economic growth reduces without a decline in the profit rate on the reduced real capital stock. And “scientification” assures international competitiveness, because prices of traded commodities can be stabilized by lower capital costs instead of lower labour costs.

The most convenient way to augment real capital productivity is to slow down capital accumulation, which augments marginal and average capital productivity and at the same time reduces the rate of real macroeconomic growth. But whatever the strategy for low growth is, there is the question of total volume of work. Traditionally, it is measured in hours without reference to quality of work. In face of the enormous educational investments for decades, the executed volume of work has to be measured both in time and quality and rough estimations show that qualified work furnishes about double the volume of simple work.¹³ Looking at the formal economic sector, – without referring to growing informal and unpaid work – public and private qualification may have augmented the volume of work considerably and the relation between labour and capital may have risen. As higher qualification is mainly mirrored in salary schemes which seem to have risen, the volume of wages per hour has also risen, but much less than the nominal value of real capital equipment. The increase in nominal capital intensity is the result of growth of the financial sector. In physical terms, the relation between labour and real capital may have risen by qualification. Although employment in hours has grown less than total output, the increase in the volume of work may have surpassed the increase in physical productive capital inputs.

Europe 2020 and Horizon 2020 stress verbally the importance of higher qualification both for getting a job as well as for more R&D and innovation. In Horizon 2020 Excellent Science should augment global scientific competitiveness; Industrial Leadership, industrial competitiveness and Social Challenges should alleviate from burning societal problems, which

can be considered as market failures. All three mutually reinforcing priorities have some capital saving and labour augmenting effects. But estimations for the year 2030 show that the combined effects of the three priorities augment economic growth with low employment efficiency.¹⁴ Horizon 2020 intends still – although with little success – to augment economic growth and create little more employment. Therefore, Horizon 2020 in its present configuration contributes only marginally to the transition into an SEME.

4. A New Regime of Accumulation and Income Distribution

The European economic policy outlined in the Europe 2020 Strategy aims at a “new economy” by modifying reluctantly the content of economic growth, but it does not question growth itself. By discussing capital saving innovation and labour augmenting qualification we found that Horizon 2020 has some potential for turning into a low growth path. But even these moderate contributions are neutralized by the macroeconomic concept of Europe 2020, which intends definitely to augment economic growth by higher real capital inputs. The real capital intense supply has – under conditions of restricted public demand – to be absorbed by a large financial sector with high debts so that “financialisation” has to assure economic growth on the demand side. As the supply-demand relation has lost contact with real production, we have to abandon the neoclassical circular relation between capital and labour in favour of investigating primarily productive capital accumulation. This corresponds to post-Keynesian growth models, which refuse production functions, the most curious of which are Cobb-Douglas versions. Capital and labour have to be considered separately, with capital split up into man-made and natural capital, which comes close to Schumpeter’s view that only labour and nature are productive.¹⁵ Then, man-made capital is just an intermediary transformational instrument between nature and final consumption. Keynes, who did not directly refer to nature, went further and had sympathy for the labour value theory, which considers only labour as productive.¹⁶ In face of the strongly increasing importance of innovation and qualification which are intimately connected with human activities and their creativity, economic welfare increasingly depends on labour. Certainly, both man-made and natural capital play an important, however declining, role in an SEME, which is visible in a step by step reduction of real capital inputs. Consequently, education and “human capital” become the main driver for a socio-ecological transition.

Therefore, the transition into an SEME needs a new regime of capital accumulation, income distribution and economic growth. The new regime follows from “scientification” of real production. Already in the Lisbon Strategy, knowledge-based development had priority and is now partly reinforced by Europe 2020 and Horizon 2020. At the microeconomic level the European economic policy goes programmatically in the right direction. The reluctant steps towards an SEME are mainly neutralized by the macroeconomic policy for higher economic growth instead of structural changes, which ultimately concerns the composition of the capital stock and the resulting income distribution. In fact, prevailing distribution of productive and financial capital and the demanded rates of profits and money interest absorb too much of the total income. Labour is – enhanced by weak bargaining powers – not remunerated anymore according to its continuously increasing contribution to overall real production. To ensure a transition, income distribution has to be changed towards wages; a

higher consumption-investment relation and the new low growth equilibrium would reduce the volume, but not the rate of profits.

“Transition into an SEME needs a conscious societal evolution and full development of the human potentials for active learning and knowledge transfer.”

The new regime is bound to have higher investments in education, research and innovation, i.e. in “human capital”. European educational policies intend to increase spending in the public and private sectors, but actually in most countries such investments are reduced in favour of financial investments. Moreover, reflections of the traditional concepts of qualification are urgent and this may lead to a new paradigm of human-centered education.¹⁷ Transition into an SEME needs a conscious societal evolution and full development of the human potentials for active learning and knowledge transfer. It is not through primarily capital equipment, but through educational investment in people at all levels of the economy that societal welfare can be derived. Innovation in material and immaterial equipment produced by highly qualified workers is just a means for higher welfare and the final target should be human development. It is the enhancement of people themselves and their personalities – on which depends a peaceful human-centered development – which can bring about economic, social and ecological sustainability.

5. Real Capital Globalization instead of Financial Capital Globalization

The prevailing European economic crisis, which may continue for at least a decade, is a setback in its role as a global player, comparable to the setback of Japan since the 1990s.¹⁸ To play an important role in the coming multi-polar global economy, Europe’s chance is a transition into an SEME. Such a transition would reduce imports of natural resources and energy from the Third World and augment employment by higher qualification and innovation without the need for high economic growth. During the transition into a new regime of accumulation and distribution, saving surpluses, including up-stream savings, have to be transferred to economically less developed European countries for education, innovation and real investments and not as financial aids. Remaining saving surpluses should be transferred to the Third World for education, innovation and real investments and not as financial investments. Europe has to develop its own financial markets to join the coming multi-polar currency system and to globalize its productive activities.¹⁹ At the global level the European transition into an SEME is now hampered by a belief in welfare that augments free trade and free financial globalization. In contrast, a more harmonized global development can be expected from more equally distributed “human capital” and real production globalization. Already in times of mono-polar globalization real foreign investments represented the solid background. The dominant global role of Great Britain until the First World War was mainly based on its real investments in the Commonwealth from which it derived its financial strength.²⁰ The change of global leadership to the USA also went by large foreign real

investments and later by non-material investments, including the US microeconomic model in real production. Certainly, the global dominance of the Dollar stabilizes the global role of the US economy, which is underpinned by increasing outsourcings and vast international financial investments. In a multi-polar world, real production globalization becomes more important and trade can diminish accordingly.

“Europe’s mid-term chance to become an important global player does not lie in a competition with economies with high capital intensity and high economic growth, but in a vigorous transition into an SEME (Socio-ecological Market Economy).”

But Europe is proud to be the biggest trading block in the world and adheres still to the old idea that more trade is always advantageous for all and reduces global inequalities.²¹ In face of the global similarities of production technologies, it is the globalization of production which augments Europe’s role as a global player. During the European transition into an SEME, more sustainable technologies can be exported and less natural resources imported. By this, increasing disequilibria in international trade, which are an important source of conflicts, can be reduced.²² The chances for developing countries to implement their own socio-ecological development strategy would increase without being disturbed by prevailing financial globalization. Europe’s mid-term chance to become an important global player does not lie in a competition with economies with high capital intensity and high economic growth, but in a vigorous transition into an SEME.

6. Summary and Outlook

Summing up the basic arguments for a transition into an SEME we find that, historically, high total capital intensity has not assured economic, social and ecological sustainability. Further augmenting material capital intensity will have a squeezing effect on the real sector’s profit rate; it will not create high employment. It will finally augment environmental deterioration. In contrast, lower material capital intensity by way of less man-made and natural capital inputs will stabilize the profit rate, create more employment and reduce consumption of natural resources. A transition cannot rely on price substitution, but needs real capital saving innovations, which are bound to have higher “human capital” inputs furnished by an enlarged human-centered educational system. Higher qualification enables capital saving innovations and changes real production to a higher labour intensity. The main obstacle for a transition is the undue large financial sector, resulting from the uneven income distribution and the speculative behavior of financial markets. High and mainly unproductive financial capital is a burden on real production and canalizing it to the educational system would be in favour of capital saving innovations. The new regimes of accumulation and income distribution result step by step in a low growth path with higher employment and less man-made and natural capital without reducing the profit rate in the real sector. The core of a transition

strategy is more qualification and innovation by creating higher “human capital” instead of financial and productive capital.

Looking at the feasibility of such a strategy for socio-ecological transition, one has to take into account prevailing vested interests. The over-boarding influence of the financial sector creates more and more fictional money value and has little interest to reduce this burden on the real sector. As the latter has the possibility to compensate for this burden by lowering wages, there is an implicit agreement between both sectors. In face of high unemployment and worsened social conditions, labour has low influence to change capital accumulation and income distribution. But historical experiences show clearly that ever-augmenting capital accumulation produces a heavy crisis during which capital is devaluated and partly destroyed.²³ A recent comprehensive analysis of longer term accumulation dynamics forecasts that there would be an increasing and more unequal accumulation of financial and productive capital and that only heavy taxes can prevent large economic and social crisis.²⁴ Both treatments suspect, like many other investigations, that a far-reaching crisis might be the consequence of high total capital accumulation. Reducing economic growth by augmenting “human capital” will contribute to a socio-ecological transition and thereby to a human-centered economic development.

Author Contact Information

Email: erich.hoedl@aon.at

Notes

1. *Europe 2020* (Brussels: European Commission, 2011), 5.
2. *A European Union strategy for sustainable development* (Luxemburg: European Commission, 2002).
3. *Europe 2020*, 8.
4. *European Competitiveness Report 2003* (Brussels: European Commission, 2003), 8.
5. Erich Hoedl, “Socio-ecological market economy in Europe,” in R. Bleischwitz, P.J.J. Welfens, Z. Zhang, (eds.), *Sustainable Growth and Resource Productivity* (Sheffield: Greenleaf, 2009), 149.
6. Ernst Helmstädter, *Der Kapitalkoeffizient* (Stuttgart, G. Fischer, 1969).
7. Luigi Pasinetti, *Structural Change and Economic Growth* (New York: Cambridge University Press, 1981), 206.
8. Erich Hoedl, H. Lierenfeld, J. Reinartz, *Nicht-neutrale technische Fortschritte und Profitratenentwicklung in Wachstumsmodellen* (Wuppertal: Fachbereich Wirtschaftswiss. d. Berg. Univ., Gesamthochsch, 1986), 89.
9. Ernst Helmstädter, “Wachstumstheorie,” in *Handwörterbuch der Wirtschaftswissenschaft* (Zürich: Vandenhoeck und Ruprecht, 1988), 486.
10. Erich Hoedl, “Resource Productivity and Economic Wealth: A theoretical criticism of Europe 2020 growth policy,” *World Resources Forum*, September 19-21, 2011, Davos/Switzerland.
11. Arnold Picot, Ralf Reichwald and Rolf Wigand, *Die grenzenlose Unternehmung* (Wiesbaden: Betriebswirtschaftlicher Verl. Gabler, 2003), 451.
12. Herman Daly, *Beyond Growth* (Boston: Beacon Press, 1996).
13. M. Schlegel and C. Szolarz, “Volkswirtschaftliche Gesamtrechnung mit Input-Output-Tabellen unter Berücksichtigung der Komplexität der Arbeit,” 2008 http://peter.fleissner.org/Transform/Arbeitswertdiskussion/Schlegel_Szolarz_final.pdf
14. *Horizon 2020* (Brussels: European Commission, 2011), 88.
15. J. A Schumpeter, *Theorie der wirtschaftlichen Entwicklung* (München und Leipzig: Duncker und Humblot, 1964), 29.
16. John Maynard Keynes, *The General Theory of Employment, Interest and Money* (New York: Harcourt, Brace, 1936).
17. Garry Jacobs, “Towards a New Paradigm in Education,” *Cadmus* 2, no.2 (2014): 116-125.

18. Lester Thurow, *The Future of Capitalism* (New York: W. Morrow, 1996), 332.
19. Barry Eichengreen, *Exorbitant Privilege* (Oxford: Oxford University Press, 2011), 175.
20. R. Blomert, *John Maynard Keynes* (Reinbek bei Hamburg: Rowohlt, 2007), 43.
21. *Europe 2020*, 21.
22. Paul Davidson, *The Keynes Solution* (NY: Palgrave Macmillan, 2009), 161.
23. Carmen M Reinhart and Kenneth S Rogoff, *This Time is Different: Eight Centuries of Financial Folly* (Princeton: Princeton University Press, 2009)
24. Thomas Piketty, *Capital in the Twenty-First Century* (Cambridge: The Belknap Press of Harvard University, 2014), 471.