Schumpeter (Hardy Hanappi)

Till today Joseph Alois Schumpeter remains an enfant terrible in the arena of well-respected economists. Despite his often systematically sounding style he never produced a consistent theory concerning any of the numerous subjects of investigations he set out to describe. At least, this is how many of his contemporaries perceived his contributions. A well-defined theory of the firm thus cannot be found in Schumpeter's oeuvre. What can be found there is a patchwork of interconnected ideas, of reflections and meditations, concerning capitalist firms. And as the reader of Schumpeter's texts tries to discover patterns and main themes in this mosaic it often proves to be more fascinating (and actually reveals more knowledge) than any elegant, self-contained and consistent treatment of the subject possibly could be.

Put in other words, Schumpeter's theory of the firm is itself evolutionary in the sense that (1) it revolves around a small diversity of theoretical aspects of capitalist firms, (2) selects this set of characteristics as dominant and thus characteristic for an economic epoch, and (3) expresses the transitory status of his suggestions by immediately adding caveats and even contradictions. Instead of arriving at a finally adequate theory of the firm, Schumpeter rather accompanies important features of firms in their historical development – with one eye always on their emergence at a certain point in history, and the other eye on their foreseeable redundancy in the future. Three of his favorite topics will be discussed in the sequel.

1. The capitalist firm as motor of technological advance

When the young Austrian economist Joseph Schumpeter, inspired by his teacher von Wieser, set out to write his first book he gave it the rather megalomaniac title 'The Nature and Essence of Theoretical Economics' (Schumpeter, 1908). This choice can easily be explained: The contradictory element so typical for Schumpeter on the one hand made him to admire the mathematician Leon Walras, whose pure (market dynamics) theory ignored history and in particular disequilibrating forces on the firm level, while on the other hand he himself all of his lifetime investigated mainly the blind spots of Walrasian pure theory. In the fierce theoretical confrontation between the German historical school around Gustav Schmoller and the emerging Walrasian camp within German speaking economists, the extroverted young Schumpeter firmly took sides with the latter. His book is simply a statement of this attitude[1]. Nevertheless he must already have felt some shortcomings of the 'pure theory' when he gave a more careful evaluation of the concept of 'social value' in 1909 (Schumpeter, 1909). Arguably he needed his own insisting on the rigid static market model of Walras as background for his own contribution, his second book called 'Theory of

[1] In an earlier paper he fiercely defends what he calls the 'exact theory' of Jevons and Walras against the German Historical School (Schumpeter, 1906). Though Schumpeter lifelong admired mathematics, he personally never mastered to use it – despite lessons he ordered from his desperate assistant Richard Goodwin.

Development' (Schumpeter, 1911). What motivated Schumpeter to depart from his celebration of equilibrating market forces is a scientific attitude, which he much later considered to have in common with Karl Marx: The final decisive element for scientific truth is the empirical fact, 'Tatsachenbeobachtung' as Schumpeter writes[2]. And in a world thriving towards the explosion of World War 1, the clash of empires instead of classes, it certainly was counterintuitive to describe it as an equilibrium process. As a trained economist and devoted to start from empirically observed facts Schumpeter identified the major advance in societies since Adam Smith to be the improvements in production technologies and products. But technical progress was explicitly excluded from the system of pure exchange that constituted the core of contemporary 'pure theory'. Every change there would have to be derived from changes in the marginal utilities of individuals, changes which in turn could only be seen as external shock. This was too far from empirical fact for Schumpeter, for him the introduction of novelty – as observed in the past – always came from the suppliers, from the firms. This basic insight, namely that - contrary to the causal structure of the Walrasian School – new production processes and new products are not called into existence by the wants of consumers but rather by proposals for novelty made by firms, this insight remains a reoccurring element in Schumpeter's work during his whole life.

There are important consequences of this reversal of causal structure. First of all it implies that the goal variables of firms have to be separated from the goals of their customers. Still the goals of customers (households, public bodies, and other firms) enter a firm's goal function, but only indirectly as a constraint to be met. Firms have to build internal models of their prospective consumers to derive expected effective demand. So Walras' structure of marginal utilities of commodities for each individual still is important, but now it appears as anticipation of such a structure in the internal models built by firms. And each firm will add other elements to this building block of its internal model: (1) '*Effective* demand' already means that it has to be anticipated how much disposable money a prospective customer can spend. Some kind of wage-price system has to be assumed. (2) But since even in local firm environments wages and prices are always vectors assigned to heterogeneous labor processes and commodities the final task of the internal model clearly must be to anticipate the overall global dynamics – a task always too complicated and too costly for a single firm. The art of the firm thus consists in striking the profit maximizing balance between the cost of additional internal model building and the additional profits made by better anticipation. (3) Schumpeter identifies profit as the central goal variable of firms, and as the classics identifies it as the difference between revenues and cost. Since every new process or new product needs finance, the cost of this finance, i.e. capital cost, enters a firm's goal function too. But as Schumpeter already saw, the banking structure of an economy since Adam Smith had developed into a rather complicated system not easily to be disentangled from political

[2] Parallels between Schumpeter and Marx do exist, but predominantly in their methodological approach – one is tempted to say in their 'dialectical' style - and their aspirations to explain the laws of motion of a capitalist society. With respect to the content of such an explanation there are, of course, essential differences. See (Elliott, 1980) and (Foster, 1983) for a concise treatment of this question.

developments. To include some of this, at least very sketchy, in the internal model of the firm would again call for strong assumptions and simplifications.

To sum up: Whatever Schumpeter's vision of a firm is, it has to solve a tremendously difficult modeling task. But since it has to come up with decisions in time it will always be forced to be subjected to a trial and error process validating its highly preliminary internal model building. This trial and error process, which weeds out survivors and eliminates losers, evidently is a social process involving all parts of society. The entities trying to anticipate this social process, the firms, collectively are driving it. They are the ones, which can be considered as the motor of technological advance. As Schumpeter recognized, the impact of capitalist firms on all other parts of society had become so overwhelming that they indeed were becoming the dominating social institutions.

2. The capitalist firm as a social institution within a broader context

It is not without a certain melancholy that the economic historian Schumpeter observes the demise of the old feudal order, which constituted the system of social institutions dominating his youth in the Austrian-Hungarian Empire. The two new types of social institutions – *capitalist firms* and *labor movement institutions* – seemed to be inevitably to become the major pillars of 20th century's societies. Evaluating their successes more than 50 years after Marx, he took a much more skeptic attitude than the latter. The triumphant praise of the labor productivity enhancing role of big industry to be found in Marx' manifesto (Marx, 1948) appears in Schumpeter's writings only as a kind of requiem for the golden days of British capitalism in the 19th century. And while Marx instead of forecasting any more detailed features of a future mode of production rather used an emphatic believe in the proletariat's political victory as an ideological tool, Schumpeter – again with a vague prediction of socialism's coming dominance – with some regret just foresaw the emergence of large socialized production units rendering the original innovative function of individual entrepreneurs obsolete.

It is obvious that a social scientist as involved in everyday politics as Schumpeter certainly was, cannot be expected to carry out his scientific work without being influenced by his personal political experiences. To take sides with one of the above mentioned two pillars of the upcoming socioeconomic system was mandatory for intellectual leaders of the time. And Schumpeter took side for the bourgeois representatives of capitalist firms. But as his gusto for contradictory choices commanded, he at the same time was prepared to become minister of finance in the first socialist-led coalition government of the Austrian Republic. 'It needs a doctor if someone is going to die.' he is reported to have commented his new role. This cynical attitude became characteristic for most of his judgments. Some kind of arrangement with the social institutions of the labor movement, some kind of social partnership, appeared to be inevitable – though he did not like it. The end of the innovative role of individual entrepreneurs, of their historical mission, seemed to be in sight – though he did not like it. The overwhelming importance of crude state power was becoming more and more visible – and he was not sure if he should like it. Evidence of empirically observed trends in the inter-war period ran counter Schumpeter's own social preferences, but as an adept of 'Tatsachenbeobachtung', he rather accommodated his theoretical fragments to fit to reality.

When he witnessed the surge of large corporations acting on a more and more global scale he sensed that his original concept of the innovative entrepreneur, the individual leader of the capitalist firm, had to be updated. Certainly, in any future society production units, entities which organize the commodities and services that the population needs will still exist. In which form the creation of novelty, of new combinations, can survive was not clear for Schumpeter. He anticipated the emergence of more large, globally operating corporations with teams sharing a scaled down innovative punch, embedded in a rather dull socialist political setting. The necessary falling apart of managerial duties and individual incentives of capital owners was already visible for him, which implied a loss creativity, and after the end of World War 2 he recognized that the majority of the intellectual elites of advanced countries supported socialist ideas and thus were lost as carriers of the 'entrepreneurial spirits' he considered to be a substantial ingredient of capitalism. Understandably – and despite his correct intuitions - Schumpeter's interest in this new type of firms was somewhat limited. For him the internal organization of this newly dominating type of firms was not a determining element of the course of the global economy any more, direct socialist policy forms, less creative, less colorful had taken this place. So while Schumpeter from 40-ties onwards was one of the most influential teachers of a new generation of economists in Harvard and even across the USA, his own leitmotif – capitalism as guided by entrepreneurial individuals – was already outdated.

3. The inner organization of capitalist firms – the entrepreneur

It took almost 40 years until in the early 80-ties his core invention, the entrepreneur, came into fashion again. And it is not too far-fetched to consider this change of focus in mainstream economic theory as having been stimulated by the conservative rollback in politics, which occurred when Thatcher (1978), Reagan (1980), and Kohl (1982) were elected. The ideological underpinnings to fight social-democratic ideas that Schumpeter's concept of the entrepreneur seemed to provide suddenly were highly welcome. But as a closer look at Schumpeter's original concept reveals, to claim relevance of his concept first introduced in (Schumpeter, 1911) to support conservative economic policy in last two decades of the century has been rather inadequate.

When Schumpeter decided to introduce elements in the prevailing economic theory, which could explain accelerating disequilibrium in markets, he had to choose either between forces coming from the surge of labor movement institutions or forces represented by capitalist firms. When he worked on his theory of development (probably starting in 1908) membership in unions had risen sharply since the last decade of the 19th century, a failed attempt of a revolution in Russia had occurred in 1905, and the hitherto stable, feudal political superstructure started to crumble. Schumpeter's contradictory attitude evidently made it impossible for him not to oppose many of his intellectual contemporaries who saw progress in a coincidence of the fall of feudal power and participation of the labor movement in politics. He thus rather preferred to choose the capitalist firm as the driving force of progress, in particular capitalist firms in their heroic, anti-feudalist period - in the early 19th century. The methodological setting he introduces by this choice is interesting: He starts with the historical conflict between feudal political superstructure and bourgeois firm-owners and dissolves it into a fight of firms for profits via the introduction of novelty on the one hand, and a retreat from considering the interaction between political levels (here the feudal politics) and economic processes on the other hand. Development is taken care of by equilibrium disturbing capitalist firms, political evolutions are just epiphenomena.

Add now his early inclination to emphasize methodological individualism[3] – inherited from Menger and von Wieser – and you get Schumpeter's 'entrepreneur'[4]. In the capitalist firm of Britain during the industrial revolution the owner of the firm, the one who introduced new techniques, and the one who borrowed the necessary money indeed were one and the same physical person. This was the individual which a theory of development needed to be able to position itself within the realm of methodological individualism.

But while this happy marriage of a methodological recipe and empirical observations of an (inappropriate) historical epoch solved the immediate problem of introducing development in 1911, it turned out to be difficult to defend as the turbulent first half of the 20th century carried on.

Firms typically financed their innovative activity not by borrowing some money from a rich uncle, as it seems to have often been the case in 19th century Britain. Schumpeter had to assume an independent banking system, a well-functioning banking system. To divorce banking from general entrepreneurial behavior but to keep the entrepreneur proper as the hero of the economic tale to be told was a heroic step. Schumpeter's contemporary Rudolf Hilferding had published a book on finance capital thought to be an update of Marx' "Das Kapital', which saw finance capital taking the center of the stage in modern capitalism – while Schumpeter treated 'well-functioning' banking only as a necessary side constraint[5]. But this procedure allowed Schumpeter to concentrate on the main characteristic of the

[3] The marginalist approach initiated by Menger, Jevons, and Walras in 1884 had introduced methodological individualism in economic theory mainly to copy the successful formal apparatus of the natural sciences, which needed clear-cut smallest atoms. A single physical individual of homo-sapiens seemed to be the ideal starting point for a social theory akin to a physical system. An evident side-effect most welcome to conservative politicians was that the dangerous concept of social classes, so prominent in classical political economy till Marx, could be completely purged.

[4] A very concise discussion of Schumpeter's definition of entrepreneurs can be found in (Oakley, 1990, pp. 110-121).

[5] In 1925 he already saw that the tendency towards large public bodies taking central economic decisions also included the (in his view somehow 'exogenous') monetary system: 'This (the last consequences of the new banking policy, H.H.) is no longer management of the monetary system, but management of the whole national economy, without any visible boundaries. It means an actual limitation of the possibilities of private initiative and a marked deviation from the economic principle of private property and free competition. The decision on what is to be produced, and how, would from now on, be in the hands of a central body: the same would apply to the distribution of the proceeds of production amoung the various social classes.' (Schumpeter, 1925, p.113).

entrepreneur, namely to shift the production function upwards, to carry out innovations. It was only straight forward that he insisted that only for this core activity a positive interest rate should be assumed. Capital owners get a part of the interest rate which entrepreneurs earn, and if the latter do not innovate, then the interest rate is zero.

In 1930, during the Great Depression Schumpeter evaluates this Crisis and comes to the conclusion that the main cause could be the coincidence of waves of innovative behavior of different length. This innovation-bound dynamics is the central endogenous cause of the crisis; the many less important exogenous influences (like bad monetary policy) are mentioned too, but only cursory (Schumpeter, 1930).

In his major work on business cycles (Schumpeter, 1939) a further consequence of this conceptualization of the entrepreneur is drawn. As new products and processes are only new for a rather limited time span, so are the agents, which bring them into existence. Firms are timed – actually are equivalent – to their innovations, firms and even their plants come and go as they are able to innovate [Schumpeter, 1939, pp. 68-70). In a sense what he describes is a mirror image of the usual product life cycle: In his perspective the vanishing demand for a product is caused by an innovative entrepreneur offering a competing new product. This view on business demography, as it is labeled today, is one of the reasons why he (despite his own assertions) can be considered as evolutionary economist: There always is a heterogeneous set of firms of different sizes and at different stages in their finite life times. While relative innovative power translated via market forces permanently weeds out some of them, there also is incessant birth of new firms trying to survive[6].

While the entrepreneurial soul of Schumpeter's vision of a capitalist firm has experienced an interesting renaissance in modern evolutionary theory, in particular when it was reformulated in simulation environments, his claim that the growth of multinational corporations undermines their innovative behavior has received more empirically oriented attention. As Schumpeter's 19th century vision of a capitalist firm cannot be easily compared with the complicated internal structures of contemporary firms, it cannot be expected that (apart from some singular issues) a reliable judgment concerning the decreasing innovative power caused by firm growth will ever be possible. So far it seems to be difficult enough to characterize the behavior of large transnational firms at all[7] – even without any evolutionary assumptions on creative innovation[8]. Schumpeter's attempt to isolate innovate behavior and to define it as the core of the definition of a capitalist firm is not helpful when the goal is to describe and to understand contemporary large, transnational corporations.

Conclusion

[6] A nice survey on the empirics of these processes can be found in (Coad A., 2009, pp. 14-38).

[7] Compare for example [Navaretti & Venables, 2004).

[8] Schumpeter himself just noted: , Thus, economic progress tends to become depersonalized and automatized. Bureau and committee work tends to replace individual action.' (Schumpeter, 1942, p. 133).

Despite, or perhaps due to his often cursory and partly contradictory style Schumpeter has inspired more economists than most of his contemporaries. This also holds for topics concerning the theory of the firm. All kinds of supply side economics, which in last resort have to discuss the behavior of production units, will find valuable – though singular – insights in Schumpeter's texts.

His most well-known theoretical innovation, the notion of the entrepreneur, experienced a more ambivalent fate. Being more of an artificial, even ideologically oriented concept from its very start, it lent itself too often for misuse in superficial economic policy debates. Indeed it has mostly inadequately been used to argue for the privatization of public funds, as justification of involuntary unemployment of people who do not possess enough 'entrepreneurial spirits', and the like. But parallel to this misuse the concept also hinted at the necessity to discuss the internal structure of firms: What really is the role of hierarchy in production units? How can we describe the process of innovation[9]? Based on these questions a wide array of literature has been produced ranging from industrial organization to more intrinsic questions of creativity per se. Schumpeter, the economist who always provoked dialogues, to a considerable extent was responsible for that creative theoretic response.

Finally he can be charged to have played a similar trick with respect to the embedding of the theory of the firm in a wider social context. By isolating the innovative function in his theoretical vision of the capitalist firm, while engaging himself with empathy in the general political turmoil of the troubled times he lived in, he again was a living example for the tight connection between political attitudes and theoretical, microeconomic constructs. His incessant attempts to come to quits with empirically observed processes while insisting on several ideological visions – necessary visions, as he often said - lead him to sometimes contradictory, but always interesting issues. It is this appearance of a synthetic aspiration, the aspiration to understand the overall process[10] within which firm behavior is embedded, which seems to be Schumpeter's most precious legacy today. And in this respect it is definitely an open, evolutionary process.

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[9] A more thorough treatment oft hat issue in a Schumpeterean perspective can be found in (Hanappi & Hanappi-Egger, 2004).

[10] As a consequence every aspect of the highly interconnected overall process can propagate some Shumpeterean impact. E.g. [Reinert, 2009) puts forward a most interesting Schumpeterean trade theory in the area of industrial organization.

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