The Significance of Economic Knowledge for Welfare and Economic Growth in History

Bertram Schefold

The Paradox of Economic Knowledge

If the layman respects economic science, he will probably accredit it with being able to contribute to the good functioning of the economy and to economic growth by means of economic policies that are based on sound economic theory. However, a strange cleavage exists in the science itself. If economists speak as economic politicians, they readily advise the government and public administration to take certain measures to achieve given goals by legislating on the rules of competition, by increasing private demand through lowering taxes and by similar measures. The layman will also assume that such knowledge is, up to a point, common knowledge possessed by politicians and citizens, and that this knowledge is instrumental for the promotion of growth and welfare as an indirect application of economic science. But if growth and development of national economies are assessed in the long run, the average economic knowledge in the population plays no role as an explanatory variable of economic success, nor is the level of economic science referred to. Even the economic competence of the governments is rarely addressed.

By contrast, it is regularly emphasised that technical knowledge explains much. The success of economic growth of the United States in the twentieth century is readily attributed to a special propensity to develop technology. It may indeed be true that the level of economic knowledge contributes less to the explanation of such success, but in textbooks it is usually ignored completely. And why does economic history not use this explanatory variable, if it treats the problem so famous today of why the industrial revolution and the whole modern acceleration of economic

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B. Schefold (✉)
Goethe-Universität, Frankfurt, Germany
e-mail: schefold@wiwi.uni-frankfurt.de

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development started in Western Europe (Mokyr 2017) and did not begin in the late Roman empire or in China, India or Japan in more modern times, although levels of economic integration and of the standard of living had been reached which one can compare to that in Western Europe at the beginning of the eighteenth century (Goldstone 2000)?

I want to propose five reasons why economic knowledge is neglected as a factor of growth in economic science. Then I shall treat ordoliberalism as a significant exception and show in which German tradition it was anchored. Finally, in the perspective of the historian of economic thought, I shall discuss important cases of how economic knowledge did become essential in certain phases for the path of economic development. I shall begin with current examples like that of the European Union and then go backwards in history to the ethical reflections in the Middle Ages which form a contrast with modern analysis, but which, nevertheless, were important for the growth of economic science. I shall conclude with a few observations on the peculiar economic institutions and the economic thought in Ancient Greece in order to infer what kind of economic knowledge they must have possessed. We thus go backwards in history, because the relationship between the level of economic knowledge and the characteristics of economic development can be described the more accurately, the closer we are to present times, simply because the sources describing economic reflection are much richer. Ancient Greece presents an interesting case, because we have the tradition of Greek philosophy and history writing. Economics is not among the many academic disciplines that originated there, but that does not mean that they created their economic institutions without knowing what they were doing. We shall go backwards in time in order to render this inference plausible.

We thus admit that the identification of this economic knowledge is not easy because of missing reports and incomplete texts prior to the modern period. Often, since time immemorial, it has not been articulated at all—indeed, even today it is often only implicit. Also, we must admit that the significance of economic knowledge for growth can never be demonstrated with certainty. The canals by which it works are too entwined for this. The thought experiments which might show to us what it would mean, if this economic knowledge had been either much lower or much more extensive than it actually was, cannot be grounded in solid empirical research, except maybe in rare cases. Although the question has been and is discussed passionately, we can never really know how Brüning[1] would have acted, and with what success, if he had known Keynesian theory in 1932, when it would have made the biggest difference, while Keynes's "General Theory" was published only in 1936.[2] Today,

[1] According to Knut Borchardt, Brüning's hands were tied by circumstances in 1932. On the Borchardt controversy from Borchardt's point of view cf. Ritschl (2002). Nicholas Kaldor, Adolph Lowe, Fritz Neumark, Edgar Salin were four contemporaries of the crisis with whom I could still consult on the German options; they all represented the opposite standpoint which Borchardt had put into question.

[2] Employment policies as such are nothing new. We know that in European Antiquity, in Ancient China, in the European Middle Ages and especially in early modern times attempts were made to improve employment or, in the older language, to make the poor work. What, then, was new in the Keynesian revolution? On the one hand, it opposed the theoretical belief of then prevalent

one concedes to economists like Keynes or Friedman an influence on the development of the last decades. However, also earlier, economic action was dependent on economic thought and conditioned by the institutions which were related according to the conceptions of the time and as expressions of what I still like to call the economic style. Werner Plumpe writes: "If there is no economist who would seriously deny the relevance of his own field …, it cannot be understood why these connections should not be valid for former centuries. Hence, economic historiography always has to pay attention to the coevolution of semantics, institutions and methods – and it is only in this manner able to make each of the different economic styles plausible which till this day shape the reality of the global economy" (Plumpe 2009, 51).

Five Reasons Why Economic History Neglects Economic Knowledge and How It May Nonetheless Be Used for Explanation

Rules of Action

The mainstream of modern economics, the so-called neoclassical school, the theory on which modern liberalism mainly is based, has the model of general equilibrium as its core (Debreu 1959; Arrow and Hahn 1971). Economic actors orient themselves according to the prices of goods and services and the costs of the so-called factors of production: the wages for the workers, the interest on advances of capital, and the rent of land. The head of the household who receives a wage will spend in such a way that utility is maximised at given prices and the balance between the benefits from spending the income and the disutility of working will determine the supply of labour at the wage rate, which is given for the individual. The firms will maximise profits, wealthy households will supply capital, etc. In the tension between limitless demand and restricted resources a balance is found: It is shown that there are prices of consumer goods and of factors so that households and firms can execute their plans,

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neoclassical economists who proclaimed that economic crises would most likely be overcome with flexible prices in free markets. Against this, Keynes gave a proof that unemployment could be a permanent and stable state as an under- employment equilibrium. The "General Theory" of Keynes (Keynes 1967) thus was a work of theoretical criticism that might have helped Brüning to overcome inhibitions to intervene. Brüning also had political reasons to hesitate, for an increase of domestic demand and rising wages would have made it more difficult to achieve the exports needed in order to pay for the reparations. Keynes, on the other hand, created with his school the system of national accounting, oriented to employment policy, the most important tool of applied economics until today. But the predictions of the multiplier theory derived from it often failed, and newer textbooks offer a mixture of policy recommendations, which are justified with heterogeneous theoretical approaches (e.g. Mankiw and Taylor 2017). The economic mainstream thus has become pluralist to some extent, though not as much and not in the way which advocates of pluralism in economics demand (Reardon 2009; Söderbaum 2004). In the end, the modern employment policies are not so different from the old provisions for the poor.

in that supply and demand will be equal at the prices found in every single market. The analytical problems of this construction and the critique of the concept of capital (Garegnani 1960; Petri 2004; Schefold 2016b) do not concern us here; it is enough to observe that the agents do not need any economic knowledge regarding the system as a whole. It is enough for the consumers to know the benefits of consumption and the costs of acquisition and for firms to know how to organise their production and the sale of their products. In principle, they must formulate demand and supply, given all possible constellation of prices; then the market will lead to equilibrium. There is no need to create other economic institutions to increase employment (unemployment is voluntary), to influence distribution or to secure supplies. The economic system is always the same; it has no history.

Curiously, Max Weber, the most important author in economic sociology, does not pay attention to the level of economic knowledge either, although his approach is profoundly historical. What changes are the attitudes and rules of action that constrain economic behaviour in a given society and at a given period according to the ethics that prevail. He interpreted profit and utility maximisation as an expression of the modern rationality which ascribes specific ethical rules to the professions and the households, and he contrasts modern capitalism with older states in which household and firms coincided so that conflicts could appear between profit maximisation and efficiency on the one hand and the maximisation of utility according to the family ties in the household on the other. The head of the household would have to throw the younger son out of the house, if he was lazy, in the same way as a modern company dismisses the incompetent, but the familial ties would hinder him in the attempt to impose efficiency (Schefold 2011). Max Weber regarded the prevalence of ethical systems connected with religious beliefs as the essential obstacle which prevented an autonomous capitalist development in non-European cultures like the Chinese. His intensive and vast studies of economic ethics of the world religions have remained impressive as attempts to prove that the non-European cultures could not find the way to modern capitalism on account of their traditions anchored in specific rationalities, while Puritanism in the West paved the way for the transition towards modern rationality. But the level of economic knowledge and the understanding of the logic of economic processes, is, as in neoclassical thought, not an issue in his explanation of the divergence of world cultures. His perception of the economic characteristics of modern capitalism was primarily shaped by the Austrian variant of neoclassical theory, which he thus transformed into a historical theory, and, especially in his younger years, he was also influenced by classical and Marxist thought, but the history of economic thought was not used to explain development.

Technical Knowledge and Abilities

If one asked a member of the historical school of economics, if one asked Marx, if one asked Max Weber or if one asked the modern economic historian, which were the causes of the special development in Western Europe that made the industrial revolution possible, one would always be and still is referred to the level of scientific and technical knowledge as the obvious and necessary precondition for the take-off. The evolution of this technical knowledge followed a special logic. The sequence of events in the industrial revolution itself is well-known. There was the growth of population and the shortage of wood in England, the transition to the use of coal as a source of energy, the need to dig deeper in the mines and to pump out the water and the invention of steam engines for this purpose, which were quite simple in the beginning and then developed until they could not only drive pumps and looms, but could be put on rails to pull trains (Sieferle 1982). This technical knowledge had a double character: On the one hand, the knowledge of artisans was required to build the early engines. The crafts had to move away from the tradition of the guilds and to develop new skills that could be described and transmitted. Formerly, the young craftsman learned by watching and imitating, with a few words of explanation by the master. The talent of the artisan was combined with the secret of the craft which made the monopoly position of the guilds possible. It is known that the philosophers of the enlightenment before the French Revolution, in particular Diderot and d'Alembert, tried to make the implicit knowledge of the craftsmen explicit in the publication of their big encyclopaedia, so that it would become available for advanced technical constructions (Poni 2009). On the other hand, an analytical development was necessary, based on scientific methods and aimed at developing abstract knowledge. Artisanship and physics had to be combined in modern engineering. Galilei's approach to mechanics as the first discipline of physics exhibits this double character. Bertold Brecht illustrates it in his play: The same Galilei who discovers the moons of Jupiter and thus destroys the medieval worldview of the movement of planets fastened to crystal spheres also sketches lifting devices for the arsenal of Venice, where warships were being built.[3]

Joel Mokyr (2017) has described the free and transnational collaboration of the European scholars in the early modern period, with its rationalistic tendency and its roots in older worldviews, in religion and magic; he shows how in England the scientific knowledge programmatically combined with practice. The investigation of the preconditions of the industrial revolution in the late eighteenth century leads back to the late Middle Ages and to the question how a science, which was at the same time speculative and oriented towards applications, could develop from late scholasticism and the early humanism. It is not our task to pursue this evolution; we point to it only in order to make it understood that knowledge as a precondition of economic development so far has not led to the question, which *economic* knowledge was necessary. In research, one is everywhere confronted with the visible importance of technology, and one overlooks economics.

[3] It was one of the best accomplishments of Karl Marx, in harmony with his materialism, that he postulated not only a "critical history of technology", which up to this point did not exist (Marx 1969, 392) but sketched one in the section about the "production of relative surplus value" (p. 331) and in particular in the chapter about "machinery and big industry" under the heading "development of machinery " (p. 391). He had encountered a logic, by which inventions develop, in Babbage (Babbage 1992).

Theory of Economic Growth

The modern theory of economic growth can be traced back to the classical period which explained the accumulation of capital and technical progress (Schefold 2017). Marx speaks in the First Volume of *Das Kapital* of three forms of increases in the productivity of labour: cooperation, improved division of labour and mechanisation. Even if workers only cooperate, for instance, by forming a chain and reaching the stones needed for the construction of a wall from one to the other, less work is required with the same raw materials, than if each stone was carried one by one. An increased division of labour also involves the production of the same commodity by means of the same material inputs but using less labour because it is used more efficiently. The introduction of machinery involved the use of more physical capital but they were predominately built in order to save labour. The classical authors analysed the process of accumulation of capital in connection with conflict over distribution between capital and labour, which Marx explained as exploitation. The neoclassicals turned to an explanation of distribution in terms of the demand for and the supply of factors of production, but it remained true that the accumulation of capital was to explain the increase of productivity. The rise of real wages relative to the prices of capital goods induced the introduction of labour-saving techniques. Robert Solow showed in the middle of the 1950s, beginning with (Solow 1956), that the mere accumulation of capital explained only a fraction of the increase in the productivity of labour, and about four-fifths of the increase in the productivity of labour was left unexplained. This led to the so-called endogenous theory of economic growth (Aghion and Howitt 1998; Barro and Sala-i-Martin 2004) which explained technical progress primarily in three different manners. Firstly, there are advantages of production on ever larger scale which are compatible with competition in the presence of external effects. The Neapolitan Antonio Serra had recognised this possibility already at the start of the seventeenth century (Schefold 2016c, 179–190) and he may have been inspired by writers of antiquity: The concentration of dealers and producers in one location steadily opens up new commercial and production opportunities, because the number and the skill of talented people increase, new forms of cooperation and enlarged networks arise. Secondly, one has also modelled the sequence of inventions of more and more productive capital goods, the application of which leads to monopoly profits, until the new machines are replaced with even newer ones. Finally, and perhaps most importantly, one has developed the concept of human capital. It is the knowledge which single workers accumulate thanks to education and experience. There arises a knowledge economy (Caspari and Schefold 2011). One distinguishes between explicit knowledge that can be transmitted in discourse and implicit knowledge that arises from experience and cannot so easily be communicated. It is a characteristic of knowledge that it cannot be privatised and cannot be sold, but spreads in free communication, for it cannot be offered without making it known, while the knowledge based on experience remains bound to individuals. It is in the public interest to increase the general knowledge, while the accumulation of knowledge that can be held privately and be used for personal advantage can be left to individual initiative.

But hardly anybody seems to have tried to relate the level of economic knowledge to economic growth and to separate it from other scientific and technical knowledge. This is probably again due to the assumption that models of economic growth presuppose a transparent competitive economy, in which agents follow price signals as in general equilibrium theory. Hence no special economic knowledge needs to be presupposed for the individual, while the economy as a whole is led by an "invisible hand", as Adam Smith put it: the functioning of the competitive mechanism. Only one institution is characteristic of the new theory of economic growth: inventions can be patented, so that trade in patents motivates the innovators.

Implicit Knowledge

Even if we insist on the importance of economic knowledge for development, we have to concede that it is not easy to trace how it spreads. The theorist must recognise that much knowledge exists only in implicit form. Nonetheless, it must be respected. Every colleague in my discipline will have had conversations with businessmen and entrepreneurs, will have discussed economic prospects with them and will have had to recognise that their implicit knowledge entailed advantages for the evaluation of the current condition compared with the abstract model data of the economist. The entrepreneur trusts in his intuition and expresses his prognosis with confidence. Implicit knowledge remains important in organisations, too. As an example, I may mention the German central bank (Bundesbank) which publishes monthly reports in order to explain its monetary policy, based on theoretical considerations and clearly stating the aims and means. The Bundesbank used to adhere to monetarism, according to which the central tool for preventing inflation is the control of the money supply. Today, the central bank seems to acknowledge that the development of the money supply is determined endogenously (Bundesbank 2017) and that monetary policy is based on fixing the interest rates at which the central bank lends (Reich 2017). It thus turns out that an old implicit knowledge of the Bundesbank has been made explicit, and the old explicit knowledge has been revised. The main concern is with good practice. All banks depend on experienced specialists. However much the universities try to deepen the analysis and to teach the right use of monetary instruments explicitly, the financial institutions, nevertheless, snatch away the specialists from each other. Obviously, the target is the implicit knowledge possessed by persons that reaches beyond what can be taught. The stock of such knowledge is restricted by the number of people with expertise and experience. The scope of economic knowledge leads to the emergence of numerous sub-disciplines, which compete with each other and rival in the attempt to convince the public by means of theory and econometrics, economic policy and applied economics, in order to demonstrate explicitly what others possess in implicit form (Caspari and Schefold 2011).

And yet much implicit knowledge in turn is determined by fundamental economic principles, which were first formulated by theorists. Keynes, at any rate, affirmed that: “Practical men who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist” (Keynes 1936, 383). Examples might be the influence of Adam Smith on the history of liberal economic policy, or the inspiration Marx left for social democratic agitation. Theory thus influences practice also in this manner, not in pure form but in conjunction with subjective experiences, and an implicit knowledge emerges in parallel with the explicit doctrines.

This knowledge is reflected in the designation of economic phenomena, once the relationships are understood intuitively and prior to the formation of concrete scientific concepts which then allow the formulation of explicit theories. The great time of the emergence of an economic vocabulary is mercantilism, in Central Europe cameralism, in-between medieval times, when economic concerns were not often rendered explicit—at least not in forms transmitted to us—and the later broad and professional pursuit of economic acquisition. We can observe how the vocabulary became more and more sophisticated, above all in connection with taxation—which kind of income may fairly be taxed, in a manner beneficial to the economy, which expenses of the state are legitimate and are reasonable? Wolf-Hagen Krauth (1984) has described for the sixteenth and seventeenth centuries how economic structure and semantics developed in parallel in the German-speaking areas (see also Seppel and Tribe 2017). Goethe’s work and life still express this continuity (Schefold 2016d). Of course, the coevolution of semantics, institutions and theory continues today; however, modern economic science rarely appreciates such qualitative achievements.

The implicit knowledge of former times may seem primitive to the modern researcher; further than up to a semantic discussion they have not made it, one might say. Often, images and metaphors are used as substitutes for a conceptual apparatus. Ancient China offers beautiful and drastic examples such as: Who builds carriages wishes that others become rich and distinguished and the carpenter of coffins hopes that others die young. Thus a Chinese legalist, Han Fei, expressed that acquisition follows self-interest in the third-century BC. It is a long way from such phrases to a formula for the maximisation of profit, but the important argument in the confrontation with the Confucian image of a control of the society by rites and ethics is sharp and clear (Hu 1988, 198). Is the primitive character of such knowledge reason enough to neglect it in the explanation of historical events? Many historians seem to think so. A similar hybris was associated with early attempts at the application of Keynesian theory. It was overcome with the so-called “revolution of rational expectations”. Macroeconomists believed that an extension of the money supply could increase investment and employment by means of lower interest rates. That may happen. However, in the period of rapid growth after the Second World War reductions of interest rates and increases of the money supply by the central bank had repeatedly and quickly led to inflation, because the public understood the policy and the causal nexus and anticipated the consequences of the manoeuvre. Given that employment was weaker but still high, it was primarily the level of prices, which rose, and hence it could happen that prices began to rise already when the new policy was announced, therefore even prior to the rise of effective demand. This possibility was recognised by the medieval bishop, mathematician and philosopher Oresmius (Schefold 2016c, 75–103), when he predicted the effect of currency depreciation. The Prince who wished to ease the financing of his expenditures by issuing coins of inferior quality had to betray his people, for if he were to announce the mixture of precious with inferior metals in coin production, the merchants would raise prices instantly, in anticipation of the inevitable later consequences, and the Prince would not have gained anything; the additional inferior money would have inferior purchasing power.

Hence we have learnt to assume the possession of the same level of knowledge among the makers of economic policy and their public—why should people on the board of an important car making company know less about the economy than the directorate of the European Central Bank? Shall we therefore assume the same level of economic knowledge also among economic historians and the subjects of past economic developments? But here the analogy becomes difficult. Is it licit at all, given that there is progress in economic theorising? The modern economist, proud of his science, is inclined to deprecate the knowledge of his ancestors, and perhaps he simply does not understand it because the terminology and the ways of expression have changed. To collect and to order the explicit and implicit economic knowledge of the past and to relate it to modern economic knowledge is the empirical task of the historian of economic thought. We have had to learn that economic knowledge is not always cumulative (Neumark 1975). There are always cycles in the history of economic thought and even regressions. Conclusions about the value of old and, specifically, pre-modern economic thought can be only provisional, as long as we only know the writings of the main theoretical authors and are ignorant as to how this knowledge was shared and used. But for historical explanation it is equally important to know about good economics as well as about misconceptions that were influential in the past.

The Role of the History of Economic Thought

The finding that older economic thought is only rarely considered as a determinant of economic growth may thus be explained by its character as mainly implicit knowledge that is in reality or in appearance outdated. It is all the more difficult to find out how it works in concrete circumstances. One could think of comparing different countries, for which indicators of economic knowledge are measured and related to the success in growth. But it is difficult even in the case of human capital to confirm the plausible thesis that more human capital means more growth. Knowledge is not to be measured in terms of years of schooling only, but it depends essentially on qualitative aspects, which would have to be represented by means of an indicator. I prefer, instead of moving in this direction, to support my thesis by means of comparisons between different cultures and to use for these different phases of European development and the confrontation with other cultures. Even if we are not as confident as Keynes was that implicit knowledge ultimately is based on older explicit theories, we seek a better understanding of implicit knowledge via the history of economic thought. Implicit knowledge becomes visible, when one needs to justify oneself, for instance by showing why a price is unjust or how an employment policy might be successful. It may be rational to renounce to an application, if the retention of knowledge pays as in the case of the secret of the artisan, if one feels unable to explicate or if the explication would shatter an existing order as in the case of the debates about usury.

The examination of economic knowledge broadens our understanding of economic culture. Weber's approach was based on the consideration of the economic ethics, which he encountered when he studied religions. The modern history of economic thought does not only consider the history of ethics, but, in principle, all forms of economic thought. It starts from the observations of economic anthropology (pioneered by Godelier 1966; Sahlins 1972) and pursues the related emergence of concepts and institutions, from intuitive formations of analogies and first formal formulations of causal connections to the advanced abstract theory, which commences with the acceptance of mathematical techniques from the sciences and culminates in the development of own mathematical tools. The emergence of new theory transforms the perception of reality. As we remarked, the "General Theory" by Keynes originally was a critical approach that justified the employment policies of older times at a higher level against neoclassical theory. Once this was achieved, the modern State was challenged to provide adequate employment at all times, and "Keynesianism" came to be understood not as a theory, but as the commitment to this policy; it was an old reality in new disguise and with a new normative content. We now want to show by means of examples that economic thought and economic knowledge were not only invented to justify existing relationships of power and domination but helped to create a new economic reality. This has been emphasised in Germany especially, so that one could speak of a German school of economics for this reason alone.

The Social Market Economy: Economic Order and Development Based on Consensus

The economists of the German historical school used classical and neoclassical theorising sparingly. It would not be correct to say that they were completely anti-theoretical (Schefold 2014, 2015, 2016c). The older historical school frequently used classical thought, whenever it seemed appropriate. There is a kind of implicit dialogue with Ricardo and John Stuart Mill in Roscher's work. Schmoller, as the mature representative of the younger historical school, had recourse to the Austrian theory, when he had to give an explanation of prices. But all the authors of the historical school regarded it as more important to grasp the complexity of economic development, in which technical progress, the accumulation of capital, the rise of education—including economic knowledge—and moral improvement changed hand in hand with culture, while the economy underwent a qualitative transformation. The economist not only had to understand the process, but also to support it by the establishment of new institutions. Schmoller's social policy belongs here, the concern of German public finance for common needs, the affiliation of law and economy in university courses and in the practice of economists as advisers and experts. Many attempts have been made in recent years to restore such interdisciplinarity, but with limited success. The historical school continued the tradition of cameralism in these endeavours. A liberal element was introduced under the influence of Adam Smith, but the orientation towards concrete problems like those of public finance and the establishment of institutions beneficial to welfare continued as under cameralism. Thus even old cameralists like Klock (2009 [1651]) in the seventeenth century and younger cameralists like Justi in the eighteenth century[4] discussed measures to improve infrastructure and, for every sector, the establishment of academies, principles of regulation and of finance. This legacy determined the dedications of professorships in economic faculties of the Federal Republic of Germany until recent times. There were chairs for agricultural policy, for transports and logistics, for business education, for general economic policy, with a special emphasis on the finances of the state and without the dominance of microeconomics and macroeconomics.

The synthesis with theory came about with ordoliberalism. Eucken, its main representative (Eucken 1940), criticised the hostility of the historical school to theory, but he took the task of creating the appropriate institutions seriously. He used the instruments of general equilibrium theory and of monetary theory and added the then fashionable new models for the representation of imperfect competition before the Second World War. This enlargement of the theory made it possible for Eucken to distinguish different forms of allocation (market with perfect or imperfect competition, planned economy; planning of the entire economy or only of the industrial sector and not for the distribution of consumer goods, etc.) in order to deduce systematically different ideal types of the economy, based on specific assumptions about combinations of principles of allocation and central institutions like the monetary system (money backed by gold, fiat money, etc.).

As is well-known, the theory of social market economy distinguishes between policies directed at establishing an economic order and policies trying to influence the economic processes. The economic order is concerned with the institutions that allow the market to function and specifically with the regulation of imperfect competition. Perfect competition was considered as the ideal, but limitations were recognised, for instance those deriving from the fact that enterprises have to reach a certain scale at least for technical reasons. And if a satisfactory degree of perfection of competition could not be reached in a particular sector, one could still hope for a limitation of market power by competition through substitution (Eucken 1952). Policies to influence the economic process, by contrast, were concerned with interventions in the course of economic production and consumption. In particular, Keynesian measures to stimulate the economy were seen in this light. The theorists of the social market economy trusted that the maintenance of economic order would also help to avoid

[4] On Klock as a cameralist compare Mann (1937).

crises, so that one could mostly refrain from policies influencing processes. It was thought that crises were caused above all by an over-heating of the economy during the boom and that this would arise, in an otherwise well-regulated environment, only if the economic policies of the state were too lenient.

In this theoretical universe, economic policy was largely predetermined by the framework of ordoliberal rules. A corresponding economic knowledge was to be shared not only by the members of an elite, but, in its main features, it was supposed to be a common good in a democratic society. For Müller-Armack, the Secretary of State of the Minister of Economics Erhard, the social market economy had to be based on the principle of efficiency on the part of the employed, and, at the same time, redistribution had to take place in favour of those unable to earn their living in the market for reasons of health or age. The social market economy thus was an economic style of compromise. The trade-off between efficiency and redistribution had to be recognised, and each generation would shift the emphasis from one aspect to the other—a perspective which rather alarmed stricter representatives of ordoliberalism (Quaas and Straubhaar 1995). Defining the just middle depended on the economic knowledge of the population as a whole, for that had to dictate their electoral choices, based on their trust in the leaders of the political parties.

The social market economy could thus be interpreted either as primarily a realisation of the principle of efficiency or as a welfare state, if the need for redistribution was regarded as more important. This dilemma is inevitable. With economic integration, the sizes of the companies had to increase. The theoretical models shifted from perfect to workable competition; it turned out that a so-called wide oligopoly was the best market form, to the extent, that one wished to accelerate technical process. The proposal to give privilege to this market structure was contested by an evolutionary understanding of competition (Vanberg 2009). Today, ordoliberalism is not as vigorous as in the early years of the Bundesrepublik. It missed opportunities to incorporate theoretical advances (it failed to incorporate the theoretical revolution of *Mechanism Design*, Bergemann and Morris 2012). New ideas for regulation have come up and help, for instance, to auction-off radio licences. Nonetheless, the theory of the social market economy retains some prestige and is increasingly adopted in Europe; it influences discussions within the European Community (Commun 2003). Thus, the tensions in the European Monetary Union can be interpreted as the consequence of different theoretical conceptions: The European South is oriented towards Keynesianism and permanent state interference to support economic performance, while ordoliberals would accept automatic stabilisers to alleviate crises, like the payment of unemployment benefits, but are reluctant to accept more radical measures. However, we here do not have to decide whether ordoliberal principles are correct; we only want to show that here and today there is a specific body of economic knowledge that defines and limits policies that are decisive for economic development, and this economic knowledge is only in its details confined to an elite, the broad outlines of it must be common understanding.

Historical Illustrations of the Meaning of Economic Knowledge

The European Monetary Union

There is broad agreement, not only among experts, that big mistakes were made, when the European Monetary Union was institutionalised. The economic potentials of the European regions are quite different, and since the Euro has been introduced, they cannot be compensated anymore by changes of the exchange rates. The differentials tend to increase with economic growth, and no central authority is strong enough to counteract them. National states are better able to do that by means of redistribution, differentiated taxation, by means of transfers and the allocation of expenditure of infrastructure and education. The Maastricht Treaty corresponds to principles of ordoliberalism, insofar as ceilings on the deficits of the individual states shall render them responsible for their development in open, but regulated rivalry. Since there are no exchange rates, which could be adapted, internal devaluation must replace a devaluation of the currency, if a country lacks competitive power. This means that wages and prices have to be reduced in a country whose productivity is backward; the costs of production in terms of Euros have to fall relative to the average level of costs. But precisely the countries which are slower in their development lack the corresponding political power and, often, also the will. Hence many economists and politicians in the Southern countries of the European Union oppose the ordoliberal concepts with other principles. They urge to elevate the level of activity through increased state expenditure in order to raise demand. The extensive growth so induced is supposed to improve the situation not only of employment, but also productivity, according to Okun's law, and this as a consequence of increased domestic demand. Growth shall increase per-capita output and accelerate technical progress. Economic analysis is mixed up with political valuations on both sides. A principle of solidarity is invoked in opposition to the principle of self-responsibility. The economically weaker countries argue that who is dedicated to European integration shall respond to European needs; helping the poorer countries shall in the end also benefit the richer ones in a process of general growth. Polemical exchanges use historical comparisons, which are not necessarily based on strict economic analogies, but operate with references to political arguments. Historical guilt shall be a foundation of actual obligations, although past wars and present economic problems are different domains (Varsori and Poettinger 2014).

Who is right? One should not dismiss the logic of raising demand too easily. On the other hand, one must keep the moral risks of such politics in mind, in particular as long as the political framework for Europe as a whole is not adequately based on democratic legitimation (there is a Parliament for the European Union, but not for the Euro area). This is not the place to draw political conclusions. What interests us here is the obvious fact that the economic concepts which will prevail will also have an important influence on economic outcomes. The politicians will not be able to change economic theory and will have to respect the axioms of economic theory.

They are controversial in the discipline, but they are discussed also in the media and, in the end, the judgement of citizens, mediated through parliaments and governments, will play their role. The theories themselves, as it were, represented by experts and institutions such as the European Central Bank, claim influence.

Monetary History, Monetary Policy and Monetary Thought in the Nineteenth Century

A well-known and beautiful example of the entanglement of economic theory and economic policy, with consequences for the emerging institutions, is provided by English monetary teaching and monetary policy in the nineteenth century. The Napoleonic Wars had led to inflation, but not to the collapse of the currency. Instead, the British were able to return to the gold standard, though under sacrifices, and the public debt, which had increased considerably during the war, was paid back in an effort lasting for decades. The Currency School was of the opinion that the wartime inflation had been caused by an increase in monetary circulation, which surpassed real growth. They considered gold and the notes of the Bank of England as money. The so-called Bank Act by Peel left the emission of notes to the Bank of England, from 1844 onwards, provided notes were backed by gold, apart from a fixed amount of unbacked notes. Inflationary tendencies were thus in fact checked, but in the course of economic crises, which occurred surprisingly regularly every ten years in nineteenth-century England, the Bank of England had times and again to support illiquid banks. This involved increasing monetary circulation, suspending the Bank Act temporarily during the rescue operations. The Banking School replied that the expansion of production and the tendency of prices to increase depended on exogenous causes such as bad harvests, and that the consequent increased demand for means of circulation was not satisfied by gold and notes alone, but could also be fulfilled by monetary substitutes, such as bills and the notes of private banks. The amount of money circulating was regarded as endogenous, to use the modern expression. It seemed natural in this perspective that the banks in England had to aid each other during crises, if necessary, supported by the Bank of England. Peel's Bank Act eventually was not only regarded as superfluous, but as dangerous (Rieter 1971).

Thus, different conclusions were drawn. Karl Marx, at that time in London and busy with writing *Das Kapital* and a passionate observer of what went on (Marx 2004, 2017), contrasted the long upswings of the business cycle—as facilitated by a general granting of credit, mainly by means of bills, which banks discounted, if necessary—with the sharp and precipitate decline, which set in when production began to slow down, when first only a few, then many producers had difficulties to pay their debts and when in the end all got involved in a panic with rising interest rates and demanded payment in gold or in notes of the Bank of England, because they feared that instruments of credit might become worthless. The banks now took over real values as securities and became in the course of the depression gradually administrators of production, of which they knew nothing, however, Marx thought. Walter Bagehot, by contrast, formulated the principles of the policy of a central bank, which imposed themselves under such circumstances. He recommended to the Bank of England to support banks in difficulties early, if they were illiquid but still solvent, against the provision of good securities and at high interest rates, to counteract the spreading of the credit crunch. The Bank of England thus became the "Lender of Last Resort" (Bagehot 1996 [1873]; Schefold 2017, 147–156). These principles of salvaging the banks are still valid today. Rudolf Hilferding in Germany continued to develop the Marxian vision in his *Finanzkapital*. He recognised that the influence of the banks was not temporary, but that it evolved into a regular control of industry, and he believed that workers might be able to exercise that control by peaceful means, once the direction of the economy by the financial institutions could be taken over by the working class after its political victory (Hilferding 2000 [1910]; Schefold 2017, 157–178). The historical significance of these perspectives is visible in the diverging development of social democracy and communism during the twentieth century. The influence of thought and the perception of economic logic on history is particularly striking in these cases, where inadequate and in part false theories were operative (a simplified quantity theory of money as the foundation of Peel's Bank Act, the theory of the collapse of capitalism as a dogma of social democracy).

Economic Controversies in the Period of the Reformation

Influences of different forms of economic thought on real development can be traced back much further. The sixteenth century was in Germany a period of strong economic growth, which ended when the channels of trade changed and, in particular, when the Thirty Years War set in. The Duchy of Saxony had been divided for dynastic reasons as early as the fifteenth century; there was the dominion of the Albertines on the one hand, who remained catholic during the Reformation, and that of the Ernestines, who did not only adopt the new faith, but were of decisive importance in the support of Luther and his mission. The control of the silver mines and of minting had not been divided, however, so that the duchies were linked through a monetary union. Monetary unions are of precarious nature, as we know today. The Ernestine, John the Steadfast (Johann der Beständige), had high expenditures to make, not the least because of his support of the protestant faction. He wanted to devalue the coins, i.e. to depreciate them, in order to attract more money into his treasure. This induced a public controversy, which was, as far as we know, for the first time in world history, based on the exchange of printed pamphlets expressing visions in economic policy and even theory. The semantic of later economic theories was almost completely absent, the economy was not yet seen as a separate dimension of social life—at any rate, it did not get a name—and yet its functioning was already being debated. A century later, the mercantilists in Western Europe and the cameralists in Central Europe would begin seeking new concepts, in order to comprehend the economic phenomenon of development. This has been described, as we mentioned above, as the development of new semantics (Krauth 1984).

The texts of the controversy on coinage were still quite visual and intuitive. The Albertine defended the retention of the silver money coined with a fixed seigniorage, that was used all over Europe. For was the economic welfare of the subjects not visible, did it not show in the busy building activities, in the number of castles and fortifications, in the astonishing new painting style, in short in everything that we now call renaissance? Did the production of the silver coins not facilitate the acquisition of delightful goods such as beautiful English clothes or Indian pepper, which was obtained through Portuguese trade? Did this not confirm that the order responded to God's will, and was this order not in turn the foundation of further acquisition through work and trade? Would the depreciated coins not at once be recognised as such, lead to higher prices and to injustice in the relationships between borrowers and lenders?

The Protestant Ernestine replied in his pamphlet, that a "Übermünzung", an over-minting—a wonderful word—should be avoided, and if not too many coins entered circulation, a rise of prices would not be observed. He therefore anticipated the idea of a circulation of money based on means of payment of low intrinsic value. Depreciated money would have a lesser tendency to flow abroad, and this would prevent the importation of unnecessary luxury goods. He accused the foreign powers, in particular England, Venice and the King of Portugal, of trying to attract the silver of Saxony and Saxon wealth by exporting frivolous goods. The Ernestine therefore described, even before the mercantilist doctrine was well formulated elsewhere, the first principle of mercantilism: to acquire precious metals of others by means of an export surplus, in order to have a larger domestic monetary circulation.[5] Export of silver would lead to the import of commodities which would reap the population of employment opportunities and would leave farmers and artisans in misery. Depreciation therefore was meant to lead to a locally autonomous development and to return to simpler forms of life, and *that* was God's will. He therefore recognised the problematic of a one-sided development based on the export of a single commodity, here the silver. But this Lutheran did not become, like the Weberian Puritan, the exponent of early modern accumulation, but the advocate of a small-scale economy of simple farmers and artisans, protected by their Lord.

Expansionary economic powers already stood prepared to oppose this view. In those same years, the chancellor of Augsburg and humanist Konrad Peutinger defended the Fugger family, operating a worldwide trading network, against the accusation of exploiting monopoly positions. Peutinger argued on the one hand,

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[5] It was in my view entirely rational and not a confusion of wealth with gold and silver, if the mercantilists wanted to create favourable conditions for the import of the precious metals, since it was not yet possible under the political conditions in Europe to introduce fiat money as in China under Mongol rule; a monetary base with intrinsic value was indispensable. But fiat money was conceivable, as we shall argue in the epilogue. And one knew that adequate money holdings facilitated trade; "*pecunia nervus rerum*", it was said, which can be translated in several ways: "money is the string between things", "money is what animates things" – one of the visions of cameralists (my transl., see Stolleis 1983, 63).

somewhat like Hayek, that big societies like those of the Fuggers might achieve something like a monopoly position temporarily, but this could never be complete. New societies would arise and replace the old ones. The artisans, on the other hand, were, according to Peutinger, guilty of abusing the prescriptions of the guilds in order to destroy economic freedom and entrepreneurial chances of efficient artisans. The German diet discussed both, the attempts to reduce the power of monopolies as well as the suspension of the guilds (Schefold, 2016c, 103–127). Charles V. then tried to impose a liberal charter for the artisans, but he did not succeed.

The Usury Debate

I regard the controversies about interest and usury—which stretched in Europe over millennia—as my most important example. This may surprise. The debate branched out, it was often repetitive, only occasionally very sophisticated. A brief summary: the Jews had prohibited to take interest from members of the same tribe, but it was licit to take interest from foreigners. Among the Greeks, both Plato and Aristotle were against interest. Plato granted an exception, if loans provided for free were not paid back in time. Aristotle advanced a logical argument. He defined the function of money as being a mean of exchange. Hence it should not become the object of accumulation for the sake of wealth. He distinguished between natural and chrematistic forms of acquisition; the latter meant an acquisition of money for the sake of obtaining more money. Natural acquisition had the limited goal of maintaining the household. Regarding wealth, moderation was to be practiced as in all things. Riches were a mean to a good life. If one had too little and was poor, one was as much inhibited to lead a good life, based on philosophical reflection, as if one were too rich and had to care for what was not necessary. Money was there to facilitate exchange. Whoever accumulated it for its own sake, strove for limitless and unnatural wealth and alienated money from its destination to serve exchange. In the context of his complex considerations on money and exchange, gift exchange and commodity exchange, the taking of interest appeared as the pinnacle of chrematistic activities, since money seemed to generate money out of itself, but what was the source of such multiplication? Usury, which was "rightfully hated", was thus denounced as against nature and illogical (Schefold 2015 [1994]).

The New Testament contains the phrase "*Mutuum date, nihil inde sperantes*" (Luke 6.35): "Provide loans (for support), without hoping to get anything from there". This radical formula of early Christianity means: You shall not demand interest but also be solidary and do not expect to be paid back in cases of need. Interest was regarded as an expression of sinful greed throughout the first eleven hundred years of the history of Christianity, but it never disappeared completely, despite prohibitions. Economic growth in the High Middle Ages then made it necessary to comprehend a phenomenon that continued to become ever more important.

One juridical precondition for the prohibition of interest-taking was introduced by Gregory IX., Pope from 1227 to 1241. He issued the "Decretales" as a new collection of canonical law. The following definition of usury, much discussed, often cited as "*Naviganti*", is due to him personally: "As usurer is to be judged who lends money to a seafaring merchant or to one travelling to a fair and who receives more than the payback (of the original sum), because he takes up the risk" (*quod suscipit in se periculum*, Corpus Iuris Canonici V, XIX, 19; in Richter and Friedberg 1959 [1879], 816). Accepting the risk probably here means, as in antiquity, that there is no payback, if the travel fails, when the risk is objective. Of course, already the contemporaries asked why the lender could not demand a compensation, because he could have made a profit by using the sum for a business of his own (this was called *lucrum cessans*, the argument of the profit foregone) and why he could not get a second compensation for the risk of losing the money (this was called *periculum sortis*). Both arguments can already be found in antiquity. But perhaps there was no clear contract, and the passage might be translated as: "because he attributes the risk to himself"; then the Pope would not have mentioned the profit forgone, because a possibility for gain did not exist for the lender, and he would have treated the risk as a mere pretext for taking interest. The scholastic author Azpilcueta (Schefold 2016c, 159–175) in the sixteenth century, to whom we shall return below, had a text in front of him which differed in only one letter. He read "*quod suscepit in se periculum*", therefore "because he has taken up the risk". This pointed clearly to a contract that had been made, and hence Azpilcueta judged that Gregory IX's proclamation was exorbitant ("*este texto es exorbitante*"), for all of Christianity knew that insurance was costly (Azpilcueta 1998 [1556]). There are three hundred years between the two versions, which involved progress in the sharing of risks.

The economic teaching of Thomas Aquinas as part of his *Summa*, begins with the discussion of the just price (Aquinas 1968, quaestio 77). The civil laws (*leges civiles*) must tolerate deviations from the just price within limits, in order to avoid bad consequences among humans who are not perfect, but Christian virtue demands the strict observance of the just price. Hence trade in the form of resale is problematic, since two prices are demanded for the same commodity. It is true that the just price itself can change, in particular according to location, to the season and the success of the harvest. A transport justifies a corresponding mark-up. If the price changes because of the season, a difficulty arises. If a trader lends corn to an innkeeper at the time of harvest, when corn is cheap, and demands the same amount back at seedtime, when corn is expensive, he is not a usurer, as long as we reckon in terms of corn: He only wants to get his corn back, but the value of the corn has risen, as if a corresponding interest had been charged. The *Decretum Naviganti* therefore stipulates that such a monetary gain is licit, if the change in price could not be foreseen, but usurious otherwise.

What was the just price (*iustum pretium*)? It did not depend on the ontological rank. A slave, as a human being, stands ontologically above the horse, but this can be more expensive. Thomas denotes the "equality of the thing" (*"aequalitas rei"*) as the condition of just exchange. He does not try to determine the just price quantitatively, but more important seems to be the honesty in the characterisation, that is, in the fastness of the commodity. Out of such descriptions would later arise the "Warenkunde", the commercial "knowledge of commodities" of businessmen and traders who had to get to an understanding about the quality standards e.g. textiles—a big theme at the time of cameralism. Thomas recognised the labour expended and transport costs, but not the mere passage of time, as determinants of *aequalitis rei*, and the just price also depended on needs. Utility, by contrast, paradoxically from the modern point of view, determined gift exchange. The giver must take the utility of the receiver into account. If my friend has made me a great service by means of a small gift, my counter-gift to the friend should lead to a gain in utility, which corresponds to the importance of the service and not to the small gift. The saviour who rescues me from drowning and ruins his clothes should not just get a replacement for his jeans, but a counter-gift that is worthy of the courageous deed.

Thomas rendered the Aristotelian argument (Aquinas 1968, quaestio 78) more precise in order to justify the critique of usury. He distinguished between goods that are used up in consumption like bread and goods that can be used without being destroyed like a house that can be rented. Goods that are used up like bread are lent mutually, if the need arises, and the debt is cancelled, once an equivalent amount has been given back. Goods that can be used permanently are lent for longer periods of time, and one receives a compensation for that, because the other can use the good like a house that is rented. The loan of money is interpreted by Thomas as the use of a good for exchange, that is used up in the act of exchange, for it is given away to the other; money was a good to be used up by the one who owned it. If the return of the loan included more than the value of the sum originally given, the interest seemed unjust as well as illogical: It was against the nature of the thing.

Civil society could tolerate interest within certain limits like so many sinful actions, but the Christian as a human was obliged to love his neighbour and should therefore renounce to interest. Hence the Christian merchant should profess his taking of interest, when he confessed, and give it back, if that was still feasible, or leave it to the Church. This is emphasised in a handbook for priests by the famous scholastic Azpilcueta, also called *El Navarro* (1998 [1556]). The criticism of usury thus became a source of income for the Church. Another problematic argument in Thomas consisted in the statement that it was more sinful to induce someone to accept interest, who had never lent before, than to revert to a professional lender in case of need for a loan, for the professional had sinned already. Such professionals were the Jews, whose role as outsiders was thus confirmed.

Now the need arose to justify interest under special circumstances. The following three main arguments can be found in the writings of the Roman jurists, but they now were discussed more deeply. Interest could be justified in case of *damnum emergens* (emergent damage) and, as has been mentioned, *lucrum cessans* (profit forgone) and *periculum sortis* (literally: the danger of fate, therefore risk). These attempts at justification led to a process of learning of historical significance (Gordon 1975) *Damnum emergens*: If the lender was damaged, he could demand compensation, for instance, if a loan among friends had not been paid back according to the agreement. *Periculum sortis*: That was the expression for risk. The consideration that specific risks demanded compensation led to early insurance schemes. It would be too complex to discuss these—in the end risk had to be recognised. However, it can be shown that the scholastic discussion of risk helped to prepare for the understanding of insurance and even probability theory; without it, modern European development would hardly have been possible (Bernstein 1996). This was accompanied by the development of complex means for financing, beginning with bills, then with ever new financial products (Goetzmann 2017).

The most difficult argument was *lucrum cessans*, the profit forgone. Was it not possible for everyone, who loaned money, to affirm that he could have used his money in some enterprise himself, that he could have made a profit for himself? Thomas objected that the pretended possibilities for acquisitions often did not exist in reality, and that one should not sell in any case what one did not yet have[6] (Aquinas 1968, quaestio 78, ad primum). Azpilcueta rendered the problem more precise for the case of moneychangers, who also operated as bankers. The moneychanger did something useful which was not sinful, but could become sinful, when it was exaggerated because of greed. One still thought that the natural activity of the farmer served self-preservation, which now led not to the good earthly life, but to Christian salvation. No such limit of acquisition was visible for moneychangers; insofar they were in danger. But if they now also operated as bankers, demanded an interest and defended this interest invoking *lucrum cessans*, one could see by looking at their monetary holdings whether they actually lost normal business, because they had lent. If they still had cash and they could still change money, the loaning had not led to a loss.

Only the late scholastic Lessius in Belgium overcame this argument by Azpilcueta. (Lessius 1999 [1605]) He, a highly respected advisor as a Jesuit, knew the first big stock exchange in Antwerp and understood its functioning and its economic significance. The traders, whose activity raised general wellbeing, continuously had to hold money in reserve, in order to be ready for new ventures. If the money holdings of the one were too scarce, he had to borrow from somebody else, and whenever this became a general phenomenon in the market of Antwerp, there arose what Lessius called the *carentia pecuniae*, a demand for liquidity, as we say today. That the rate of interest is determined by the demand for liquidity is modern Keynesian theory. Lessius went farther than that and emphasised that what mattered were the expectations of profit (*spes lucri*), and he began to regard capital as productive next to labour, since the use of money capital was generally productive of interest. *Lucrum cessans* thus could be said to exist in any situation. The old arguments against usury now were only directed against the local usurers in villages, and Lessius recommended to take away their business by means of pawn broking institutions, which had been in existence in Italy for a long time (Schefold, 2016c, 127–158).

We have only known for a few decades that the path from disdained usury to recognised interest has a secret history. A Franciscan, Pietro of John Olivi (1990), therefore a mendicant friar, scarcely a generation after Thomas, one who strictly held to the principles of poverty by St. Francis of Assisi and who for this reason entered into conflict with the Church, anticipated already in the thirteenth century such arguments

[6] The argument is often not understood: one can always invoke *lucrum cessans* in modern conditions, since I can lend to B instead of to A; at any rate, I can always deposit my money in a bank and obtain interest. This has not been so at all times. What is more important: lending to B is just as suspicious as lending to A. The question is whether I have a *real* investment opportunity, and that is less obvious.

as those of Lessius of late scholasticism and formulated a concept of capital, which assigned a productive function to money used as capital (Olivi 2012, D63). One of his formulations: *Illud quod in firmo proposito domini sui est ordinatum ad aliquod probabile lucrum, non solum habet rationem simplicis pecuniae seu rei, sed etiam ultra hoc quandam rationem seminalem lucri quam communiter capitale vocamus, et ideo non solum debet reddi simplex valor ipsius, sed etiam valor superadiunctus* (My transl.). "What is dedicated to a probable gain according to the fixed intention of the owner does not only have the simple character of money or good but is also beyond that of a certain character pregnant of profit, which we usually call capital, and hence not only the simple value of it must be rendered, but also the one added to it". It has been said, that the expression *ratio seminalis lucri,* the fertile character of profit, recalls the *logos spermatikos* of the Stoics, and the idea has been related to Olivi's scientific theory of *impetus* (Wolff 1994). In the same way as a stone that has been thrown carries an impetus (similar to an impulse in modern language), capital carries the impulse of a surplus value, a *valor superadiunctus,* as Olivi calls it. Not only Marx, but also neoclassical economists like Böhm-Bawerk would criticise the notion of capital as being productive, but in Olivi it was a great step forward. The static character of a medieval world directed only at producing the necessary basis of life by means of labour alone is transcended. Later authors seem to have used Olivi's argument without nominating him, presumably because his theses regarding poverty had led to his at least temporary persecution by the Church.

The Economic Spirit in the Early Modern Period

Thus, in this manner, there arose a beginning of economic theory within the roughly four hundred years between Thomas and Lessius (1999 [1605]), which began to view the accumulation of capital as legitimate and useful. The difficulty of the transition is illustrated by the example of Cosimo de Medici, who possessed a cell in the monastery of San Marco in Florence, which he had adorned with a painting by Benozzo Gozzoli, representing the holy Three Kings. Their deposit of precious gifts at the feet of the Jesus child indicated the way open to the rich towards salvation. Cosimo's contemporary, the holy St. Antonino of Florence, first abbot, then archbishop in Florence and author of a grand theory of justice, in which the different economic branches of Tuscany are being described with a theological evaluation of the activities of each profession, wrote also about banking, which had become powerful. It is thought that he had read Olivi. Antonino excused the bankers, for he thought that the core of their business was not lending but the trade in moneys between different locations. This function was regarded as productive. If this business was associated with a hidden loan and if the price contained a component of interest, this could perhaps be seen as a lesser sin. However, it was not natural acquisition in the sense of work directed at the satisfaction of essential needs as discussed by Aristotle, and hence Antonino recommended that the rich of Florence should work for the community, for instance, by supporting public festivities, and they should celebrate marriage ceremonies outside of their palaces so that the people of the city could share in the feast (Poettinger and Schefold 2013; Schefold 2018).

Werner Sombart and Max Weber would speak of a "capitalist spirit", and the former believed that it arose in Italy, though parallels existed, e.g. in Flanders, while the latter thought that at least the spirit of *modern* capitalism originated later. It manifested itself in business. The mixture of new ideas and new practices that stimulated it found an expression in writing, which we may regard as an early form of economic thought. Authors like Todeschini (2004) refer to Olivi (1990, 2012) and economic ethics. Olivi came from Provence and taught in Florence for some time. He extended the domain of legitimate interest-taking with his theory of impetus. Amintore Fanfani, the economic historian and later famous Italian politician of the Democrazia Cristiana wanted to demonstrate that there was an inevitable tension between capitalist and catholic economic ethics, which necessitated compromises (Schefold 2011). Oscar Nuccio, by contrast, in his seven volumes of the *Storia del pensiero economico italiano* (summarised in one volume Nuccio 2008) focused on the humanists, not on the church. He affirmed that the civic spirit in the Italian cities was based on the activities of the merchants; the liberal attitude towards business evolved from the desire of the emerging bourgeois to gain independence. Cosimo Perrotta (2004) objects that the Italian humanists remained tied to the economic ideas of antiquity; he thinks that they did not really understand processes of growth—indeed they hardly recognised them. According to Max Weber's theory, these authors have in common that they assume too easily a continuity between early capitalism in Italian cities and *modern* capitalism, without analysing the specificity of the latter (Schefold 2017). Weber's insistence on the difference between early and more recent forms of capitalism is not necessarily connected with his hypothesis that forms of Calvinism triggered the evolution. The difference vanishes if one reduces capitalism to profit-making. But modern capitalism becomes specific, if it is associated with industrialisation, widespread wage labour, the managed firm and other mechanisms and institutions that appear in classical, but not in late medieval economic thought.

The interpretation of the beginnings of economics in the late Middle Ages remains controversial, and the questions that result from the consideration of the transition to modernity are not easier. The significance of the path is only understood by comparing different cultures. In China the mandarins recognised that merchants were indispensable for the economy but prevented them from access to power by denying the right to participate in the imperial examinations and to gain public offices. If important economic decisions could only be taken by the emperor, who stabilised the development by operating from the centre by means of his bureaucracy, the breakthrough to an economy with an autonomous process of growth dominated by private initiative and pushed by the accumulation of capital was not possible. The financing of important enterprises and of the state requires lending at contractual interest rates—another theme would be the emergence of the modern tax state and the growth of state credit (Reinhard 2017). The corresponding institutions had to be secured in the West after the experience of the controversies surrounding interest because of a changed economic knowledge and through the creation of legal systems for contracts, for the establishment of companies and, in particular, for the creation of credit. Weber was wrong when he disregarded this aspect, the growth of economic knowledge, in his explanation of the relative backwardness of China, when modern capitalism began to spread, and when he let his explanation rest only on the inhibitions associated with Confucian economic ethics. What we should understand is how these ethics, the economic knowledge and the economic practice were connected by a transcending ideology, which exploded only after the revolutions when Chinese economic thought began to form in relation to Western ideas. The peculiarity of the European development is perhaps even more visible in comparison with Islam, which never gave up the prohibition of interest. With special institutions such as charities, possibilities were created for the sharing of profits in order to secure, for instance, the survival of children and orphans, but the freedom of capital accumulation was nonetheless limited. Whether modern Islamic banking will be able to retain the traditional Islamic rules and combine them with new institutions of practical significance, without abandoning Mohammed's prohibition of usury, remains to be seen.

The Chinese did not prohibit interest, but they regulated its payment. Legal interest rates in pre-revolutionary China were high. If the debtor did not pay, the creditor could take him to court and have him beaten. If the "daughters" grew taller than their "mothers"—if the arrears exceeded the original debt—the creditor risked punishment, too, for he had failed to collect his money (Jamieson 1921). Such behaviour would be regarded as alarming also in Europe. There was a legal interest rate of five percent in the seventeenth century, but to demand compound interest on outstanding interest payments was forbidden. Leibniz (2000, 98–213) explained and defended this prohibition by saying that debtors should learn to be reliable and that creditors should educate them by demanding regular payments; the creditors then could use the paid interest to grant further loans to others. If the creditors had been allowed to demand compound interest, they could sit and see how their claims grew without effort and proceed to seize the property of the debtor, when the time seemed ripe for that. To avoid this outcome was the meaning of civil law. The Chinese similarly aimed at ordering the debt relationships by means of criminal law.

I therefore dare to assert that Europe owes not everything, but much to the superstition, which lies at the root of the prohibition of interest; Europe owes its economic development not exclusively but essentially to this controversy, for the beginnings of economic theorising were in the hands of the scholastic authors, who first wished to support the prohibition of interest in its entirety and then began to seek for reasons to render it less strict and to explain legitimate uses of credit. These ideas were taken up and transformed in the hands of the classical economists, who combined them with the theoretical elements of mercantilist thought, to the extent that this emanated from the practice of the merchants. Much in the same way as in the case of technical knowledge, practice and theory had to get together in order to make an industrial revolution possible, the knowledge based on experience of the traders and the sharp analysis of the representatives of the Church had to be combined; this led to classical economy with French physiocracy as an intermediate step, with the result, that the work of Adam Smith could found liberalism on the basis of a general economic knowledge, which provided a framework for systematic political reforms.

We know well how this happened in detail, but only, as far as we look at the English development from the seventeenth century onwards. The great mercantilists like Petty and Steuart[7] enter with the claim to establish a new economic thinking, which led to liberalism in steps that we know. But where is the continuity with the preceding era? One explicitly did not want to repeat old teachings and therefore eliminated the practice of mutual quotation of the scholastics and one abandoned Latin as the language, in which the early economic thought had been formulated. Petty had been educated by Jesuits and he spent years of his youth in Paris. When he came to puritan England, he did not reveal what he had learnt from the Catholics on the Continent. (Wendt 2014). Steuart as a Scottish and noble adherent of the Jacobites, had fled into continental exile. What he learnt from the cameralists, who still were reading scholastic authors on occasion, we do not know, but he spent years in Tübingen in contact with the academics there. Hence the illusion was created that our discipline originated only in England. This has the advantage for Anglo-Saxon historians of economic thought that they feel little need to learn foreign languages. To show in detail how the tradition of the scholastics came to be combined with the practical thought of the mercantilists therefore is still a project of research. Liberalism, which emerged eventually, became the precondition of the economic predominance of England, that had been protectionist in earlier centuries. Underdeveloped countries that had to catch up, like Germany, then needed a modified theory to support an industrial development based initially on protective tariffs and an orientation towards exports. In consequence, German historicism was better aware of the older traditions than others, but this is another complementary story.

Undoubtedly economic knowledge has developed in parallel with economic institutions, but our considerations serve to demonstrate that this knowledge creation was not only the emergence of ideologies designed to defend and justify the rich and powerful. We have tried here to give examples of critical discussions, the contents of which were influenced by spiritual developments, including, as in the last example, religion and humanism. The split of the confessions furthered a multiplicity also of economic ideas, as the example of the controversy over coinage has proved. Later arose that liberal pragmatism, which helped to shape the English banking institutions in the nineteenth century. The present controversies surrounding European unification finally prove that economic science remains political and is influenced by cultural visions, which should be taken seriously, and this implies that an economic teaching without history, only based on models, is not sufficient to confront the challenges with which Europe is confronted today.

[7] To treat Petty and Steuart as mercantilists does not fit in with every theory of mercantilism. Among the reasons why I regard them as such are their association of economic and political power, the explanation of economic power by the capacity to export, the desire to foster that capacity by having a growing and industrious population and the logic by which this program of growth emerges from the early form of mercantilism as the policy to secure an adequate supply of the precious metals for domestic circulation.

Antiquity: An Epilogue

What has been said could be the introduction to a treatise on economic thought in antiquity. There, the situation is somewhat different, because the texts transmitted to us that focus on economic matters are relatively few, while we know from other sources and from archaeology of the vast economic achievements of the ancients. What kind of economic discourse made them possible? The point of the present paper is that, by going backwards in time, we gradually learn to infer the economic knowledge that must have existed in periods where the texts are relatively scarce. Two centuries of reflection on the history of economic thought have led to the reconstruction of basic economic insights of the Ancients. We learn from the effect of the ancient ideas on modern theoretical departures. Thus we may know that the relatively short, but profound remarks by Xenophon on the division of labour influenced the Smithian theory, that stoic doctrine inspired the liberal idea that self-interest, if properly understood, would advance both, the society and the economy, and we have recalled here, all be it briefly, how Platonian and Aristotelian ideas became roots of medieval economic thought. Xenophon seems to have influenced mercantilist ideas directly as well, in particular the great Italian mercantilist Serra (Reinert 2011). But the fruitfulness of these intellectual transmissions only demonstrates that there was important economic knowledge among the ancients, while it does not constitute a full reconstruction of their economic discourse. The archaeological evidence, in conjunction with what we know about later developments, lets us infer that there must have been more economic knowledge than what we encounter in the texts that have been transmitted to us and more than the doctrines about household management and the philosophical teachings about economic ethics contain. The evidence about coinage for instance, represents a challenge. It is not possible to organise the provision of money without some understanding of the monetary flows and the mutual influences of the quantities of credit and of coins. How did one conceive of the origin of coins (Brandl 2015)? How did one assess seigniorage? What about the planning of the modifications of currency systems such as the recoinage at Athens of 353 B.C. (Kroll 2011)? There are indications that the possibility of Fiat money was understood and that perhaps experiments with fiat money were undertaken (Schefold 2016a). But were these insights shared by many or do the corresponding texts reveal ideas that remained isolated?

It seems conceivable, but I do not regard it as likely, that much of the knowledge about ancient Greek economic institutions remained implicit. This book sheds new light on the relationship between implicit and explicit knowledge not the least in the Mediterranean cultures, because the clay tablets provide that much more information about daily transactions than is available elsewhere. As far as classical Athens is concerned, the case that will probably remain the focus of historians of economic thought, we encounter an extraordinary superposition of institutions, which is full of baffling contrasts so that it challenges the power of historical imagination. Democracy coexists with slavery, there is considerable commodity production, but most of what is now the service sector in modern economics is not monetised and based on gift exchange. The state relies not only on taxes, but also on formally voluntary contributions, hence capital is distinguished as to whether it is visible or invisible. Visible capital like olive trees can be assessed to estimate the ability of a rich citizen to provide liturgies, while invisible capital (loans outstanding) remains secret (Salin 1930). Households must combine efficient production with redistribution among the family members. Wealthy persons act as bankers, but banks are not legal entities, capable of guaranteeing long-term financial contracts, independently of individuals, hence personal inheritance must be so organised as to guarantee the continuity of the business (Cohen 1992). Interest rates are high on maritime loans but low on land. Wealth helps to gain political influence, but much is being written about equality and frugality. The historians describe the contrasts, the orators defend polar views, the philosophers try to provide an orientation for citizens, who frequently get into role conflicts in contradictory situations; they analyse alternative political solutions, but they fail to perceive and to analyse the economy as a whole. Plato gets closest to a comprehensive view, but he deals with an ideal state (*Res publica*) or a second best (*Leges*). Xenophon's Socrates criticises the existing teachings about household management as instrumentalist; it is logical from the point of view of household management to use friends to increase one's wealth (Critoboulos in Xenophon's) and pleasant occupations like gardening are transformed into money-making (Isomachos in the *Oeconomicus*). Socrates in Xenophon does not conceive of a different art of household management; he only recommends a modest life and an orientation towards good work (in the *Memorabilia*). Elsewhere, Xenophon anticipates elements of modern economic analysis with insights about constant returns in artisan production and diminishing returns in agriculture. Aristotle analyses distribution and exchange and draws a borderline by denouncing chrematistic activities as unfit for the good citizen, but he admits that some of these activities are indispensable for the state.

We therefore do not lack characterisations of what it meant to participate in Athenian economic life. They fascinate, because they are complementary, challenging us to try to form a picture of the whole, to reconstruct how diverse daily transactions were planned and executed, and to derive—at least to guess—the economic knowledge that the actors possessed.

The long way which we have undertaken from present conditions towards ever more distant past experiences should help to get a better understanding of economic knowledge and economic development which was important not only today but also earlier in history and not the least in classical antiquity, with an interplay of explicit and implicit forms of economic knowledge, always tied to concrete problems posed in a historical situation, with proposals made, criticisms advanced new proposals formulated, with institutions created and dismantled; it means that people mostly knew fairly well what they were doing.

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