

A neo-schumpeterian normative standard for industrial policy analysis

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Resumo

O objetivo deste artigo é delinear um referencial normativo no arcabouço neoschumpeteriano para avaliações de políticas de desenvolvimento, em especial políticas industriais. Considerando as contribuições originais de Schumpeter e também a vasta literatura neoschumpeteriana, e como objetivo de organizar a investigação e permitir a construção coerente de um referencial normativo neoschumpeteriano, propõe-se neste artigo que a análise seja segmentada em três níveis da economia. O primeiro nível é o mais geral, considerando a economia como um todo e seu longo processo de mudança estrutural com o sentido de progresso. O segundo nível da análise é o funcionamento dos mercados no qual se avalia os mecanismos de seleção e promoção de inovações. Finalmente, no mais fundamental terceiro nível da análise, o intuito é analisar o comportamento dos agentes, indivíduos e empresas, dentro de suas limitações e capacitações. Assim, do ponto de vista geral, é possível dizer que o referencial normativo está no primeiro nível da análise, o desenvolvimento econômico como resultado do progresso técnico que beneficia o coletivo da economia. Para alcançar esse objetivo, avalia-se o segundo nível da análise, reconhecendo que o para alcançar o progresso técnico é necessário o funcionamento adequado dos mercados, que

seleciona inovações e premia os esforços inovativos ao estimular a geração de diversidade e selecionar os resultados mais apropriados. Isso imediatamente leva ao terceiro nível da análise – o agente – no qual se identificam os indivíduos e empresas, sob racionalidade limitada, incerteza e capacitações de aprendizado, que são os agentes que geram a diversidade e a selecionam de acordo com suas preferências, que estão em constante processo de mudança.

Classificação JEL: B52

Palavras-chave: Eficiência, análise normativa, economia neoschumpeteriana.

Abstract

The objective of this paper is to outline a normative standard in the neo-schumpeterian framework for the evaluation of development policies, especially industrial policies. Considering the original contributions of Schumpeter and also the neo-schumpeterian vast literature, and in order to organize the investigation and allow a coherent construction of a schumpeterian normative standard, I propose in this paper that the analysis be segmented in three levels of the economy. The first is the most general level, the economy as a whole and the long process of structural change with the sense of progress. The second level of analysis is the functioning of markets in which we evaluate the mechanisms of selection and promotion of innovations. Finally, in the more fundamental third level of analysis, the intent is to analyze the behavior of the agent, individuals and firms, within their limitations and capabilities. Therefore, from the general point of view, we can say that the normative standard is at the first level, the economic development as a result of technical progress, which benefits the whole collective of the economy. To achieve this result, we go to the second level of analysis, recognizing that the achievement of technical progress is due to an appropriate functioning of markets that select innovations and reward innovative efforts by stimulating the generation of diversity as do the selection of the most appropriate results. This immediately leads to the third level of analysis – the agent – in which we identify those individuals and firms, under bounded rationality, uncertainty, and learning skills that are the agents that generate diversity and select in accordance to their preferences, which are also in the process of change.

JEL Classification: B52

Keywords: efficiency, normative analysis, neo-schumpeterian economics.

Introduction

The objective of this paper is to outline a normative standard in the neo-schumpeterian framework for the evaluation of development policies, especially industrial policies. In the last three decades this effort has been motivated by academic debates on economic policy. The neo-schumpeterian contribution emerges in opposition to neoliberal policy prescriptions, dominant in recent year's debate, which results on welfare and economic efficiency are based on the free market assumptions. In this context, the search for an alternative normative standard becomes essential, especially to support policy propositions and evaluation.

Neoclassical economics admit very restrictive assumptions of perfect rationality of individuals, which would lead to market efficiency and, ultimately, economic growth. From this point of view, the normative standard is the achievement of optimum level of satisfaction of individuals, through the maximization of preferences (irreducible) of individuals, firm's profits and, ultimately, economic growth.

According to Nelson (1981), the conditions for the attainment of the criteria of welfare in orthodox economics are very restrictive, what condemns its practical use. For the author, the normative evaluation of the markets outputs should rely on the innovative capacity of firms, while we must also recognize the institutional coordination and targeting as market adjustment mechanisms¹. In this sense, the neo-schumpeterian approach seeks more realistic assumptions about the rationality of individuals, the functioning of markets and, finally, the economic development that, rather than growth, is due to the structural change.

The great problem of the economy, we must emphasize, is to be able to compare alternative outcomes, means and ends, costs and benefits, and establish what is best. The very definition of "best" implies the complex definition of a benchmark, a standard on which to make normative judgments.

In this paper, I propose the abandonment of the neoclassical Paretian standard and its absolute focus on the individual and the admission of a neo-schumpeterian normative standard. In accordance with the term "creative destruction", I suggest the acceptance of the ambiguity of value judgments about economic phenomena that has antagonistic social results. This involves assuming that we choose some elements as good and beneficial rather than harmful effects and costs that they entail.

Considering the original contributions of Schumpeter and also the neo-schumpeterian vast literature, and in order to organize the investigation and allow a coherent construction of a

¹ For a more detailed critique of neoclassical standards, see Metcalfe (1995).

schumpeterian normative standard, I propose that the analysis be segmented in the levels of the economy. The first is the most general level, the economy as a whole and the long process of economic change with the sense of progress. The second level of analysis is the intermediary, the functioning of markets in which we evaluate the mechanisms of selection and promotion of innovations. Finally, in the more fundamental third level of analysis, I analyze the behavior of the agent, individuals and firms, within their limitations and capabilities. This segmentation does not imply decoupling the economic phenomena in, say, a micro level, a *meso* and macro-economic level. Rather, we must recognize that the economy is the large set of human actions and that there is no aggregate phenomenon that does not originate from the individual level.

Therefore, from the general point of view, we can say that the normative standard is at the first level, the economic development as a result of technical progress, which benefits the whole collective of the economy. To achieve this result, we go to the second level of analysis, recognizing that the achievement of technical progress is due to an appropriate functioning of markets that select innovations and reward innovative efforts, by stimulating the generation of diversity as do the selection of the most appropriate results. This immediately leads to the third level of analysis - the agent – in which we identify those individuals and firms, under bounded rationality, uncertainty, and learning skills that are the agents that generate diversity and select in accordance to their preferences, which are also in the process of change.

The evaluation of industrial policies would be framed at the intermediate level of normative analysis, in which we deal with the functioning of markets. However, for their evaluation is crucial to take into account the main objective of industrial policies, that is, at the first level of analysis, the pursuit for technical progress and economic development. More than that, from the point of view of a country lagging behind the world's technological and social frontier, it means the quest to achieve and perhaps exceed that frontier - the catch-up.

In the evaluation of industrial policy the third level of analysis, in turn, appears as an input, because the recognition of the capabilities of individuals and firms that shape and limit the possibilities of the policy. Meanwhile, there is also a focus of policy action by aiming to change these capabilities extending the possibilities of individuals and firms, another goal of development.

Note then that the standard stays referred to the individual, though we must accept that for a better collective result certain sacrifice will be imposed for some individuals, in order to benefit the general progress. And there is no mechanism that guarantees that those individuals that were harmed could be compensated in any way.

Moreover, even from the point of view of the benefit individuals they can perceive to be harmed during the process, albeit that in the end of the process they are better off. But the end of the process is unknown at its beginning and while it occurs. The *ex post* evaluation will be made by those that survived to the process of change and, then, could have been benefited by it. It is almost equivalent to corroborate the Orwellian claim that the history is written by the winners. This is the most troublesome evolutionary aspect that biology can offer to social sciences. For that reason, we must include it as an *ad hoc* element in industrial and development policies initiatives for guarantee the survival of the most fragile agents and for increase its capabilities.

For economic policy in general – and particularly for industrial policy – we must recognize that economics as a science doesn't offer a normative standard free from moral judgments. This implies that any statement from economics should explicit its normative basis. Make them explicit would make the political debate clearer and the evaluation of policies more effective.

This paper is organized in six sections, including this introduction. Section 2 discusses the original contributions of Schumpeter on normative questions. On section 3 starts the building of a neo-schumpeterian normative standard by the third level of the analysis (the economic agent). Section 4 is addressed to the second level of the analysis, the markets. On section 5 we deal with the first and most fundamental level of the analysis, the global technical progress. Last section offers some concluding remarks.

2. General Overview on Schumpeter's normative references

It is certainly challenging seek to establish a normative standard to evaluate the overall results, in the long-run, based on an analysis focused on the actions of individuals, especially if the leading agent to study are entrepreneurs with their multiple motivations and limitations. Methodologically, both for Schumpeter and for the neo-schumpeterians, the principle of analysis is the agent's (individuals and firms) capacities, their routines, decisions and innovation processes. The economic results, in turn, come from the success or failure of the agent in its quest for improving his position as cheaply as possible. But under uncertainty and bounded rationality, to do the best possible does not mean to achieve the best result possible. Instead, the better able agents are always flirting with failure. So, to draw policy evaluation tools, we must recognize the challenges that the neo-schumpeterian approach impose for us.

“Within this framework the search for simple welfare propositions is likely to prove abortive. The uncertainty of outcomes and the learning processes which endogenously change strategies and preferences defy any simple connection between welfare and the dynamics of

innovation. Progress is desirable in so far as economic wealth is desirable but ... the incidence of evolutionary progress is very uneven and the benefits and costs fall unevenly and unexpectedly. Most significantly of all there is no longer a role for the optimizing policy maker. Uncertainty, ill-defined choice sets and bounded rationality put the policy maker in exactly the same position as the institutions which policy seeks to influence.”²

Unlike the neoclassical theory of welfare in which the individual decisions for its best leads to the best collective welfare possible, in the analysis of schumpeterian inspiration the effects of individual action should be addressed at three levels: the individual success or failure; the performance of the industry and its market; and long-term dynamics of capitalist development. These levels are clearly inseparable, since each is the aggregate result of the latter. Its segmentation, however, allows to analyze the regulatory elements that are relevant to every level and do not necessarily imply the same normative results in the aggregate analysis to the next level. The original contributions of Schumpeter once again, give us clues to the analysis of these three levels.

“In other words, the problem that is usually being visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them. As long as this is not recognized, the investigator does a meaningless job. As soon as it is recognized, his outlook on capitalist practice and its social results changes considerably”³

In the footnote of the same page, Schumpeter remarks:

“It should be understood that it is only our appraisal of economic performance and not our moral judgment that can be so changed. Owing to its autonomy, moral approval or disapproval is entirely independent of our appraisal of social (or any other) results, unless we happen to adopt a moral system such as utilitarianism which makes moral approval and disapproval turn on them *ex definitione*.”⁴

Apparently skeptical over the capitalism capacity to survive, Schumpeter’s critic about the capitalist system is rather a profound praise⁵ that recognize more than the technical progress, but also the social beneficial results.

² Metcalfe (1995, p. 447-8).

³ Schumpeter (1942, p. 84).

⁴ Schumpeter (1942, p. 84), footnote 8.

⁵ Over this subject, see McGraw’s (2008) introduction for the new edition of “Capitalism, Socialism and Democracy”. This kind of assertive would be authorized by Schumpeter himself that, referring to Marx, argues that everything that he would say about capitalism is its capacity of production. In the first chapter, Schumpeter (1942) writes in the footnote 2 on page 7: “This may seem to be an exaggeration. But let us quote from the authorized English translation: “the bourgeoisie ... has been the first to show what man’s activity can bring about. It has accomplished wonders far surpassing Egyptian pyramids, Roman aqueducts and Gothic cathedrals ... the bourgeoisie ... draws all nations ... into

“In practice capitalism reduces inequality: by increasing opportunities for entry into the ruling strata relative to earlier, more class-bound societies; by the creation of mass-produced products that especially benefit working masses; and by philanthropy and social legislation underwritten by capitalist growth.”⁶

In this sense, however, these benefits are results of the hostility – mainly because of the attempts to ease the hostility – of the capitalism system and, at the same time, are factors that corrupt its running. Schumpeter shows believe in a limit of this process, that would be the very end of capitalist system, because of the difficulty of generate larger benefits for the working classes meanwhile it demotivates the entrepreneur, the engine of the system.

“Faced by the increasing hostility of the environment and by the legislative, administrative and judicial practice born of that hostility, entrepreneurs and capitalists —in fact the whole stratum that accepts the bourgeois scheme of life — will eventually cease to function. ... Considering the role of bourgeois motivation in the explanation of the economic history of the last two or three centuries, its smothering by the unfavorable reactions of society or its weakening by disuse no doubt constitutes a factor adequate to explain a flop in the capitalist process — should we ever observe it as a permanent phenomenon.”⁷

It is beyond of the scope of this paper to discuss Schumpeter’s motivations about his perspective of final decay of capitalism, but his insights are useful for building a normative standard for the beneficial results of capitalism system and, also, which are the more suited mechanisms for those results to be achieved.

Schumpeter didn’t hide his admiration for Walrasian economics and the elegance of its results. Obviously, however, their static nature is an unsurpassed element of its limitations for understand the economic phenomena of development and change and, because of that, considerations over moral or normative questions that refers to the development process could not be originated in its theoretical framework.

In this sense, one can understand Schumpeter's theoretical effort to embrace more elements and provide tools to evaluate the long-run processes of the economy the development itself.

civilization ... It has created enormous cities ... and thus rescued a considerable part of the population from the idiocy [sic!] or rural life. ... the bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together.” Observe that all the achievements referred to are attributed *to the bourgeoisie alone* which is more than many thoroughly bourgeois economists would claim”. This is all I meant by the above passage – and strikingly different from the views of the vulgarized Marxism of today or from the Veblenite stuff of the modern non-Marxist radical. Let me say at once: not more than that is implied in anything I shall say in the second part about the performance of capitalism.”

⁶ Elliott (1980, p. 55).

⁷ Schumpeter (1942, p. 156).

Concomitantly, he explicitly criticized the limitations of the analysis of welfare, especially when tried to be use beyond the limits allowed by its theoretical scope.

Schubert (2010) identifies Schumpeter's profound critique of neoclassical welfare economics that reveals the limitations needed to be developed in order to form a coherent and appropriate theoretical framework to understand economic phenomena. The first and most fundamental aspect of criticism is the static character, attached to the utilitarian approach, which would have given rise to the Kaldor-Hicks compensation rule, that would be “a very artificial definition of what is meant by making ‘society’ better off”⁸.

Secondly, Schumpeter was concerned with understanding the “functional” aspect of social losses caused by innovation. Innovation will always have winners and losers. After all, the profit “is at the same time the child and the victim of development”⁹, but the process of creative destruction generates, in its final output, social benefits much greater than generates losses. The difficulty over this aspect is, as we will discuss ahead, the capacity to measure and compare these two effects.

In third, finally, and inseparable from the second point, Schumpeter's critique the on analysis’ referential that focus on individuals, not on the collective. There are two aspects to this criticism: the first is subsidiary and reveals the elitist character of Schumpeter's assessment on the ability of most people, the masses, to recognize the effects beyond the short-term:

“The long-run interests of society are so entirely lodged with the upper strata of bourgeois society that it is perfectly natural for people to look upon them as the interests of that class only. For the masses, it is the short-run view that counts. Like Louis XV, they feel *après nous le déluge*, and from the standpoint of individualist utilitarianism they are of course being perfectly rational if they feel like that.”¹⁰

The other aspect, more fundamental, of Schumpeter's criticism is the assessment of the capability of individuals to make judgments about their situations considering the changes in progress. It is Schumpeter's own critique of the rationality of individuals. In the seventh chapter of the original German edition of *Theory of Economic Development* (1912), this view is placed as follows:

“We all always approach the new with traditional fixed measures, with measures that have been created under the circumstances of the past. This is particularly the case of social phenomena. And even unconsciously the past is Always the judge of the present. And it is the

⁸ Schumpeter (1954, p. 1072), footnote 9, *apud* footnote 10 on Schubert (2010, p. 9).

⁹ Schumpeter (1934, p. 154).

¹⁰ Schumpeter (1942, p. 145).

most biased, partisan judge. In this way, the new cannot easily pass, not with those engaged in acting and fighting [...] but neither with the one who is observing, who thinks that his is cool and objective.”¹¹

Slembeck (2003) argues that the normative standards are established based much more on ideologies and beliefs than on results of the theory. Beyond the logical difficulties, it is also important to recognize that the normative standard is indispensable for any normative result of the positive theory. Considering the Weberian methodology (and formerly Hume's), Schubert points out that in science there is "a categorical divide between positive and normative statements that does not allow any logical conclusions to be made from the former to the latter"¹². There must be at least one normative statement so that the conclusions of the positive theory could have some normative validity. The author takes advantage of another passage in Schumpeter, and specifically the use of the term "necessarily", which allows identify of the same kind of logic in an attempt to create a normative standard in evolutionary basis.

“Even if mankind were as free to choose as a businessman is free to choose ... no determined value judgment necessarily follows from the facts and relations between facts that I have tried to convey. As regards the economic performance, it does not follow that men are "happier" or even "better off" in the industrial society of today than they were in a medieval manor or village. As regards the cultural performance, one may accept every word I have written and yet hate it — its utilitarianism and the wholesale destruction of Meanings incident to it — from the bottom of one's heart.”¹³

Thus:

“[I]t would be illegitimate to attach any normative label (such as “good” or “desirable”) to some empirical fact (the phenomenon of economic evolution itself, say, or some of its products) solely on the ground of its existence. Otherwise, something akin to the *naturalistic fallacy* would be committed.”¹⁴

Under this point of view, it seems that Schumpeter in *Capitalism, Socialism and Democracy* is at the edge of the naturalistic fallacy. First, he says that the losses generated by creative destruction are more than compensated by the gains and this compensation is made by the access of more and better products by the masses in general. After that, in a very deterministically approach, he states

¹¹ Schumpeter (2002, p. 105).

¹² Schubert (2010, p. 21).

¹³ Schumpeter (1942, p. 129).

¹⁴ Schubert (2010, p. 21).

that is not possible to alter the course of evolution by means of policy and that the individuals will adapt on the process. Thus, the individual preferences could not be the basis of a normative standard because they change and incorporate the inevitable effects of the process of the creative destruction. The logical conclusion is that “what evolves is taken to be good *per se*”¹⁵.

However, this conclusion is not established by Schumpeter because it would be fallacious and tautological. For avoiding it to be considered a logical result of his theory, some years later Schumpeter recognized that to compare social cost with social benefits is a task that he rather not to take.

“[T]he question of appraisal of social gains from entrepreneurship, absolute and relative to the entrepreneurial shares in them, and of the social costs involved in a system that relies on business interests to carry out its innovations, is so complex and perhaps even hopeless that I beg to excuse myself from entering into it.”¹⁶

Schumpeter’s creative destruction principle, then, “offers no basis on which to judge how far the process should go to serve the public interest most effectively”¹⁷. So, to build an neo-schumpeterian evolutionary theory, as correctly say Nelson e Winter in their seminal work, it would be necessary a “rethinking of normative economics” because “it is apparent that an evolutionary view of what *is* going on in the world of firms and industries strongly influences how one looks at the question of what *should* be going on.”¹⁸

Despite the abstention of Schumpeter himself on this subject, there is no logical impossibility to make such a formulation. It is, of course, a non-trivial task. Thus, the effort to build an evolutionary neo-schumpeterian normative standard could take advantage of Schumpeter’s prolific insights on the process of capitalist development.

3. Third level: the agent

Intended to build of a schumpeterian standard for policy evaluation, Schubert (2010) develops a welfare criteria on individual basis: “Policy should aim at maximizing the individuals’ opportunity sets, i.e., their possibility to satisfy whatever preferences they happen to form”¹⁹. His normative standard is based not in the satisfaction of individual preferences – as in neoclassical theory – but in

¹⁵ Schubert (2010, p. 22).

¹⁶ Schumpeter (1947, p. 155), footnote 12.

¹⁷ Baumol (2001, p. 21).

¹⁸ Nelson e Winter (1982, p. 356), italics in the original.

¹⁹ Schubert (2010, p. 25).

the procedures taken by the agents, under learning conditions that implies in changes in the possibilities and choices.

Following Schumpeter, the central idea is that the creative destruction process brings different costs and benefits to different agents, in an unbalanced way. But globally, the result is positive for the system as a whole. Once the individual point of view is taken, however, it must be recognized that preferences are inconstant and inconsistent and always subject to change. So, the standard must be based on the capacity of learning. “More specifically, it allows devising a criterion that reflects individuals’ capacity to learn and to *adjust to change*, rather than some “optimum” level of aggregate social welfare”²⁰. So, we shall define what welfare means.

“We can ... verify the instrumental dimension of the policy implications of evolutionary change: Given that there is no such thing as the “pure market” but rather, in any given social setting, an institutional framework that constitutes a market economy, and given that some of the institutions are (at least potentially) subject to deliberate design, policy can, by means of rule design, partly influence the direction and intensity of economic change. This is a positive proposition, i.e., a statement about the factual capacities of policy-makers. We now add the (similarly weak) *normative* proposition that policy (as rule design) *should* ideally be justified and guided by the principle of increasing the wellbeing of the polity’s citizens, however defined. Given this, the most important step concerns the way how we conceptualize “well-being”.”²¹

Schubert (2010, pp. 25-26) then appeal to the contractualists Buchanan, Tullock and Rawls as references and concludes to the importance of rule design that guaranties for the society that the process of change keeps the sense of progress, considering the mutable preferences of individuals. The welfare criterion would be in the creation of opportunities²². In Schumpeter’s words: “Capitalism provides, to a much greater extent than most of us believe, the ladders for talent to climb.”²³ Explicitly in Schubert’s appraisal:

We will demonstrate the “Schumpeterian” quality of the account [of welfare] that is to be construed by assuming the following: First, we assume that Schumpeter aims at finding a way to convince individuals that the capitalist process of economic change would effectively increase their well-being, not only in terms of material resources, but in terms of want

²⁰ Schubert (2010, p. 4), italics on the original.

²¹ Schubert (2010, p. 23), italics on the original.

²² See also Sugden (2004) who describes the possibility of a welfare criterion based on individual opportunities, even though they have incoherent and irrational preferences.

²³ Schumpeter (1942, p. 188).

satisfaction (the “true output” of economic change) more general. Second, we have good reasons to presume that he also wants to convince them that the evolutionary process would make sure that the wants they will acquire during the process itself would be catered to over time. Third, and closely related, given that he repeatedly dismisses utilitarian thinking on the grounds of its overly simplistic view of individuals’ “values” or “quality of life”, we assume that he wishes to conceptualize “want satisfaction” in a (probably multi-dimensional) way that better reflects what real-world individuals care about. To reconcile these three goals obviously requires a criterion of welfare that is more elaborate than simple “want satisfaction”.²⁴

From this, Schubert admits the individual well-being as the standard, based in a multidimensional set of elements, not only the consumption, but happiness, personal success, liberty, self-esteem and social recognition. Normatively, the process is at the center of analysis because it creates the opportunities expected for the well-being. In turn, the change in preferences (and wants) is possible and stimulated. Pragmatically, the standard assumes that the policies must stimulate consumers to be sovereign over their decisions. So, the standard can be seen as a measure of the economy capacity to adjust to change in a way that it refers to individual well-being.

4. Second level: the market

In opposition to neoclassical thinking, the neo-schumpeterian framework has as a normative standard not the principle of allocative efficiency, but the principle of change and structural transformation in the sense of progress. As Metcalfe says, “innovation and information asymmetries are inseparable and thus innovation and Pareto optimality are fundamentally incompatible”²⁵. Then, it is erroneous to use the perfect competition as reference both for the theoretical analysis as it is for public policy design and evaluation.

“[P]erfect competition is not only impossible but inferior, and has no title to being set up as a model of ideal efficiency. It is hence a mistake to base the theory of government regulation of industry on the principle that big business should be made to work as the respective industry would work in perfect competition.”²⁶

On the normative point of view, we can state that in the neo-schumpeterian perspective, the competition is a processes, not a status.

²⁴ Schubert (2010, p. 28).

²⁵ Metcalfe (1995, p. 413).

²⁶ Schumpeter (1942, pp. 106).

“[O]ne can say that laissez-faire economists support free markets for the wrong reasons. They idealize perfect competition for its supposed spontaneous ability to maximize static allocative efficiency, while markets should be seen, as Schumpeter taught us, as powerful mechanisms – under appropriate incentives and regulation – to foster economic progress through innovation.”²⁷

The market should, in the neo-schumpeterian perspective, be understood as an environment of selection and, thus, we can define a conception of *selective* efficiency²⁸. In other words, the better it selects, the more efficient is the market. However, there is no optimality in this perspective, and no maximum level of efficiency. What prevails is the selective aspect, in an economy characterized by constant innovation and qualitative change.²⁹

Innovation is the fundamental characteristic of the system and it is possible to outline technological trajectories within, which is defined by the techno-economic multiple dimensions variables, and the development of those variables implies different trade-offs between them. The market will be selective in a positive way if it is able to guide the economic choices in the sense of relaxing the restrictions – enlarging the possibilities – and drawing a trajectory of progress. In this sense, the second level of analysis connects with the first and third levels.

There is no optimum of selectivity, but superior and inferior limits exist, beyond which the market definitely does not show selective efficiency. By one side, there is the case of hyperselection that generates the phenomena known as ‘lock in’ characterized by high costs of exit and decreasing costs of entry in the competitive patterns (and technology trajectories) that the firms adopt. It can be harmful in welfare terms if it’s associated to characteristics that are known to be inferior to other possibilities. Inversely, selectivity will be low if the competitive pressure over firms is insufficient to generate innovative efforts to enhance competitiveness.

²⁷ Possas e Borges (2009, p. 449).

²⁸ Possas (2004). Dosi (1988) defines the concepts of allocative efficiency (analogous to the neoclassical concept of efficiency); innovative efficiency, based on the schumpeterian notion of the most adequate choices for the innovative process; and the growth efficiency, related to the speed of the economic growth and production patterns. There is no reason for a situation that is efficient in one of these ways to be also efficient in the others. That is, there are multiple economic possibilities and possibly a situation that could be considered allocative efficient is not efficient in the point of view of innovation or growth. Pelikan (1988) used the term ‘schumpeterian efficiency’ in a broader sense, that could cover the technological development and also other dimension. His definition is interesting because recognizes that the normative standard is established outside the economy and, once defined, is useful for evaluating the market efficiency due to its achievements. Metcalfe (1995) also defines the term ‘market efficiency’ as those that generate variety in an intense way, and selects the superior ones, while promoting its diffusion.

²⁹ Another effort to develop a welfare standard in an evolutionary perspective is presented by von Weizsäcker (2005) with adaptive preferences of agents, path dependence and learning. This author, however, does not abandon the neoclassical framework of general equilibrium.

Thus, selectivity is evaluated in terms of the speed and quality that the selection is made and depends on the competitiveness of firms (capabilities, etc.) and on the competition environment³⁰.

It is important to say that competitiveness is not a standard analogous to the perfect competition, but a characteristic of the firms that, in a competitive environment, dispute for greater profits and market shares.

In the point of view of a national economy, the concept of competitiveness refers to the relative position face to the others national economies in its production capacity. In this aspect, competitiveness is derived less from the liberty of markets but from the explicit efforts of enhance and protect selected industries in a country that can spread its growth and puissance to the others industries. Then, the aim to enhance competitiveness is also the determination to raise the wealth and living standards in a country.

“All presently industrialized countries, starting with England, seem to have grown with a specific ideology or strategy where the activities providing imperfect competition have been singled out and protected. These ‘good’ activities provided wealth which trickled down to the rest of the nation – they provided ‘national productive power’, ‘productive capacity’ or – as we call it today: ‘competitiveness’.”³¹

The functioning of the markets, therefore, must be analyzed by the point of view of its capacity to increase wealth and welfare of the population. This dimension of the competitiveness extrapolates the analysis of the market *per se* and considers also its implications over the economy. This aspect is fundamental for the promotion of industrial policy: when intervene in markets – the more strategic the market, the more intense is the effect – there are direct effects over the agents of the market, but indirect implications to the whole of the economy. Competitiveness of an industry in comparison to the international competition, thus, implies also the relative position of wealth and welfare of a society in comparison to the others countries³². In an international level, the selective aspect of the market would be more positive the more quickly it promotes the technological catching-up.

³⁰ In this regard, the image of a gripper is suitable to represent the selectivity: depends on a company's capabilities and the conditions of the competitive environment. If any one of these two parts is loose, there is no appropriate selectivity and, as the image, it is impossible to pick out any object.

³¹ Reinert (1995, p. 40).

³² See also Reinert (2007) for the discussion of the processes of relative enrichment of certain countries that applied market interventions over the history. The rivalry of nations and the development process is not the central aspect of this paper, but that question inevitably touches the topics here discussed. It is legitimate to say that development policies and national strategies incorporate, and legitimate, the industrial policy.

So it is possible to set that the neo-schumpeterian thinking establishes as a normative standard for the second level of analysis the markets, the environment that propitiates conditions to the appearance of innovations and that, at the same time, is adequate to select the innovations that have better performance.

5. First level: global view

The original work of Schumpeter is full of comments on the results of the process of the economic development, from which can be extracted some clues to an evolutionary normative standard from the point of view of a global overview of the system. In his view, the very definition of what is good and desirable by individuals is changed by the progress. Technical progress and the improvement of life's material conditions allow individuals to wish things that did not exist or were imagined in earlier times; things that irrevocably affect the form of social organization. The study of economic development must then be immersed in a perspective of social change and unpredictability. The overall picture thus unifies the elements presented in a segmented way in the other two levels (previous sections), and provides a basis for comparing the different effects of economic development.

Since Schumpeter's first published reflections, it is clear the separation of the effects of the development process from the point of view of individuals in the short term to those on society as a whole in the long run. In the following curious passage, this distinction is clear:

“[A] process of degeneration, of degradation of large circles (of society) accompanies the upward movement ... Large circles see their economic basis being pulled away. This does not happen abruptly, but gradually. Through generations, the people affected live a deprived existence full of hopelessness. Their moral and intellectual powers dwindle, the more so the more the economic atmosphere they find themselves in is darkening. An observer from outer space wouldn't notice these phenomena, so fascinating is the development at large – and those losses are just their reverse. They are due to the fact that the services these agents offered are now being offered in a better way. Even the suffering thus caused serves to get rid of the obsolete and to impel novelty. Those who play the drama, however, as well as those observers close to them, think differently about it. They cannot ignore the shouting of the crunched who are crushed down by the wheels of novelty.”³³

³³ Schumpeter “*Theorie der Wirtschaftlichen Entwicklung*” (1912, p. 503), translation to English made by Schubert (2010, pp. 6-7).

The figure of an observer from outer space, oblivious to the economic environment and its bounty, struggles and sufferings, allows to create a global overview, in the long-term, to interpret the dynamics of the capitalist economic system. It is impossible to compare the opinion of this outsider with an observer who is living the changes, because of the different temporal dimension where they are. Moreover, it is not possible to compare what an individual faces with the general, collective, condition. In several passages it seems that Schumpeter adopts the view of the big picture, long-term dynamics to interpret the results of capitalist development, rather than the effects on the individual's life. This perspective is also in *Capitalism, Socialism and Democracy*:

“First, since we are dealing with a process whose every element takes considerable time in revealing its true features and ultimate effects, there is no point in appraising the performance of that process *ex visu* of a given point of time; we must judge its performance over time, as it unfolds through decades or centuries.”³⁴

And

“That performance stands out only if we take a long-run view; any pro-capitalist argument must rest on long-run considerations. In the short run, it is profits and inefficiencies that dominate the picture.”³⁵

Progress is originated in innovation, in a destructive and evolutionary process. Therefore, the costs of this process should be tolerated in view of the beneficial results, in longer-term. In addition, the effects of progress tend to benefit society as a whole, including also the simplest strata. From the exclusive point of view of the consumption capacity of individuals, the improvement of products and ease of access to them is certainly a feature of capitalist progress.

“There are no doubt some things available to the modern workman that Louis XIV himself would have been delighted to have yet was unable to have—modern dentistry for instance. On the whole, however, a budget on that level had little that really mattered to gain from capitalist achievement. Even speed of traveling may be assumed to have been a minor consideration for so very dignified a gentleman. Electric lighting is no great boon to anyone who has money enough to buy a sufficient number of candles and to pay servants to attend to them. It is the cheap cloth, the cheap cotton and rayon fabric, boots, motorcars and so on that are the typical achievements of capitalist production, and not as a rule improvements that would mean much to the rich man. Queen Elizabeth owned silk stockings. The capitalist

³⁴ Schumpeter (1942, p. 83).

³⁵ Schumpeter (1942, p. 144-5).

achievement does not typically consist in providing more silk stockings for queens but in bringing them within the reach of factory girls in return for steadily decreasing amounts of effort”³⁶

Schumpeter’s examples addressing the ability of the masses to consume and have access to better goods do not hide, however, his clear choice that progress is measured not at the individual level, but in the collective. Resuming the previous discussion on the rationality and capabilities, it is worth mentioning a conclusive argument:

“However, whether favorable or unfavorable, value judgments about capitalist performance are of little interest. For mankind is not free to choose. This is not only, because the mass of people are not in a position to compare alternatives rationally and always accept what they are being told. There is a much deeper reason for it. Things economic and social move by their own momentum and the ensuing situations compel individuals and groups to behave in certain ways whatever they may wish to do—not indeed by destroying their freedom of choice but by shaping the choosing mentalities and by narrowing the list of possibilities from which to choose.”³⁷

Schubert, reinforcing McGraw’s (2007, pp. 436-441) arguments, says that this kind of statement seems to take to the interpretations of certain determinism in individuals choices.

“The “rationalist attitude” induced by capitalism’s economic success contributes to spreading a utilitarian interpretation of the common good which eventually leads to a simplistic concept of human values, an “attack” on “private property and the whole scheme of bourgeois values” and to the buildup of an ever growing social welfare. In such a world, there seems to be no place for anything like independent scientific moral reasoning on concepts and criteria of welfare.”³⁸

However, this kind of determinism must not be considered in an absolute way. Otherwise, it would not be a viable evolutionary analysis of society based on individuals' own creativity. What Schumpeter seems to say is precisely that the reference on the individual is subject to influences of the system that prevents any assessment based on the "superiority of individual choice". In addition, the evolutionary approach is reinforced by Schumpeter when he observes that the very business activity - innovation - should always be taken as positive, but evaluated on a case by case: “Whether

³⁶ Schumpeter (1942, p. 67).

³⁷ Schumpeter (1942, p. 129-30).

³⁸ Schubert (2010, p. 19).

a given entrepreneurial success benefits or injures society or a particular group within society is a question that must be decided on the merits of each case”³⁹.

This relativism in Schumpeter’s position to evaluate the results of innovation is rescued by recent literature to be the pillar of a normative standard. Hanusch and Pyka (2007a) argue that the qualitative changes of innovative process affect all the economic levels.

“... [*I*]nnovation in a very broad sense, encompassing technological innovation as well as organizational, institutional and social innovation, has to be considered as the normative *principle* of Neo-Schumpeterian Economics. Instead of allocation and efficiency within a certain set of constraints, Neo-Schumpeterian Economics is concerned with the conditions for and consequences of a removal and overcoming of these constraints limiting the scope of economic development.”⁴⁰

Innovations, however, are characterized as being discontinuous and subject to non-linearities, uncertainty and feedback. Therefore, we cannot know *ex ante* who - at the individual level - will be affected positively or negatively by the development process. To deal with this uncertainty and to arbitrate on the results, Hanusch and Pyka rely on a contractual view of the State delegating to it the responsibility to compensate or mitigate the negative effects suffered at the individual level, while it is also the State that has the function to encourage and support investment and the innovation process. Thus, the State is seen as an entity inseparable from society, but governed by a different logic of private agents, encouraging innovation on the one hand, and managing its results on the other.

“The normative perspective of an economic theory of the state is supposed to guide the deviation and design of all public activities—encompassing public expenditures as well as public revenues—which in a Neo-Schumpeterian context have to include the developmental potential of the economy. In this sense, all public interventions have to be scrutinized, to see whether they support or hinder the potential of economic development. Accordingly, for public activities, an orientation towards the future is postulated.”⁴¹

This is a collectivist view that holds a normative standard in the global level and that recognizes the technical and social progress as the positive aspect of innovation. Call upon the State as a fundamental element of the economy is to recognize this institution as endogenous to the system

³⁹ Schumpeter (1947, p. 153), footnote 9.

⁴⁰ Hanusch e Pyka (2007, p. 276), italics on the original.

⁴¹ Hanusch e Pyka (2007, p. 285).

that, thus, plays an irreplaceable role of coordination, arbitration and compensation of economic agents.

In addition, the State has legitimacy, powers and instruments that are not available to other institutions or economic agents. At the same time, it has the possibility to sustain the view of the future more secure than private agents. In other words, the State's actions can form and make convergence of agents' expectations favorably to the acceleration of innovation processes and, then, of development. In this sense, Hanusch and Pyka develop the frame of a global point of view, considering the State action as an integral and inseparable part of the economic system.

In another work, the authors restate the dynamic perspective and their normative standard based on the global level when they refute the orthodox instruments of welfare evaluation, proposing a new definition to the term:

“In the [neo-schumpeterian] perspective, the process dimension of innovation outweighs the artifact dimension prevailing in neoclassical economics. Innovation is considered to be the general strategy to deal with and to overcome problems in all spheres of economic life. Whereas in neoclassical economics innovation is considered to be the exogenous setting of new restrictions, in a [neo-schumpeterian] perspective innovation is the proactive and therefore endogenous displacement and movement of restrictions. Accordingly, welfare – as the final goal for all kinds of policy initiatives – is no longer a static concept but also related to the processes of innovation. In other words, welfare strictly corresponds with the risk appetite and the appetite for experimentation in a society which are the prerequisites to develop the capabilities to design and to create a desired future.”⁴²

Concluding Remarks

For the economists of early 20th century, it was clear that economics was limited in its scope of phenomena upon which it could make any normative evaluation. In the classic citation of Robbins, economics “is incapable of deciding as between the desirability of different ends. It is fundamentally distinct from Ethics”⁴³. So, the subjects that surpass the limits of economic field should be studied with the help of other sciences. Pareto recognized that:

⁴² Hanusch e Pyka (2009, p. 6).

⁴³ Robbins (1932, p. 152).

“Political economy does not have to take morality into account. But one who extols some practical measure ought to take into account not only the economic consequences, but also the moral, religious, political, etc., consequences.”⁴⁴

The review of Suzumura (2002) points to the difficulties encountered in neoclassical economics to create normative standard that is consistent with its premises. His article begins and ends by asserting that:

“Likewise, as soon as any collective body designs and implements an economic mechanism and/or an economic policy, paying proper attention to the costs and benefits accruing to its constituent members, one or more social welfare judgments cannot be avoided.”⁴⁵

The attitude of the author, however, is that if it was not possible to build this theory so far, it's also not possible to escape trying to build such a reference, especially for those that are proposing and evaluating economic policies.

From the neo-schumpeterian standpoint, it must be recognized that prevails the reference to beneficial character of technical progress and economic change, which generally more than compensate the costs incurred by those harmed in the process. Of course, there is no way to measure - and even less to compensate - the net effects of economic development as is tried by the neoclassical approaches of welfare. Nevertheless, we must notice the limitation of this axiomatic approach while recognizing the inescapably moral character of the social sciences that propose to evaluate and propose policies measures on society.

The comparison of costs and benefits will always start from a perspective of normative values that are external to the mechanics of the economic system. Recognizing this feature leads to an attitude of intellectual honesty of the analyst that, therefore, must make explicit his normative references in which his evaluations and proposals are based. This is especially important when it comes to analyzing economic policy, industrial policy and development processes.

The global view, collective, aimed at the future, contrasts to the limitations of rationality and unpredictability at the individual level. From the global point of view, the reference to individualistic normative evaluation must be rejected. It is this apparent contradiction criticized by Schubert⁴⁶ that makes the author define a normative standard at the level of individuals and firms. Instead, in this paper it's argued that this dichotomy should not be seen as contradictory, but

⁴⁴ Pareto (1906 p. 16). This passage may justify Schumpeter's commentary: “still more definitely than patron saint of the modern theory of value is Pareto the patron saint of the ‘New Welfare Economics.’” (Schumpeter, 1949, p. 163).

⁴⁵ Suzumura (2002, p. 2 e p 26).

⁴⁶ See footnote 20 in Schubert (2010, p. 13).

understood in its complexity at different levels of analysis. The global level predominates - the sense of progress - which, however, cannot be understood without the levels of the agent and the market. Endorse this position requires recognizing the impossibility of comparing gains and losses in a positive way (especially between different levels of analysis) and assume that the individual costs will be repaired by non-automatic instruments of the economic system, and more than that, will be subject to the institutionalized collective choice - the State - that can be sensitive to a greater or lesser degree to this cause. The repair will depend, of course, of the social construction that supports the State's survival, of individuals and businesses that bear the costs and, most importantly, the moral evaluation of the need, feasibility and interest in repair these agents. Making economic policy, therefore, is not limited to the perspective of building the future, but also includes the question of what to do with those who were left behind.

Finally, despite the theoretical difficulties and practical limitations of normative analysis, the neo-schumpeterian allied with the institutionalism framework can provide elements for the normative assessment of important economic issues. This effort must be made in three fronts. Globally, predominates the technical progress and the catch-up as desirable and beneficial results. In the level of markets, it is expected the quality of selectivity suitable to promote the introduction and diffusion of innovations. At the level of agents, in turn, the capabilities and opportunities are highlighted as reference elements of the analysis. Although distinct, these three levels of analysis are not independent. There are multiple conditions and causalities intertwined with each other and is in this rich web of relationships that policies must be proposed and evaluated.

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