CENTRO BRASILEIRO DE RELAÇÕES INTERNACIONAIS

Texto para discussão

Schumpeter's Creative Destruction as a Radical Departure: A New Paradigm for Analyzing Capitalism

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Abstract[1][2][3]

The paper attempts to show that Capitalism, Socialism and Democracy (*CSD*) provides us with a major rupture within Schumpeter's previous theoretical work and offers the seeds for a new framework for economic analysis. The key proposition is that until that *CSD*, where the "creative destruction paradigm" is born, Schumpeter's theory was an incoherent attempt to merge equilibrium and evolution, Walras and Marx. More precisely, that previously to *CSD*, Schumpeter's theory of development was a theory of cycles rooted in equilibrium, and one which gets more complicated and out of touch with actual capitalist dynamics as he moves from the basic Juglar cycle, incorporated in his Theory of Economic Development (*TED*) towards the attempts, in Business Cycles (*BC*), to "merge" three different cycles (Juglar, Kondratieff and Kithins), all rooted in equilibrium as well, and apply the resulting scaffolding to an historical interpretation of capitalist evolution since the industrial revolution.. The paper's core contribution is a reinterpretation of Schumpeter's development theory, through the "creative destruction paradigm" provided in *CSD*. By linking the core propositions of the latter with the brilliant, but underdeveloped, innovations from *TED* and some largely ignored historical and institutional insights provided in *BC*, the seeds of a new analytical framework emerge. One which is completely out of equilibrium, centred on finance, entrepreneurial action, uncertainty, institutions, and competition by means of innovations. Although promising, this new framework has yet to be properly developed. Bridging its core propositions with Keynes uncertainty-based theory of investment and Minsky's financial fragility hypothesis is suggested by way of conclusion.

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[2] This paper is a revised version of Burlamaqui: 2019, in Burlamaqui, L and Kattel, R (eds): Schumpeter's Capitalism, Socialism and Democracy: A Twenty first Century Agenda. Routledge.

[3] I want to thank Dick Nelson, Fred Block, Randall Wray, Jan Kregel, Adriano Proença, John Mathews Rainer Kattel and Ernani Torres for their useful comments to previous versions of the paper, with the usual proviso that the neck I am sticking out here is my own.

1. Introduction

"The task confronting economics today may be characterized as a need to integrate Schumpeter's vision of a resilient intertemporal capitalist process with Keynes' hard insights into the fragility introduced into the capitalist accumulation process by some inescapable properties of capitalist financial structures " (Minsky: 1986:121).

In the Kyoto's 1992 Schumpeter Society's conference Nathan Rosenberg delivered a brilliant paper later published with the provocative title "Schumpeter: Radical Economist" (Rosenberg: 1994). In the paper, Rosenberg begins stating that according to him, Capitalism, Socialism and Democracy was the "mature statement of the most radical scholar in the discipline of economics in the twentieth century" (1994, 41). He went further: "Rather, it is my intention to show the quintessential later Schumpeter…held views that were not only radical, but are deserving of far more serious attention than they receive today, even, or perhaps especially from scholars who think of themselves as working within the Schumpeterian tradition" (ibid).

Rosenberg's statements are sharp, on the mark, but were almost completely overlooked. This paper will pick up where he left off and argue that after seventy-five years of its publication, *Capitalism, Socialism and Democracy* (CSD) still is a vastly unexplored work in the sense that if offers a whole new paradigm to analyze the way capitalism works. It does that by not only criticizing the core assumptions of the prevailing neoclassical theory. That is well known and has merited plenty discussion. What was largely overlooked is that CSD also provides a new framework where Schumpeter's previous theoretical innovations concerning the specific contours of an evolutionary system fall in place. The paper will argue that from a theoretical perspective, CSD marks a radical departure from with Schumpeter's previous analytical framework, the one he used in both his *Theory of Economic Development* (TED) and in *Business Cycles* (BC), published only three years before.

However, a crucial clarification is needed here. My claim is, as just stated above, that *CSD offers* this new paradigm away from both cycles and equilibrium. It is *not* that Schumpeter himself followed on this "radical departure" . *He did not*. Until his death Schumpeter remained divided between evolution" and "equilibrium"[4]. His "final thesis", as

[4] Phillip Aghion (along with his many collaborators) is a mandatory and fundamental reference here. Aghion is certainly a "senior ally" in the challenge of building an alternative paradigm to the neoclassical one, on which Schumpeter's ideas are based. Aghion, Antonin, and Bunel: 2021 is their most recent, and encompassing, contribution to the theme, and has to be lauded as a major step forward in breaking the neoclassical mold. The fundamental difference that separates its frame and the one I propose here concerns the definition and scope of the expression, and its implications for both theory and policy. For Aghion et al., the "Paradigm of creative destruction" is defined in terms of the dynamics of innovations, their impact on competition and growth processes (2021: chap. 1). The authors build it based on three fundamental propositions: "The model of growth through creative destruction is also known as the Schumpeterian paradigm because it was inspired by three ideas put forward by the Austrian economist Joseph Schumpeter….. The first idea is that innovation and the diffusion of knowledge are at the heart of the growth process….. The second idea is that innovation relies on incentives and protection of property rights…. The third idea is creative destruction: new innovations render former innovations obsolete" (2021: p5-6). As can be seen, the starting point is restricted to the field of innovations (and, I dare to suggest, it

we point out in the conclusion, was that "if, starting my work in economics afresh, I were told that I could study only one of the three but could have my choice, it would be economic history that I should choose" (Schumpeter: 1954, Kindle Locations 2292-2299). But even that statement didn't stop the author to make recurring references to the importance of equilibrium to economic analysis. In interpreting Schumpeter's own intellectual trajectory and its ambiguities, which are not the aim of this paper, I am in full agreement with Graça Moura's accurate reasoning (2003, 2015a and 2017).

Having clarified that important point, the paper's claim is, therefore, that the task of developing this new paradigm, provided but not followed by Schumpeter, it's up to us – those who do not find equilibrium, or well behaved cycles, particularly useful as analytical tools for understanding capitalist dynamics.

Until CSD, Schumpeter's theory of development was, in fact, a theory of cycles rooted in equilibrium, and one which gets more complicated and out of touch with actual capitalism dynamics as he moves from the basic Juglar cycle which supports the model of TDE towards the contortions he throws himself into, in BC, where he tries to "merge" three different cycles (Juglar, Kondratieff and Kithins), all rooted in equilibrium as well, and apply the resulting scaffolding to an historical interpretation of capitalist evolution since the industrial revolution. Schumpeter's analyses both in TDE and BC are, despite many challenging propositions to both neoclassical and Marxist orthodoxies, rooted in equilibrium, as we will see, which turns his theory into a rather incoherent body of work since it tries to merge equilibrium analysis (which translates as absence of change) with

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even contains a flavor of circular reasoning since one of the three ideas the authors utilize, to arrive to the "Creative destruction paradigm" is .... creative destruction). Once defined, its use is, very wide. It leads the authors both to question the neoclassical "canonical framework" and to propose alternative approaches to numerous topics of economic theory and policy. However, the break with the mainstream, which is clearly stated in the book's first chapter, is laudable, as noted, but not complete. It looks more as an attempt at a silent detour. It's worth recalling that the plethora of previous works by Aghion, and collaborators, already around "growth and creative destruction", are all wrapped in models and reasoning based on the concept of equilibrium (cf. among many others, Aghion and Howitt: 1990, and Aghion, Bloom, Blundell, Griffith, and Howitt:2005). They are not repudiated. Furthermore, although there is a chapter discussing the "financing of innovation", the financial system is not *front and center*, nor seen as the "head-quarter of capitalism", as it clearly is in Schumpeter. In the present paper, the expression "creative destruction paradigm" has a much broader reach, and more radical implications: it suggests an irremediable rupture between equilibrium and evolution and proposes a totally different starting point for the reconstruction of the way we understand capitalism's dynamics. The 12 propositions which close the paper summarize it. Having clarified that, it almost, goes without saying that Aghion and collaborators have a much more extensive and mature work in the line they propose. Here, I only offer the starting point for another interpretation, and implications, of Schumpeter's key concept of creative destruction. Therefore, the task that is imposed to me is to develop, subsequently, what I will propose in the following pages.

evolution (which equals change) in the same theoretical body. That doesn't work well, as the author would make explicit only in CSD[5]-[6].

My contention in this paper is that only in CSD a fully radical, "Schumpeterian", Schumpeter emerges[7]. In the book, competition *replaces* cycles and takes center stage as the key process guiding economic evolution. Creative destruction, the kernel of competition, is presented as an open-ended process filled with turbulence, instability, and uncertainty. Equilibrium is finally removed from the framework and perfect competition is totally thrown away and labelled as basically inefficient (if it ever came to exist). Bigness, when subjected to competition by means of innovation, is efficient. Coupled with growth, it provides a win-win solution for capitalists, workers, shareholders, consumers and fiscal revenues. "Monopolistic practices" (dominating firms, oligopolistic market structures, price fixing, mark-up manipulation, market niches' creation, as well as planned idle capacity) are understood as competitive business strategies rather than oligopolistic inefficiencies. Super-profits are the seeds of super-investments and job creation. Unemployment and idle capacity are the norms (again: equilibrium is gone). Capitalism is neither "harmonious", it's filled with conflicts, nor bound to economic collapse. It's a victim of its own success due to institutional entropy[8].

Now, if we couple those propositions with the brilliant, but underdeveloped, innovations from TDE, and the largely ignored "macrofinancial" elements of Schumpeter's secondary wave, provided in BC, a new paradigm – out of equilibrium and centred in creative destruction – emerges. That new paradigm still has to be properly worked out

[5] Actually, Schumpeter spells out this contradiction quite clearly in his seventh "Lost" chapter from TED, which was not published in English until 2002. I will get to that later in the paper. However, let me submit here that this – the equilibrium or not equilibrium question - was always a big problem for economists in general which attempted/ attempt to deal with change. For an interpretation of the "Walrasian" element in Schumpeter's theory, although recognizing its incompatibility with the mechanisms of change, see Callegari's chapter in Burlamaqui and Kattel, 2019. Furthermore, both Callegari's analysis and conclusions are, besides independently constructed, strongly convergent with my owns in this paper.

[6] From Marx to Marshall, Schumpeter, Keynes; From Robinson to Krugman, Stiglitz, Baumol, Blinder, Rodrik and beyond. Despite their brilliance, originality, wealth of knowledge and unorthodox policy prescriptions all those "celebrity economists" never parted ways with equilibrium analysis, which means they never fully embraced an evolutionary, out of equilibrium, approach to economic theory. Noticeable, their most original and interesting contributions did not depend on the scaffolding they were trained. Equilibrium-based thinking remains, despite its distance from any kind of empirical grounding, a powerful iron cage that traps whoever gets into it. Easy to get in, extremely difficult to get out. In that sense, economic theory constitutes a very strange case of applied social science where the mostly revered analytical tool is in fact a rather poor lens for understanding the way the real economy works and evolves. The failure to predict, or properly understand, the biggest crises of capitalism (1929 and 2008) provides just one hint of a much bigger failure of understanding. The mantra that "the government is out of money", repeated left and right provides another one. The practical consequences are dire. They destroy regions, assets, corporations and lives. In that sense, contemporary Noble-less radical thinkers such as Scitovsky, Hirschman, Galbraith, Shackle, Minsky, Godley and Kregel deserve a bow.

[7] And submerges shortly after, going back to the previous attempts to reconcile equilibrium and evolution, or "Marx and Walras".

[8] Or "Cultural contradictions" as Daniel Bell would propose in his seminal 1976 book, same of which are regaining force, as I write, in our Trump-Brexit-anti-emigration era. Pair that with ISIS, "war on Islam", white supremacism, and the rise of both left and right anti-establishment movements and we have Huntingtonian injections of clashes of civilizations taking form. Given that cluster of instabilities in capitalism's order, there is certainly room for an excursus on the "new cultural contradictions of capitalism" which would have to take Schumpeter, Bell and Huntington as its primary analytical sources.

since, to my knowledge, the analyses and discussions of Schumpeter's works largely bypassed that "reconstruction strategy" and the vast majority of neo-schumpeterians who attempted to follow up on Schumpeter's agenda are still working inside the "iron-cage of equilibrium"[9]

The paper will proceed as follows: I will present a compressed view of Schumpeter's own evolution highlighting the evolutionary elements on the first two books of his "evolutionary trilogy", TED and BC[10] (Andersen: 2009), severing them from "equilibrium theorizing" to which they are attached in both works, and integrating those same elements into the "creative-destruction" framework forged in CSD. My contention is that the result is an updated Schumpeterian departure point for economic analysis.

[9] Obviously that generalization must be qualified. A few neo-schumpeterian economists resisted the "equilibrium trap". Among them Rosenberg, Lazonick, Nelson, the "young" Dosi, Best, Shionoya, Andersen, Mazzucato and the business scholars behind the "dynamic capabilities approach" in strategic management. Regretfully, all of them still paid scare attention to one of the key features of Schumpeter's original approach: the role of finance. As result, we have neo-schumpeterian theorizing as hamlet with the Danish prince but without the Ephor……

[10] Let me apologize to the reader in advance for the abundant number of Schumpeter's quotes. They would not be needed if the thesis advanced here was commonsense. I don't think it is. Therefore, it worth's proper backing.

2. Schumpeter's Theory of Economic Development: Brilliant Theoretical Innovations on Shaky Equilibrium Foundation

Andersen (2006) performed a magnificent task by scrutinizing Schumpeter's trilogy (TED, BC and CSD), pointing to its strengths and its weakness. His work will be very difficult to match on that front and I will certainly not pursuit that goal. Rather, I will take advantage of his effort but with a very different goal. Andersen ultimate objective was to show the complementarity among the trilogy and the imperative of analysing the three books together (2006,137-9). He also submits as his book core propositions were "(1) that Schumpeter's basic ambition was to complement equilibrium economics with an evolutionary economics that analyses capitalist economic evolution; and (2) that his major contributions to economics relate to his attempts to fulfil that ambition" (2006, 2-3).

I am in full agreement with his first proposition but will proffer that Schumpeter largely failed to accomplish this self-imposed task. As for the second proposition, I'll part ways with Andersen and side with Rosenberg (1994) extending and deepening his framing of CSD as a radical departure from Schumpeter's earlier attempts to complement equilibrium economics with evolutionary economics.

TED's major weakness was, as mentioned, that the explanation of development and structural change is wrapped in equilibrium. The development process *starts from equilibrium*, the circular flow described in chapter 1, and *ends in equilibrium.* The end of each cycle is a (new) equilibrium position from which a new cluster of innovations can emerge. The closing chapter in the book (chapter 6: The Business Cycle) provides ample evidence of that:

> "In this sense, therefore, we come to the conclusion that according to our theory there must always be a process of absorption between two booms, ending in a position approaching equilibrium, the bringing about of which is its function" (1997: 244).
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> "Recession has a function: to disseminate the innovation cluster and to restore equilibrium...." (ibid). "With this qualification, then, we return to our conclusion that the economic nature of depression lies in the diffusion of the achievements of the boom over the whole economic system through the mechanism of the struggle for equilibrium" (1997: 250).

The quotations speak for themselves. TED presents a framework where development, is constructed as a theory of business cycles in the Austrian tradition in which equilibrium is key[11]. It is assumed as an anchor or attractor towards which the system inexorably gravitates. Schumpeter *assumes* that as a *fact* without ever explaining *why* development should unfold like this and specially, precisely *how* once deviated from an initial (assumed) equilibrium position, it would converge to another one. The "convergence problem" that resulted in so much debate in the field without solid results is simply assumed away (Ingrao and Israel:1987, Hahn (ed): 1992, chapter 1, Hanh & Petri : 2003,).

[11] I say seems because it really does not. As I will show later (section 4), not only the equilibrium apparatus can be removed, granting the analysis more theoretical coherence but Schumpeter himself spells this out in the seventh "Lost" (not translated into English until 2002) chapter of TED .

The process of economic development is a well-behaved theory of cycles where the invisible hand is at work through crises/recessions. They “clean” the system restoring the equilibrium thought as a condition for the next “wave of prosperity”. A strong flavor of Marx’s “laws of motion” is tentatively blended with Walrasian absence of motion. The concoction is not particularly successful from a theoretical point of view.

That major weakness in Schumpeter’s scaffolding was spotted and elegantly showed by Nelson (2012: 903):

> “At the time, he was writing TED Schumpeter seemed to believe that his theory of economic dynamics and neoclassical equilibrium theory of prices, while oriented to different phenomena, could co-exist comfortably. My argument is that they couldn’t. Schumpeter’s theory of innovation driven economic development not only put forth a different view of what was most important about capitalist economies. It diverged from theory that stressed equilibrium conditions regarding the assumed general context for economic action taking. It was virtually impossible to buy conceptually into both at the same time”

TED was, after all, an incoherent theoretical construction. Nevertheless, it was also brilliant. Filled with striking ideas and conceptual innovations. Let me point firstly that chapter two were the main new ideas about development are presented is *not* built as a theory of cycles. Rather the phenomenon under scrutiny is *endogenous economic change*.

> “By development, therefore, we shall understand only such changes in economic life as are not forced upon it from without but arise by its own initiative, from within” (1997: Kindle Locations 2055-2056).

What’s important to keep in mind here is that, in my reading, chapter two provides a more flexible and open-ended platform for understanding the broad contours of development than the closing one (chapter six). Secondly, innovations are the endogenous dynamic forces in the system and the root cause of change, and their definition is broad. Not only new technologies, but also products, forms of organizations, markets and sources of supply. Therefore, development analysed from that perspective should be a complex, multifaceted, institutionally grounded process. Not easily, or desirably, caged into a mathematical model. Thirdly, finance is at the core of the process.

> “The capitalistic credit system has grown out of and thrived on the financing of new combinations in all countries, even though in a different way in each (Locations 2166-2167). To provide... credit is clearly the function of that category of individuals which we call capitalists.” (1997: Kindle Locations 2150-2151).

> “In this sense, therefore, we define the kernel of the credit phenomenon in the following manner: credit is essentially the creation of purchasing power for the purpose of transferring it to the entrepreneur, but not simply the transfer of existing purchasing power (Locations 2840-2842). To bridge it is the function of the lender, and he fulfils it by placing purchasing power created ad hoc at the disposal of the entrepreneur” (1997: Kindle Locations 2850-2851).

Much before Keynes’s concept of monetary-production economy or Minsky’s wall-street paradigm, Schumpeter characterizes capitalism as a financial system where investment bankers are the shapers of structural transformation via their funding choices. They are the true capitalists, the Ephors of the system:

> "The money market is always, as it were, the headquarters of the capitalist system, from which orders go out to its individual divisions, and that which is debated and decided there is always in essence the settlement of plans for further development. All kinds of credit requirements come to this market; all kinds of economic projects are first brought into relation with one another, and contend for their realisation in it" (1997: Kindle Locations 3142-3144).

Fourthly, credit, not savings, is the key element for investment to take place. Money and credit are endogenous. Loans create deposits and bankers are the "financial entrepreneurs" who preform that crucial role[12].

> "It is always a question, not of transforming purchasing power which already exists in someone's possession, *but of the creation of new purchasing power out of nothing* — out of nothing even if the credit contract by which the new purchasing power is created is supported by securities which are not themselves circulating media — which is added to the existing circulation. And this is the source from which new combinations are often financed.... *The banker, therefore, is not so much primarily a middleman in the commodity 'purchasing power' as a producer of this commodity*". (1997: Kindle Locations 2218-2219, my emphasis).

Fifth, bankers[13] are the fundamental possessors of animal spirits. It's their money who's at stake, not the entrepreneurs[14].

> "The entrepreneur is never the risk bearer.... In our example, this is quite clear. The one who gives credit comes to grief if the undertaking fails.... Risk-taking is in no case an element of the entrepreneurial function". (1997: Kindle Locations 3377-3380).

Sixth, entrepreneurs, despite not bearing financial risks, are the linchpin of innovation. Schumpeter oscillates, between personalizing them - "new men founding new enterprises"[15] – and treating it as a function which is always crucial for development but not necessary coming from individuals. They could be carried by corporations or even the State. However, he would clarify that distinction only in CSD. In TED, the two uses frequently overlap.

> "The carrying out of new combinations we call 'enterprise'; the individuals whose function it is to carry them out we call 'entrepreneurs'." (Kindle Locations 2226-2227).

What matters the most for analytical purposes is that entrepreneurs - or the entrepreneurial function – are a condition for development by means of innovation. Entrepreneurs are the ones, equipped with a vision and a strategy, who break two barriers to innovation: uncertainty and the resistances of the status quo. The first comes from the future, from not knowing it, and the second from the past, both the path-dependence of

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[12] "The businessman as a rule first becomes the bank's debtor in order to become its creditor, that he first "borrows" what he uno actu "deposits," (1997: Locations 2724-2725)

[13] Old school investment bankers (Hilferding's banks are the proxy here), not the *modern gamblers.*

[14] "Shareholders per se, however, are never entrepreneurs, but merely capitalists, who in consideration of their submitting to certain risks participate in profits (1997:2573-2574).

[15] "It is not the owner of stage-coaches who builds railways". (1997: Kindle Location 2105).

tradition and from those who's economic, social or political positioning in the system will be threatened by successful innovations.

> "Carrying out a new plan and acting according to a customary one are things as different as making a road and walking along it" (1997: Kindle Locations 2353-2354).

> "Of course, he must still foresee and estimate on the basis of his experience. But many things must remain uncertain …… The third point consists in the reaction of the social environment against one who wishes to do something new. This reaction may manifest itself first of all in the existence of legal or political impediments". (1997: Kindle Locations 2377-2378)[16].

Leadership, vision and strategy are the distinguishing features of the entrepreneur. These are necessary skills for creating new structures, new markets, new methods of production, organization and consumption. This is an absolutely apt description of core capabilities for innovation in contemporary capitalism[17]. One can only bow to Schumpeter's ingenious way to present them in 1912.Furthermore, in the schumpeterian saga the entrepreneur is both the hero and the "victim" of change. He is the change-maker it but also the one whose gains will vanish when innovations diffuse and imitation takes charge.

> "...The entrepreneurial function is attached 'to the creation of new things, to the realisation of the future value system. It is at the same time the child and the victim of development'". (1997: Kindle Locations 3630-3632).

It's worth noticing here that there is a curious[18] reversal of roles with reference to Marx for whom the worker is the hero and the victim, the one who creates the surplus-value but also the victim of the way the surplus is appropriated. For Marx, the core conflict in the system is between capital and labour. For Schumpeter is between innovation and tradition, old and new.

Seventh, entrepreneurial profits are the outcome of temporary monopolization of market opportunities and creatures of development. They can show up as the result of decreasing costs, increasing margins, or both. They originate from surplus creation or surplus transfers, but cannot be understood à la Marx, as value extracted from labour power.

> "Entrepreneurial profit is a surplus over costs. From the standpoint of the entrepreneur, it is the difference between receipts and outlay in a business" (1997: Locations 3241-3242).

> "The creation of a new good which more adequately satisfies existing and previously satisfied needs is a somewhat different case. In this case the possibility of profit rests upon the fact that the higher price received for the better commodity surpasses its costs, which are likewise higher in most cases" (1997: Locations 3340-3341).

[16] See Taylor (2017) for a thorough development of these arguments with several "case studies to illustrate them.
[17] See, for instance, the essays in Lazonick and Teece eds.:2012.
[18] And most likely intended.

> "Since the entrepreneur has no competitors when the new products first appear, the determination of their price proceeds wholly, or within certain limits, according to the principles of monopoly price. Thus, there is a monopoly element in profit in a capitalist economy". (1997: Locations 3606-3607).

Schumpeter does not provide any deep discussion of the "origins of profit" or a new approach to a "theory of value", but he gives us a hint. Profits result from temporary monopolization of business opportunities created by credit and entrepreneurship. Therefore, investment bankers and entrepreneurs are the main originators of the surplus resulting from increased productivity created by "new combinations" or innovations. What is worth noticing in that his formulation produces a "positive sum" approach to surplus distribution: profits rise, prices fall, real-wages rise, consumption increases, interest and dividends are positive and fiscal revenues tend to rise as well. Later in CSD, Schumpeter would help clarify that by stating that entrepreneurs "generally create what they exploit" (1942: 101). Here we can speculate if there is room for a "productivity theory of value". The core argument is that structural transformation is a process were, over time, everybody benefits.

Eight, within this cumulative change environment, propelled by different clusters of innovations, and filled with uncertainty, *there is no tendency for profits – or the rate of profit – to equalize,* nor any proportionality "law" between investments and returns (the more one invests bigger the returns)[19].

> "Entrepreneurial profit is not a rent like the return to differential advantages in the permanent elements of a business; nor is it a return to capital, however one may define capital."....So that *there is no reason for speaking about a tendency towards equalisation of profits which does not exist at all in reality*: for only the jumbling together of interest and profit explains why many authors contend for such a tendency, although we can observe such extraordinarily different profits in one and the same place, at the same time and in the same industry" (1997: Kindle Locations 3620-3621).

> "And the total amount of profit actually obtained in a given time, as well as the profit realised by an individual entrepreneur, may be much greater than that necessary to call forth the entrepreneurial services which were actually operative" (1997: Locations 3646-3647).

These, equalization and proportionality "laws", are common assumptions in every economic theory dealing with profits and competition – including Marx where competition tends to redistribute surplus-value and equalize profits and the proportionality law also holds, the difference residing in that it is a negative correlation (the falling rate of profit

[19] Obviously profits and the rate of profit would equalize, at zero, after the complete diffusion of a cluster of innovations, as Schumpeter points out more than once in the book. But this would be an equilibrium position where the absence of change would be the case. "Without development there is no profit, without profit no development" (1997: Kindle Locations 3632-3633). As already noted, this – the equilibrium position - is a shaky foundation for the whole TED edifice, but once it is removed, which happens in CSD, it all falls into place. Section four will give a compressed picture of how it does so.

sketched in volume 3)- Nevertheless, they are wrong: anchored on perfect competition hypothesis, they are not validated by empirical data at any time in capitalism's history.

In contrast, Schumpeter's heretic propositions, both when they were made and now, hold true in capitalist reality. A look at Fortune 500 or any other index or company data over time shows how right he was. Profits do not tend to equalize, and an initial investment of US$ 400.000 in a company called WhatsApp in 2009 – later upped to 8 million by Sequoia Capital- resulted in a 19 billion acquisition by Facebook in 2014. In Schumpeter's parlance, individual effort is often disproportioned rewarded in capitalism.

Ninth, *Capital* is – as in Marx - a social relation of production: But it's not the Marxian capital-labour nexus, but credit. It links bankers to entrepreneurs. Therefore, Capital is – as in Marx- control over the productive process. However- as in Keynes and Minsky- the financial system is the collective Ephor who exercises that control.

> "We shall define capital, then, as that sum of means of payment which is available at any moment for transference to entrepreneurs…. The kernel of the matter lies in the credit requirements of new enterprises" (1997: Locations 3079-3123).
>
> "With this proviso, only one fundamental thing happens on the money market, to which everything else is accessory: on the demand side appear entrepreneurs and on the supply side producers of and dealers in purchasing power, bankers" (1997: Locations 3126-3128) … "Thus, the main function of the money or capital market is trading in credit for the purpose of financing development" (1997: Location 3147).

Evidently Schumpeter's focus in TED is a development-oriented financial system, or, one could venture, he is isolating that function of financial system for analytical purposes. The fact that most financial systems are, today, far away from his picturing doesn't make it less valuable – which doesn't mean it is comprehensive (see my critic below). On the contrary, the paucity of schumpeterian bankers and productive entrepreneurship helps to explain the low growth path of most OECD economies, or secular stagnation to pick a *trendy* term, and one that Schumpeter refused to endorse many times in his works (See Block's chapter in Burlamaqui and Kattel eds: 2019). However, if we turn to the few financial systems that still have development as a priority – China is the obvious candidate – most of TDE's analysis still applies, with the proviso that China's development banks are also public banks. The fact that Schumpeter never gave a proper attention *in his theory* to the role of the state in creating and financing innovations and, therefore, forging development[20] is a striking puzzle, and another gap which needs updating[21]

Tenth, interest is characterized as a monetary-financial phenomenon. In a lengthy discussion with Bohm-Bawerk's time-related theory of interest, Schumpeter refutes his former professor and proposes a conceptual framework that would later be picked by

[20] There is a whole trail of mentions to the state exercising "entrepreneurial functions" in capitalism, and I flash them out in Burlamaqui: 2020, but although extremely important, and necessary, for an *institutional reframing of his analysis* where the state becomes a key player, they are peripheral and do not form part of his *theoretical model*.

[21] In fact, in *all* economic theories of development. The "Developmental State" approach is brilliant and a major step ahead in fulfilling that hole, but their major architects are political scientists and sociologists. There is no economic theory which takes the state as a major player in the workings of capitalism (please, do not confuse this with a plea for an "economic theory of the State" which, by the way, is also lacking).

Keynes. A caveat is needed here. Once more, Schumpeter isolates one type of interest for analytical purposes: "productive interest" which is interest attached to development-innovation projects. While not denying the existence of other types of interests (consumption-related for instance) he doesn't think they are key for development. Therefore, productive interest is his focus in the book.

> "...Obviously they [interest rates] could also exist in the circular flow where there is no development.... But they do not constitute the great social phenomenon that needs explaining. This consists of interest on productive loans" (1997: Locations 3758-3759).

From the lender perspective, the banker, issuing credit for funding innovation is a risky operation, filled with uncertainty and which requires exercising their "animal spirits". Their liquidity decreases and their "exposure" goes up[22]. For them, interest is a source of income (their earnings), but lending means reducing bank's liquidity with the interest rate as the expression of that. Although the discussion is not phrased in Keynes's parlance the meaning is clearly convergent. Schumpeter extends his discussion adding the entrepreneur's perspective. For him, interest constitutes the price of purchasing power, and a *tax on future profits*. From that angle, Schumpeter concludes that although a creature of development, interest (as opposed to credit) is, in fact a brake on development.

> "Interest is not, like profit for example, a direct fruit of development in the sense of a prize for its achievements. It is on the contrary rather a brake on development, a kind of 'tax on entrepreneurial profit' "(1997: Kindle Locations 4581-4582).

It's worth noticing two points here. First, there is another "schumpeterian" structural conflict playing out besides "old and new". The one between entrepreneurs and bankers or, more generally, between debtors and creditors[23]. This adds an institutional dimension, a "sociology of conflict", to the core of the theory of economic development and this reinforces its incompatibility with equilibrium theorizing. Secondly, the observation that interest rates are a brake on development is an important policy statement, and another one which would be explored by Keynes as well[24]. The discussion concludes with a tentative conciliation:

> "Certainly, this is not sufficient to condemn it, even if one includes condemnation or approbation of things in the tasks of our science. Against the condemnatory verdict we can assert the importance of the function of this "ephor of the economic system," and we may conclude that interest only takes away something from the entrepreneur which would otherwise accrue to him, and not from other classes" (1997: Locations 4582-4584).

However, when we get to chapter six, the theory of economic development becomes a theory of cycles. And of equilibrium as well. Here the foundations turn "shaky". Schumpeter struggles with an impossible task: to merge equilibrium and structural

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[22] Recall they create purchasing power out of thin air, not from previously stocked reserves.

[23] Max Weber has highlighted this conflict better than Schumpeter. See Collins: 1986, chapter 5.

[24] The fact that most of OECD has extremely low, or zero, interests' rates now doesn't contradict the argument. It just proves Keynes right in respect to the way he plugs long-term expectations into his model, stating that there are far more important than the level of interest rates in shaping investment decisions.

change under the same framework. A "two strokes" cyclical movement: prosperity or boom and depression[25] (Andersen: 2006: chapter 9). That was an odd choice. Understandable from the recognition that there was a respectable tradition of cycle theories by the time Schumpeter was working on the book (from Juglar to the Austrian variety, from Wicksell to Aftalion and Spiethoff; and from Marx to Tugan-Baranovsky), but rather perplexing if we examine TED's seventh chapter, which was not published in English until 2002[26]. The chapter was, however, partially discussed by Shionoya in his seminal 1995 book. There Shionoya's reproduces a lengthy quote from Schumpeter which should give us pause.

> "It follows from our entire thought that a dynamic equilibrium does not exist...Development in its ultimate nature *disturbs an existing static equilibrium and does not have a tendency to return to a previous equilibrium*. Development alters the data of a static economy...*Development and equilibrium are opposite phenomena excluding each other*" (Schumpeter:1912,489 quoted by Shionoya:1985:39. My emphasis)

This is a brilliant statement ...that poses a major puzzle. How one reconciles what is spelled out so clearly in this paragraph – as well as most of what is built in chapters 2-5 of *TED* - with the opening and closing chapters of the book (Chapters one and six in the reviewed version of the English translation) ? Why in a substantial re-writing of the book for the English translation published in 1934 it was not incorporated or even mentioned? Even more sobering, why in Business Cycles (1939), which Schumpeter saw as his *magnum opus*, equilibrium is kept as the starting and central point of his construction at the cost of clarity, coherence and adherence to his own historical narrative, as so many of his heavy-weight reviewers took note[27]?

We will never have definitive answers to those questions, but they belong mostly to intellectual history, and only indirectly to economic theory. Instead of searching in the dark, let me point to three ways where equilibrium acts as a "spoiler" in Schumpeter's model, adding confusion and incoherence instead of clarity and adherence to actual historical processes.

First, since equilibrium is assumed as the starting point of each cycle, full employment and full capacity utilization have to be in place. This imposes the surprising result that prosperity is accompanied *since its beginning* by scarcity of consumers goods and inflation since entrepreneurs have to deviate productive resources from current uses towards innovations. That scarcity will only be eliminated when a new crop of products reaches the market.

> "First, the new entrepreneur's demand for means of production, which is based upon new purchasing power — the well-known "race for means of production"

[25] The use of concepts is confusing. Schumpeter conflates "prosperity" and "boom" and uses depression to characterize what in fact should termed a recession. Only on BC he would make these distinctions, under the four-phase model, and achieve more precision in that realm.

[26] Thanks to a laudable effort by John Mathews, it appeared in Industry and Innovation Special Issue titled "Schumpeter's 'Lost' Seventh Chapter" (vol 9, Numbers1/2)

[27] The ones by Oscar Lange, Simon Kuznets Jan Tinbergen, Alvin Hansen and Henrik Grossman are particularly devastating. More recent comments by Chris Freeman and Hyman Minsky are equally damaging. I will refer to them below.

(Lederer) in a period of prosperity — *drives up the prices of these*" .... Secondly, the new products come on the market after a few years or sooner and compete with the old.... This appearance of the new products *causes the fall in prices, which on its part terminates the boom,* may lead to a crisis, must lead to a depression, and starts all the rest". (1997: Kindle Locations 4983-4998).

Oscar Lange pointed to the paradox of Schumpeter's logic – and model- in his review of Business Cycles (1941: 192-3): "In the pure model – which is the one utilized in TED. LB – we encounter only an output cycle and a price cycle. The price cycle follows the usual pattern.... but the output cycle follows the opposite of the usual pattern. Total output remains unchanged during prosperity and increases (as result of innovations) during recessions[28]. The output of consumers' goods even decreases during prosperity (because innovations bid away the factors). Thus, we obtain a fall of real income consumed during prosperity and an increase during recession.... A queer picture indeed".

Indeed, and those logic contortions are, I submit, a direct imposition of having equilibrium as the starting point. Otherwise, neither prices should increase at the bottom of prosperity, only its "bubble phase", since the system would be below full employment, nor total output should remain the same – not to mention decreasing output of consumer goods. Idle capacity utilization would assure that result. In addition, the "profit cycle" is equally curious. During prosperity, producers of means of production (some at least) accrue a profit since their resources are bid at higher prices by entrepreneurs. Consumption goods producers also make a windfall due to supply contraction pairing with rising nominal wages. Entrepreneurs themselves don't get anything except debt (they are quasi-Ponzi's!). By definition: they are laboring to put together the new combinations and will only become eligible for a windfall *after* the innovations materialize. But then depression starts. So, old business profits during prosperity and innovators during depression. Somehow both group's gains will have to disappear as mandated by equilibrium before another prosperity has chance to unfold. To paraphrase Lange, another "queer picture".

Finally, we reach what I think is the core weakness of TED: the completely <u>unnecessary</u> forcing of equilibrium into the model, its introduction as a *deus ex-machina* and – worst – its teleological role, the "deity" from all else flows.

"The second reason explains why a new boom does not simply follow on: because the action of the group of entrepreneurs has in the meanwhile altered the data of the system, upset its equilibrium, and thus started an apparently irregular movement in the economic system, which we conceive as a struggle towards a new equilibrium position" (1997: Kindle Locations 5033-5035).

The boom "upsets" the systems equilibrium which must be restored so that entrepreneurial activity and innovations can resume. Why? What exactly does the expression "upsets its equilibrium" means?

"Just as the struggle towards a new equilibrium position, which will embody the innovations and give expression to their effects upon the old firms, is the real meaning of a period of depression as we know it from experience, so it may likewise be shown that this struggle must actually lead to a close approach to an

[28] Depressions in Schumpeter's TED terminology.

> equilibrium position: on the one hand, the driving impulse of the process of depression cannot theoretically stop until it has done its work, has really brought about the equilibrium position"(1997: Kindle Locations 5140-5143).

How? what are the *mechanisms* through which the equilibrium position – with zero profits, zero interest rate, no bank loans (or very few and, therefore, a massive contraction on their source of revenue), no debt, no excess demand in any corner of the system, full employment, and no entrepreneurs in action- comes to existence? How long does it last? The reader will not find the answers in the book. Furthermore, how does the banking system – the Ephor- survives with no loans and no earnings (zero interest rates)?

> "In this sense, therefore, we come to the conclusion that according to our theory there must always be a process of absorption between two booms, ending in a position approaching equilibrium, *the bringing about of which is its function"* (1997: Kindle Locations 5169-5171, my emphasis).

Paradoxically, despite harshly condemning Marx for his mechanical treatment of capitalism via laws of motion and "mere mechanics of masses of capital" which "together with a faulty theoretical technique, accounts for many cases of non-sequitur and for many mistakes" (1942:32), Schumpeter should be charged along similar lines. TED's chapter six constitutes a case of poor theorizing of how equilibrium turns into development and how development softly lands back into equilibrium, along with faulty technique in properly explaining how equilibrium works. These shortcomings account for many mistakes and many cases of non-sequitur.

Nevertheless, the same reasoning Schumpeter used to ultimately praise Marx, after critically scrutinizing his theory, should be applied to him:

> "The non-sequitur ceases to be a fatal objection if what does not follow from Marx's argument can be made to follow from another one; and even downright mistakes and misinterpretations are often redeemed by the substantial correctness of the general drift of the argument..." (1942: 32)

I will contend, in section four, that this precisely what is accomplished through re-interpreting Schumpeter in the light of CSD. Once disentangled from equilibrium, all TED's brilliant theoretical innovations stand out and can easily be inserted into the creative destruction paradigm that emerges in 1942. That conceptual restructuring allows for previous development theorizing to achieve coherence. A new departure point for analysing capitalism turns out. However, before getting to that discussion, a brief reference to *Business Cycles* is necessary.

3. Business Cycles: Theoretical Failure, First-Class Business History and Minskyan Seeds.

Schumpeter had great expectations about his 1939 two volumes, 1050 pages book. It was supposed to be his *magnum opus,* his coronation as the best economist in the world (one of his ambitions according to several anecdotal references). From a theoretical standpoint, it was a disaster. As already mentioned, the book was widely reviewed by several top-ranking economists working at the time, a few of which would get Nobel prizes later on. Simon Kuznets, Jan Tinbergen, Alvin Hansen, Oscar Lange, Henrik Grossman are worth mentioning but they hardly exhaust the luminaries club. All of them were highly critical to the book, specially its theoretical structure.

The reasons are not difficult to discern. The undelaying theory remained wrapped in equilibrium, which *per se* could be digestible by almost all critics, all – but Grossman- preachers of equilibrium theorizing. The problems came from trying, again, to blend equilibrium and evolution without realizing this was an impossible task, especially if concerned with Schumpeter's type of evolution "…evolution is a disturbance of existing structures and more like a series of explosions than a gentle, though incessant, transformation. (1939[1964]: Kindle Locations 1644-1645, Kindle Edition).

But BC aspired an even more difficult task: to blend equilibrium with a four-phase cycle[29] and wrap the combo into a three-cycle-duration, Kitchin Juglar and Kondratieff (or four according to Samuelson. See infra). No proper theoretical (causal) links or mechanisms are proposed to articulate and tie the cycles coherently. They are superimposed on each other. The work proceeds by trying to compress data, statistics and economic history into an equilibrium-cum-multiple-cycles' framework in order to explain "theoretically, statistically and historically" the development of capitalism since the industrial revolution. Not a humble goal.

> "Barring very few cases in which difficulties arise, it is possible to count off, historically as well as statistically, six Juglars [8-10-year business cycles] to a Kondratieff [50-60 years] and three Kitchins [40 months] to a Juglar--not as an average but in every individual case." (1939:169).

Why this was so, Schumpeter, concedes, "is indeed difficult to see." (ibid:173). The project failed. In a 1998 lecture to Federal Reserve Bank of Boston, Paul Samuelson – Schumpeter's most famous student – and the pope of the highly influential "neoclassical synthesis" pictured the book asperously:

> "My Harvard teacher Joseph Schumpeter's 1939 two-volume treatise is almost a parody of eclecticism: It described short cycles under the Kitchin-Crum terminology; then the good old business cycle of allegedly eight to ten years' periodicity was labeled Juglar cycles; and of course, there were also the long waves of Kondratieff and the Sunday newspaper supplements. But that was not the whole of it. In between Juglars and Kondratief's came Kuznets's intermediate cycles in construction and immigration, with an alleged approximate periodicity of 18 to

[29] Instead of the two phase model used in TED.

20 years. The tortured epicycles of pre-Copernicus Ptolemaic astronomy had nothing on Schumpeter" (1998: 1).

Oscar Lange, although in a more amicable way was equally skeptical:

"Professor Schumpeter's three cycle scheme is open to serious criticisms largely on empirical grounds.... the Kitchin cycle is based on meager evidence. The empirical material on which it has been observed refers almost exclusively to the monetary sector of the economy.... The kondratiefs are much better established empirically.... But there is serious doubt whether the kondratiefs can be properly called cycles (1941: 192).

Simon Kuznets' review was particularly mortifying. It extends to fourteen pages and shows no mercy in pointing out a host of problems and incoherencies. After providing a succinct but well composed briefing of the book, the author starts to raise questions:

"...further reflection and even partial scrutiny of the evidence presented in the two volumes raise a host of crucial questions and disturbing doubts" (1940:262).

Discussing the unidimensional causal mechanism for the three cycles Kuznets objects:

"Discontinuity of opportunity can be assumed only in reference to the most momentous innovations such as steam power, electricity etc., i.e. innovations that bear upon the Kondratieff cycles. We can hardly expect significant fluctuations in the stock of innovation opportunities of the type that are associated with the Juglar or the Kitchin type" (1940: 264).

Proceeding to the assemblage of data and theory, he throws another grenade:

"The difficulties encountered in the matter of inflection points and the paucity of formal statistical analysis in the treatise lead to a doubt weather Professor Schumpeter's concept of equilibrium and the four-phase model of business cycles are such to permit of application to statistical analysis" (1940:265).

In respect to the existence of Kondratieff cycles (causality, duration, recurrence, proper measurement) Kuznets adds:

"the questions raised bears most upon the establishment of the Kondratief cycles......Nor has a satisfactory theory been advanced as to why these 50 year swings should recur: the explanation tends to emphasize external factors (inventions, wars, etc.) without demonstrating their cyclical character in their tendency to recur as result of an underlying mechanism" (1940:267).

The final blow is overwhelming:

"The critical evaluation above of what appears to be important elements in Professor Schumpeter's conclusions viewed as a systematic and tested exposition of business cycles yields disturbingly destructive results. The association between the distribution of entrepreneurial ability and the cyclical character of economic activity needs further proof. The theoretical model of the four-phase cycle about equilibrium level does not yield a serviceable statistical approach. The three-cycle schema and the rather rigid relationship claimed to have been established among the three of cycles cannot be considered, on the basis of the evidence submitted,

> even tolerably valid.; nor could such validity be established without a serviceable statistical procedure. The core of the difficulty seems to lie in the failure to forge the necessary links between the primary factors and concepts (entrepreneur, innovation, equilibrium, etc.) and the observable cyclical fluctuations in economic activity" (1940: 270)[30].

What piece still holds after this *Blitzkrieg*? Not much apparently. Much later, Rosenberg and Frischtak (1984), Chris Freeman (1997, 2009) and others would return to those criticisms, but none with the verve and analytical deepness of Kuznets. Given that, one could quip that Keynes' General Theory's publication in 1936 was more a blessing than a curse since it avoided more attention to the repercussions of Schumpeter's treatise.

The bottom line conclusion here is that the book was, *as a whole*, a major theoretical failure. It did not elevate Schumpeter's status as a theorist among his peers. Nevertheless, it achieved two important results which would survive its bad reputation as a work of economic theory. Those results were harvested mostly by business and technology historians. Thomas Mac Craw, the late "vice-doyen" (after Alfred Chandler Jr) of business history studies at Harvard Business School raised them in a concise way:

> "*Business Cycles* was Joseph Schumpeter's least successful book, measured by its professed aims and several other yardsticks. Yet the book has two vital aspects that have largely been over- looked. First, the prodigious research that went into its writing caused a significant change in Schumpeter's thinking about capitalism. It moved him to a more historical and empirical approach that shaped nearly all his subsequent work. And second, much of the book constitutes a preview of modern, rigorous business history... *Business Cycles* is a noble failure that paid unexpected dividends both to the author and to scholarship" (2006: 231).

Mac Craw had a point here. Indeed, Business Cycles' "historical chapters" constitute its best feature. Well written, although long, they are a gold mine for economic, business and technology historians. Packed with detailed accounts of company's histories and technologies' development in tandem with the economic-industrial histories of the United States, England and Germany, those chapters still provide an invaluable source of *histoire raisonèe* as Schumpeter wanted them to be.

The work of Chandler, Mc Craw, Amatori, Hikino, Lazonick and their collaborators are direct heirs from Schumpeter's detailed incursions in the evolution of business and technology since the industrial revolution. And this was an important dimension of *Business Cycles* (Chandler: 1977, Lazonick: 1990, 1991, Landes: 1969, Mokyr :1990). Furthermore, the widespread rejection of the Kondratief cycle didn't prevent the spreading of "technological revolutions[1]", "waves" or "paradigms" as key elements in subsequent neo-schumpeterian investigations and in classics of technological history such as Freeman and Louçã (2001), and Perez (2002).

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[30] Henrik Grossman, a well-known Marxist, delivers a similar point in his review. After describing Schumpeter's four phase cycle and the problems arising from the way the return to equilibrium is framed by the author, Grossman adverts: "Schumpeter solves all these theoretical difficulties with a word 'adaptation'. He never describes the process of adaptation. The desired result of it – equilibrium – is introduced as a *deux ex machina*. If this 'adaptation' takes place, the system functions 'satisfactorily' and we are in 'equilibrium'" (1941:185).

Last but not least, and very importantly on the theoretical front, BC included a hidden gem, a sophisticated extension of TED which provides a brilliant explanation of how the credit creation-innovation nexus leads to a much bigger outcome: the secondary wave. Not discussed in TDE, the secondary wave is a macrofinancial outcome which contains the most detailed analysis by Schumpeter of *how* the initial cluster of localized entrepreneurial activity and credit creation spreads through the system via an interaction of multiplier effects, monetary expansion and non-innovation related credit creation leads to increasingly reckless business and banking practices. Prosperity once analyzed as a macrofinancial process turns ultimately destabilizing. It ends in overindebtness coupled with deteriorating expectations and shrinking profits and cash-flows which ultimately reverses expansion, dragging the system into a recession and a period of "abnormal liquidation" which, most likely, will force the system into a depression (Schumpeter: 1989 [1939] chapter 4, section C). Yes, that's Minskyian theorizing before Minsky:

> "If innovations are being embodied in new plant and equipment, *additional consumers' spending will result practically as quickly as additional producers' spending*. Both together will spread from the points in the system on which they first impinge, and create that complexion of business situations which we call prosperity. Two things are then practically sure to happen. First, old firms will react to this situation and, second, *many of them will 'speculate' on this situation* (Schumpeter: 1989 [1939]. Kindle Locations 2483-2486, my emphasis).

The resulting situation is perfectly described by Keynes's multiplier paired with additional credit creation and casino-type financial speculation. The expansion triggered by entrepreneurial activity and credit creation takes off, evolves via cumulative causation mechanisms and positive feedback loops and exhibits distinctive traces of Minskyan financial fragilization:

> "But in doing this many people will act on the assumption that the rates of change they observe will continue indefinitely, and enter into transactions which will result in losses as soon as facts fail to verify that assumption. New borrowing will then no longer be confined to entrepreneurs, and 'deposits' will be created to finance general expansion, each loan tending to induce another loan, each rise in prices another rise" (Kindle Locations 2491-2492).

Dialoguing with Fischer, Schumpeter goes further in specifying the sources and processes of overindebtness and financial fragilization:

> "Once a prosperity has got under sail, households will borrow for purposes of consumption, *in the expectation that actual incomes will permanently be what they are or that they will still increase; business will borrow merely to expand on old lines, on the expectation that this demand will persist or still increase; farms will be bought at prices at which they could pay only if the prices of agricultural products kept their level or increased*". (Kindle Locations 2523-2526, my emphasis).

In those passages we can see, very clearly, the roots of Minsky's financial fragility hypothesis: Overindebtness resulting from validation of over-optimistic expectations and riskier – or reckless - business and banking practices along with shrinking cash-flows and collapsing collateral values. Schumpeter's "macrofinance" is on solid ground here, and offers a sneak preview of how hedged agents become speculative and then Ponzi's:

> "The speculative position is likely to contain many untenable elements which the slightest impairment of the values of collateral will bring down. Part of the debt structure will crumble. Freezing of credits, shrinkage of deposits, and all the rest follow in due course" (Kindle Location 2558).

What we have here is nothing less than a financial theory of innovation-led investment coupled with a "destabilizing stability" approach to credit creation and expansion. A financial theory of creative destruction, for short[31]. At that point, one wonders why Minsky never cited these passages as part of his sources of inspiration, always referring to Keynes and Simons instead. This silence only started to change in 1986, as we'll see shortly. Yet even then, Minsky's take on Schumpeter, although sharp, is not free from ambiguities.

Summing-up, in BC's "second approximation", the macrofinancial four-phase cycle, includes prosperity, recession, depression and recovery. There is a wealth of analysis of the financial dimension encompassing and interacting with the innovation-led "wave". This is the closest Schumpeter gets to a "financial theory of creative destruction", something which doesn't appear in CSD, and was totally neglected in the Neo-schumpeterian paradigm that emerged in the eighties and nineties claiming Schumpeter's heritage

In a book celebrating a Marx-Schumpeter-Keynes centennial, Minsky contributed with an essay filled with penetrating – but very critical - thoughts about Schumpeter's legacy and its relationship with Keynes'. In a chapter titled "Money and Crisis in Schumpeter and Keynes", he writes:

> "The crisis of capitalism evoked a magnificent theoretical performance from Keynes; Schumpeter's response was banal (1986:112)

To which he adds:

> "Schumpeter's 1939 Business Cycles is a retrogression from his 1911 Theory of Economic Development. The three cycles -Kitchin Juglar and Kondratieff - of Schumpeter' s business-cycle theory is mechanical and the vast presentation of data is numbing rather than enlightening" (1986:114).

In comparing the two authors rival assessments of the Great Depression, Minsky praises Keynes and sharply criticizes Schumpeter:

> "The difference in the import of Keynes and Schumpeter over 50 years since the culmination of the crisis in the collapse of 1933 is that Keynes interpreted 1933 as a source for repudiating prior theories whereas Schumpeter interpreted the events as reinforcing the basic validity of his earlier views" (1986, 114).

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[31] However, the cycle analysis still suffers from the weaknesses of a poorly conceived attempt to blend it with equilibrium. Here's a typical passage: "But when depression has run its course, the system *starts to feel its way back to a new neighborhood of equilibrium*. This constitutes our fourth phase. We will call it Recovery or Revival" (Kindle Locations 2575-2576, my emphasis).

Surprisingly though, Minsky ends his essay on a rather positive note towards Schumpeter, the paragraph already quoted in the introduction to the paper, and on the need to bridge his vision and insights with Keynes':

> "The task confronting economics today may be characterized as a need to integrate Schumpeter's vision of a resilient intertemporal capitalist process with Keynes' hard insights into the fragility introduced into the capitalist accumulation process by some inescapable properties of capitalist financial structures " (1986:121).

This is a statement I fully subscribe to[32].Unfortunately, not much progress was done in that direction so far. In addition, I submit that Minsky's "task" can only be accomplished if we understand a) the deepness of the rupture between Schumpeter pre-CSD equilibrium-dependent analysis and his core propositions submitted in that book; b) how TED's theoretical innovations and BC's macrofinancial approach to economic fluctuations ought to be, once severed from equilibrium and the three cycle framework, fully incorporated into this creative-destruction paradigm , since they all fall in place there; and c) why CSD's analytical framework, once rekindled, provides the scaffolding of a new paradigm for analyzing capitalism, one that takes the institutional dimension seriously and is not at odds with empirical reality.

Furthermore, the resulting synthesis delivers a much more coherent alternative to Schumpeter's previous models of multiple cycles-cum-equilibrium-cum-evolution, and opens the space for a full integration with Keynes and Minsky's theorizing about short and long-term expectations, asset pricing under uncertainty, financial innovation and its impact on liquidity, leverage and financial fragility; and, last but not least, to the advantages of a substantial degree of socialization of investment in order to pair rapid economic transformation with financial stability[33].

[32] And have tried to contribute to, co-authoring a long essay with Jan Kregel, published as a discussion paper in 2006 and in an abridged version in 2005 (cf. Kregel and Burlamaqui: 2006).
[33] This last topic is discussed in Burlamaqui: 2020.

4. Capitalism, Socialism and Democracy: Creative Destruction as New Departure Point for Economic Analysis

The book starts with a thorough analysis of Marx's work. The review is carefully done. It contains serious objections but also big praises. The reason why Schumpeter opens CSD with this lengthy discussion of Marx's legacy is not difficult to figure out. Marx always exercised a deep influence on him, and the whole book is written as a *dialogue-reaction with-to* Marx (and Marxism). And this matters to my thesis – the radical departure – because in the course of his evaluation of Marx, Schumpeter already introduces several hints of his departure from the previous "skin", the equilibrium-cum-evolution attempted synthesis.

While discussing Marx's theory of "compulsive accumulation" by capitalists, he basically praises it and introduces the key role of competition as the engine of change:

> "As a matter of fact, capitalist economy is not and cannot be stationary. Nor is it merely expanding in a steady manner. It is incessantly being revolutionized from within by new enterprise, i.e., by the intrusion of new commodities or new methods of production or new commercial opportunities into the industrial structure as it exists at any moment... Economic progress, in capitalist society, means turmoil".

To which he adds:

> "And, as we shall see in the next part, in this turmoil competition works in a manner completely different from the way it would work in a stationary process, however perfectly competitive. Possibilities of gains to be reaped by producing new things or by producing old things more cheaply are constantly materializing and calling for new investments...In order to escape being undersold, every firm is in the end compelled to follow suit, to invest in its turn and, in order to be able to do so, to plow back part of its profits, i.e., to accumulate. Thus, everyone else accumulates." (1942: 31-2)

In the opening chapter of the books' second part, where the theoretical rupture is performed, before introducing the concept of "creative destruction" Schumpeter makes two points whose *evolutionary* implications are worth recalling: first, that "the capitalist engine is first and last an engine of mass production" where the "masses" were the biggest beneficiaries of structural transformation. The pertinent quote has become a classic:

> "Queen Elizabeth owned silk stockings. The capitalist 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 (1942:67)".

Second, that due to the proliferation of new products and services along with quality improvements of existing ones, the overall benefits of progress as well of the extent of real prices' fall overtime are highly underestimated by indexes and largely ignored by existing theory:

> "There is 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" (1942:67).

> "New commodities escape or are inadequately represented by an index which must rest largely on basic commodities and intermediate products. For the same reason improvements in quality almost completely fail to assert themselves although they constitute, in many lines, the core of the progress achieved—there is no way of expressing adequately the difference between a motorcar of 1940 and a motorcar of 1900 or the extent to which the price of motorcars per unit of utility has fallen" (1942:66).

Next to go down in the theoretical metamorphosis is the three-cycle framework. Wave is the new concept. No more well-behaved regular cyclical movements poorly linked to each other, but successive technological revolutions:

> "The same fact stands out still better if we glance at those long waves in economic activity, analysis of which reveals the nature and mechanism of the capitalist process better than anything else. Each of them consists of an "industrial revolution" and the absorption of its effects. These revolutions periodically reshape the existing structure of industry by introducing new methods of production..." [in a] process of recurrent rejuvenation of the productive apparatus [that] spell disturbance, losses and unemployment" (1942:68).

By now, Schumpeter is already in full "evolutionary mode". No references to equilibrium or perfect competition. Or, more precisely, a big blow on the later along with a truly original reconceptualization of competition dynamics seen as a recurrent attempt of establishing and exploiting market niches trough differentiation strategies or "de-commodification":

> "Neither Marshall and Wicksell nor the classics saw that perfect competition is the exception and that even if it were the rule there would be much less reason for congratulation than one might think"[34] (1942: 78)....And as regards practically all the finished products and services of industry and trade, it is clear that every grocer, every filling station, every manufacturer of gloves or shaving cream or handsaws has a small and precarious market of his own which he tries—must try—to build up and to keep by price strategy, quality strategy—"product differentiation"—and advertising (1942:79).

A prelude to creative destruction-based competition, which would be recognized later as "Schumpeterian competition", this prior concept of "competition by means of product differentiation"[35] merits a brief comment. Along with "creative destruction" it provides the basis for a *general theory of competition* – not only "technological revolutions" produced by the diffusion of general purpose technologies, but business as usual competition - in which the key goal is the temporary monopolization of market opportunities regardless of size or market -share. Once this is attained *every business* has the potential to become a temporary price or cost-maker and consequently a windfall –

[34] Including Schumpeter himself until 1939.
[35] Note the convergence with Sraffa's' 1926 paper on the "Laws of return".

or *rent*[36] - collector. Perhaps we should conceive it as monopolistic competition without homogeneous cost curves and of no convergence towards equilibrium. This is a remarkably accurate conception of how competition *really* works which escapes the drawbacks of both perfect competition and the static oligopoly models of Cournot, Bertrand and contemporary textbooks. Schumpeter is straightforward:

> "As soon as the prevalence of monopolistic competition or of oligopoly or of combinations of the two is recognized, many of the propositions which the Marshall-Wicksell generation of economists used to teach with the utmost confidence become either inapplicable or much more difficult to prove. This holds true, in the first place, of the propositions turning on the fundamental concept of equilibrium i.e., a determinate state of the economic organism, toward which any given state of it is always gravitating and which displays certain simple properties (1942: 79).

The old "skin" is gone. A new Schumpeter emerges. Capitalism equals *change* which equals *turmoil* which collides with *equilibrium* and whose main agents are corporations (either big or small) who survive and prosper competing, relentlessly, trough innovations, differentiation strategies and market-niche creation. Debunking the economic profession as a whole (himself included), Schumpeter argues:

> "If *we* economists *were given less to wishful thinking and more to the observation of facts*, doubts would immediately arise as to the realistic virtues of a theory that would have led us to expect a very different result (1942:81-82, my emphasis).

From that new approach, traditional theorizing is turned upside-down: bigness is efficient *because* competition is fierce and threatening.

> "As soon as we go into details and inquire into the individual items in which progress was most conspicuous, the trail leads not to the doors of those firms that work under conditions of comparatively free competition but precisely to the doors of the large concern…—and a shocking suspicion dawns upon us that big business may have had more to do with creating that standard of life than with keeping it down" (1942:82).

This provides the opening for the full blown "creative-destruction" approach to economic analysis:

> "The essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process…. Capitalism, then, is by nature a form or method of economic change and not only never is but never can be stationary…. The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates…. Similarly, the history of the productive apparatus is a history of revolutions" (1942:83).

An approach whose crowning statement, so often quoted, was never exploited to its full potential:

[36] If the differentiation process persists.

> "This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in" (1942:83).

In scarce seven pages where very paragraph exudes brilliance, a new paradigm for economic and social analysis is born. In his own words: First, since we are dealing with a process whose every element takes considerable time…we must judge its performance over time (83). Second, since we are dealing with an organic process…every piece of business strategy acquires its true significance only against the background of that process and within the situation created by it. It must be seen in its role in the perennial gale of creative destruction (84). Third, from that perspective, business strategies and decisions have to be understood as an attempt to deal with a situation that is sure to change presently—as an attempt by those firms to keep on their feet, on ground that is slipping away from under them (84).

Once these propositions are accepted, a new *modus operandi* unwraps. The central element to retire is the prevailing conception of competition. "As soon as quality competition and sales effort are admitted into the sacred precincts of theory, the price variable is ousted from its dominant position…. *in capitalist reality as distinguished from its textbook picture*, it is not that kind of competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organization (the largest-scale unit of control for instance)—competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives. *This kind of competition is as much more effective than the other as a bombardment is in comparison with forcing a door*" (84-85, my emphasis).

Furthermore, competition by means of innovation spreads not only from existing competitors, but from potential ones as well. Potential competition is, paraphrasing Rumsfeld, a "known unknown": It is hardly necessary to point out that competition of the kind we now have in mind acts not only when in being but also when it is merely an ever-present threat. It disciplines before it attacks. The businessman feels himself to be in a competitive situation even if he is alone in his field (85)[37].

The chapter closes with well-known, and deserved, grandeur:

> "Now a theoretical construction which neglects this essential element of the case neglects all that is most typically capitalist about it; even if correct in logic as well as in fact, it is like Hamlet without the Danish prince" (1942:86).

Per contra, a theoretical construction where creative destruction is front and center allows for all the innovations advanced by Schumpeter in TED, but did not find an appropriate fit there. First, development *is* structural transformation. Its main features are irreversibility, uncertainties, industry shake ups, social turmoil, big fortunes made and

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[37] Examples abound. IBM never understood the potential of its PC, until it was too late. Detroit was nearly destroyed by Toyota and is again under threat by Tesla, Google & Co. Did the music industry understood the potential of Napster? Blockbuster was destroyed by a new business model: Netflix. How many retailers understood they were under attack by Amazon until they filed for bankruptcy? That's the way capitalism evolves, and that's what Schumpeterian competition is about (cf. Bell: 2001, Srinivasan: 2017)

lost, regional dislocations, bankruptcies, winners and losers. There is no place for equilibrium – or equilibrium theorizing in conceptualizing it.

Second, development unfolds in *waves,* cumulative industrial revolutions which rejuvenate the economic landscape which implies fluctuations in economic activity but not regular, recurring, or multiple, cycles.

Third, competition is its engine and innovations' its fuel. All types of innovations play a part: products, processes, financial, organizational, legal, political, institutional, radical, incremental, productive and destructive. As such, any type of regularity is out of the picture and competition is anything but perfect: rivalries, conflicts, resistances, entry and exit barriers, sunk costs, price fixing, planned idle capacity and all sorts of "monopolistic practices" are among its nuts and bolts. They are business strategies carved to deal with "known unknowns" and "unknown unknowns"[38].

Four, in that environment, there is no theoretical reason for profit rates to ever equalize. In the case of old business, not yet disrupted by new ones, what happens is progressive commodification which leads to compressed margins, but not even then profits should equalize: as Edith Penrose so brilliantly showed, inputs are homogenous but resources tend to be unique to firms (1959: chaps 2-3). One main implication of that approach is that even commodities with identical international price will not necessarily have the same cost structures. Therefore, variations in margins and rates of return will be the norm.

Fifth, by the same token, "uncertainties", bankruptcies and "winners and losers" preclude any rule tying amounts invested to returns. The WhatsApp case was referred, and business reports and newspapers are filled with other examples. Conversely, look at the airline or restaurant business: for the vast majority of firms, the hardest goal to beat is to turn a consistent profit on a regular basis, despite huge investments[39].

Sixth, returns do turn up permanently, but their size moves along economic fluctuations. Either as "schumpeterian", innovation-based profits or as "ricardian rents" sprung from incomplete diffusion, differentiation strategies, or "fences on imitation" (trade secrets, location, branding, reputation and intellectual property rules and regulations in general)[40]. What logical reasoning and empirical observation shows is that only the "iron cage" of perfectly competitive equilibrium prevented their recognition as outcomes of successful strategizing under fierce competition[41]. As for their origin or source, a forgotten –and never resolved debate in political economy- Schumpeter doesn't settle the question, but his remark that schumpeterian entrepreneurs, collectively, "largely create what they exploit" deserves further inquiry (1942: 101). As Barak Obama remarked, "they didn't build it alone", and there are cases of pure exploitation[42], or rent-

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[38] In the economics literature – heterodox for sure - Rumsfeld has an illustrious predecessor: Shackle and his concept of "unkowledge" (see Earl & Littleboy: 2014).

[39] There is only one place where this proportionality rule between "investment and return" does not seem absurd to me: treasuries.

[40] Cf. Burlamaqui, Castro and Kattel: 2013.

[41] Bill Lazonick aptly names them "organizational successes" in contrast to the mainstream, never well explained, rubric of "market failures" (1991)

[42] Semi-slave contracts and slave-wages servicing Apple, Nike, Amazon – shameful "celebrity firms" whose practices were disclosed- but almost all corporations wherever they can capture them.

keeping[43]. However, from an evolutionary perspective, the links among technological creativity, innovation and surplus seems solid (Landes: 1969, Chandler:1977, Mokyr: 1992). They should be further scrutinized. Notwithstanding, permanent profits exist "collectively", as surplus, and are appropriated via different mechanisms[44], but at the firm level they don't. The rise and fall of business dynasties is one of the main traces of capitalism's evolution (Schumpeter: 1942,18).

Seventh, the creative destruction approach allows for win-win situations in surplus distribution: if the "schumpeterian development package" succeeds, everybody improves: profits, real-wages, productivity, variety, quality, dividends, consumption and fiscal revenue all rise, while prices and effort spent to produce and deliver the goods fall. In that framework, big profits are often the seeds of big investments, job creation and robust growth. On the other hand, unemployment becomes a "normal" feature of the system, and not one Schumpeter applauded, which points to another convergence with Keynes. In that realm, Schumpeter's version for "the economic possibilities of our Grandchildren" (1942: chapter five) largely mimics Keynes' 1930 essay, and anticipates current debates about "basic income". Discussing the implications of both cyclical downturns and technological progress for unemployment, Schumpeter affirms: "whether lasting or temporary, getting worse or not, unemployment undoubtedly is and always has been a scourge" (1942: 70).

And adds:

> "...for obviously the suffering and degradation—the destruction of human values—which we associate with unemployment, though not the waste of productive resources, would be largely eliminated and unemployment would lose practically all its terror *if the private life of the unemployed were not seriously affected by their unemployment*" (ibid, my emphasis).

Eight, while *entrepreneurs* still play a key role in carrying out innovations and, therefore, in forging progress, there is an important change of emphasis in CSD. In the age of big concerns and "burocratization of innovation", it's not so much entrepreneurs presented as "new men", but the "entrepreneurial function" which matters. Taking on board Weber's analysis of rationalization as a major feature of modern capitalism (Beetham: 1985, Collins: 1986), Schumpeter sees the routinization of innovation as a key transformation in capitalism's economic structure, and a linchpin of his thesis of socialism coming as a result of capitalist success (1942: chapter 12). However, in oppositions to many interpretations of his prognosis, what he envisaged was innovation speeding up, not slowing down[45]. That metamorphosis was strengthening, not weakening, the *system* although eroding the *order*. It was his ticket to the well-known diatribe on the true

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[43] Strong IP rules and regulations and all sorts of legal monopolies for instance.

[44] Including the way the tax code is shaped, which brings the state and political coalitions strait to the center of economic analysis, despite the marginal attention they get from economic theory.

[45] The way I see it what tends to confuse interpreters here is Schumpeter's passage stating that: "To sum up this part of our argument: if capitalist evolution—"progress"—*either ceases or becomes completely automatic,* the economic basis of the industrial bourgeoisie will be reduced eventually to wages such as are paid for current administrative work excepting remnants of quasi-rents and monopoly gains..." (1942:134, my emphasis). Schumpeter's thesis was never that it would cease, but rather that it would become routine: "Thus, economic progress tends to become depersonalized *and automatized"* (133, my emphasis).

pacemakers of socialism. [They]" ...were not the intellectuals or agitators who preached it but the Vanderbilts, Carnegies and Rockefellers" (1942:134).

Diatribes apart, the importance of the entrepreneurial function for my argument is that it frees Schumpeter's approach from romanticizing entrepreneurship and lends the concept a more solid basis. In fact, Schumpeter never developed a theory of the firm, but Chandler's Strategy and Structure framework, Penrose's resource-based theory and the dynamic capabilities approach to innovation and strategy pioneered by Winter, Teece, Pisano and others filled that gap (Chandler Jr: 1962,1977, Penrose: 1959, Levin, R. C., Klevorick, A. K., Nelson, R. R., Winter, S. G., Gilbert, R., & Griliches, Z. :1987, Teece & Pisano: 1994, Teece: 1998, Winter: 2003, Lazonick and Teece: 2012). They provided a genuine schumpeterian theory of the firm which flourished in business strategy departments, but never made it to economics. Too bad for economics.

Furthermore, the entrepreneurial function may be performed by individuals, corporate teams - big or small- or cooperatives. As McCraw aptly put it "Entrepreneurs whether they operate in big firms or small ones, old companies or start-ups-are the agents of innovation and creative destruction" (2007:7). More importantly, but never conceptualized by Schumpeter, or his followers, it can also be carried out by the State[46]. Schumpeter recognizes that but makes just brief mentions to that in his works with no proper links to his theory. (See Burlamaqui, 2000 for a first attempt to explore that subject and Burlamaqui, 2020, for an extended discussion on the issue).

As was argued above, the absence of the State in his *theorizing* about structural change is a theoretical flaw in his work, although less so in terms of historical analysis. Yet, Schumpeter was aware of both the importance of State action for assisting capitalist rationalization[47] or forging industrial policies, as well as the limitations of his model in producing stability or full employment spontaneously out of depressions, as I showed in point seven, above. This is made even more clear is his deference of state action and

[46] This is hardly a new discovery in the history of economic thought. It was already pointed out, among others, by Adam Smith in his chapter on "The Expense of public Works and public Institutions" in The Wealth of Nations, Book V: "The third and last duty of the sovereign or commonwealth, is that of *erecting and maintaining those public institutions and those public works*, which though they may be in the highest degree advantageous to a great society, are, however, of such a nature, that the profit could never repay the expense to any individual, or small number of individuals; and which it, therefore, cannot be expected that any individual, or small number of individuals, should erect or maintain"(2003 [1776] 508, my emphasis). In contrast to the "invisible hand", this statement seems to have gotten lost. Even the encyclopedic Schumpeter didn't profit from it. By contrast, if we search the history of *economic policy*, the State's central role in economic transformation is prominent. From Serra to Cromwell, Hamilton, Carey, List, the German Historical School, and the Meiji reformers there is a whole tradition on discussing and performing State action about which we now know (Reinert: 2007). More recently, after the flood of books on the Asian developmental state, there virtuously no space for doubt. The State is a key player in development and structural transformation. Economic theory never got that right, Schumpeter included. Hubert Henderson's exchange with Keynes suggesting the State as an "Entrepreneur-in-chief" (1943) could have opened a new window but it wasn't explored. Mazzucato's fine book on the Entrepreneurial State was not forged directly as remedy to this *theoretical* flaw but helped to raise welcomed attention to the matter and provided a new window of opportunity. Let's exploit it from a theoretical perspective.

[47] In BC, in a brief mention to Government direct financing of enterprise the Brazilian government gets the headlights: "Government fiat might also serve the purpose of financing enterprise. The Brazilian government, for instance, financed coffee plantations by this method in the seventies" (Vol 1, Chapter 3, p 113).

"keynesian" measures to rescue a depressed economy sunk in liquidity preference and bankruptcies[48]:

> "….it has been repeatedly emphasized that depression, unlike recession, is a pathological process to which no organic functions can be attributed. *The case for government action in depression remains, independently of humanitarian considerations, incomparably stronger than it is in recession*" (BC: chapter 3, p 131, my emphasis).

Scrutinizing his thinking on that subject is certainly not an easy task. Notwithstanding, there is no structural impediment to remedying these shortcomings on how the state can be incorporated in his analytical framework. On the contrary, for a 21st century updated agenda it's a requirement. As just mentioned, I will try to follow that path, ahead in the book.

Ninth, with equilibrium out, *stability* comes in to replace it. However, stability[49] *is an institutional construct*, not an "natural feature" of the economic structure. Stability is achieved through institutional coherence and resilience, it is an outcome of structural transformation, agreed conventions, rules and regulations, which means that is very difficult to discuss it without introducing state action, public policy, public (and international) organizations. Economic stability is, therefore, a subject that cannot be confined to economic theory, moreover it's an evolving process as well. In fact, one of CSD's greatest achievements is its blending of economic theory and economic sociology. In Schumpeter's analysis, institutional stability contexts usually become unstable over time. In this he clearly precedes Minsky's destabilizing stability catch phrase[50]. The whole discussion about the "civilization of capitalism" and its erosion is a master class in institutional analysis, regardless of the accuracy of its forecasts [51]

The core of his message is that institutions are the main buffers of instability as well as the tools for building stability in a creative destruction environment. Economic stability depends on shared expectations, institutional adaptation, organizational routines, and policy measures. Their interactions and evolution are not subject to abstract theorizing or modelling. Furthermore, stability is not an assured feature of the system, but rather the result of a complex set of legal and organizational arrangements. However,

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[48] However, there are also several passages where the emphasis is put on polices which act as potential brakes on entrepreneurial dynamism or conduits towards truncated forms of socialization. As Swedberg remarks, "Schumpeter detested everything that Roosevelt stood for and was convinced that he would ruin the United States in one way or another" (2003:34). The conference, turned essay, "The March into Socialism" written in 1949, shortly before his death, is a good sample of this "anti-keynesian" dimension of his approach (The essay appears as an appendix to later editions of CSD).

[49] Or instability, which is the final message of both CSD and of its predecessor: the essay on "The Instability of Capitalism" (1928. Reprinted in Clemence [ed].:1951, chapter 3). However, this is not a particularly well discussed theme in Schumpeter's works which deserves further scrutiny. It appears he thought that "trustified capitalism" would become *economically* more stable via big corporations, but its institutional structure would progressively turn more *unstable*. The overall result would an institutional outcome. Hence the tile "The instability of Capitalism" rather than "the stability of Capitalism". A noticeable flaw here, that I will refer to below is that Schumpeter totally missed finance and financial dynamics in his *prognosis*. Financial evolution is a no-show in CSD. Its where Keynes and Minsky should be brought on board, as I will briefly indicate below.

[50] Although the way they conceptualize it differs substantially (see note 51 below).

[51] Which in my view still largely holds if we see it as a "long term" potential scenario, not a "prediction". In fact, much of Schumpeter's institutional-sociological-cultural analysis was updated, as mentioned, by Daniel Bell in his classic 1976 book.

the argument deepens in complexity, these institutional constellations often tend to become outdated and dysfunctional: destabilizing, rather than stabilizing features. In one sentence: institutions are the anchors of stability trough the creation of regularities, and institutional change is an essential part of structural transformation, yet it is also a disruptive force which tends to turn those regularities into destabilizing forces in an evolutionary environment.

Finally, there is an, apparently, enigmatic absence in the "creative-destruction paradigm", as it merges from CSD: finance. As we have seen, in both TED and BC banking and credit creation are key, defining, features of capitalism. In both works Schumpeter defines capitalism by the finance-innovation nexus. "Capitalism is that form of private property economy in which innovations are carried out by means of borrowed money which in general though not by logical necessity implies credit creation" (1939: 216). As discussed above, credit is not only the lever of innovations but a social relation of production: Capital. Bankers are defined as "ephors" of the system and "reckless banking" flagged as a major source of turning recessions into depressions in Schumpeter's four phase cycle (1939: 264). Entrepreneurs are "debtors" and finance percolates both books. In contradistinction, none of those are contemplated in CSD. There are scarce mentions of credit and banking, and they are located either in the book's first part, devoted to Marx, or in the third in which the subject is socialism, not capitalism. This is a puzzle, and one that as far as I'm aware, was never properly discussed or clarified by commentators, critics, or reviewers (Yet see O'Sullivan: 2005 for insightful incursions on this subject).

One way to make sense of that puzzle is to suggest Schumpeter's "radical departure" didn't include his take on finance and its role in development and structural transformation. We know he struggled strenuously and was not satisfied with his own "Treatise on Money" which was never finished, but on the relationship between finance, innovations and development, Schumpeter seemed to be at peace with what he has previously written. BC's penetrating "macrofinancial" analysis of the secondary wave provides a clear anticipation of Minsky's financial fragility hypothesis.

Another way to interpret it is by returning to Schumpeter's 1928 "economic stabilization thesis", where he detects a diminished role for credit creation and bank-based finance in explaining big corporations' expansion: "Although credit creation still plays a role, both the power to accumulate reserves and the direct access to the money market tend to reduce the importance of this element in the life of a trust" (1928:70-71). This leads directly to the suggestion that banks became less important in financing creative destruction. This interpretation suggests finance wasn't really missing from CSD. It was still there, but had changed its relevance in the period of "trustified capitalism".

That appears to be Minsky's interpretation as well. In a 1992 paper titled "Schumpeter and Finance", he writes:

> "The role of bankers as the *ephors* of the decentralized market economy was reduced when government took over the responsibility for the adequacy of profits to aggregate demand. The flow of profits that followed from the deficits of government and from debt-financed housing construction meant that the internal cash flows of firms could finance their investments. Managements of established firms which had some market power that protected them from competition could be independent of their investment bankers" (1992: 110).

Minsky's statement reveals a remarkable convergence, in conclusions, regarding the stabilization of what he termed "Managerial" and Schumpeter's 1928 analysis of "Trustified" capitalism[52]. However, consistent with both authors' perception of capitalism as an evolving institutional structure (Minsky: 1992,113), it was not likely that this structure would last forever. For Schumpeter, economic and institutional evolution – burocratization and rationalization in all fronts, endogeneization of the innovative process plus cultural changes - would bring about a major economic and institutional transformation he suggested could labelled "Socialism". His BC's "historical outlines" chapters and CSD's discussion of "Socialism" provide us with a useful framework for interpreting the Asian Developmental States, and especially China[53]. For Minsky, "Managerial Capitalism" would be transformed into "Money Manager" capitalism which would bring the *Ephor* back in, but a very different kind of ephor: Keynes's financial casino manager instead of Schumpeter's investment banker.

In another Schumpeter-related paper, titled "Schumpeter: Finance and Evolution" (1990), Minsky completely reverses his previous skepticism and pays generous tribute to his former professor:

> "Schumpeter and Keynes are compatible for they both defined the problem of economics as the analysis of a monetary production economy. Financial entrepreneurship and therefore financial evolution are central to Schumpeter's vision of the process of economic development. Innovations in financial relations since World War II validates this interpretation of Schumpeter's vision" (51).

> To which he adds a few pages ahead[54]:

> "Schumpeter's banker financed the creative part of creative destruction…. the Schumpeterian [banker] is <u>not</u> our own day's master of the corporate raid and the leveraged buyout" (11)

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[52] There is, indeed, a high degree of convergence in conclusions, but not in analysis: In his 1928 essay "The instability of capitalism" Schumpeter returns to the notion of *stages*, a recurrent theme of his reflection. Contrasting "competitive" with "trustified" capitalism, Schumpeter submits that in the later the big concern reins and credit creation performs a different, less important, role: "Although credit creation still plays a role, both the power to accumulate reserves and the direct access to the money market tend to reduce the importance of this element in the life of a trust…It is easy to see that the three causes alluded whilst that accentuated the waves in competitive, must tend to soften them down in trustified" (1928:70-71).The meaning seems clear: It's Schumpeter prognosis, in this paper, of the progressive stabilization of a formerly unstable economy. A cursory reading of that passage could suggest a precursor of Minsky's 1986 book and 1992' paper. Quite the reverse: what Schumpeter is predicting here is a *structural stabilization* of the capitalist system (as opposed to its "politico-legal-institutional" *order* which tends to destabilize). While Minsky's discussion of stability frames it as a policy-institutional construction where Big Government and Big bank perform the tasks of stabilizing an otherwise *structurally unstable financial system*, for Schumpeter it seems the financial system's *structure* has become more stable. His analysis is reinforced in CSD where a progressively more *stable economic structure* clashes with a *progressively more unstable order*. References to credit and banking system are absent. Summing-up, although "destabilizing stability" is a common feature of both Schumpeter and Minsky's analysis, their explanations are quite divergent. Yet, Schumpeter's trajectory on that matter is certainly not an easy path to decipher. Nonetheless, an analytical perspective that reunites credit and finance with competition by means of innovation opens the door for bridging the "creative destruction" and the "wall street" paradigms.

[53] A theme I explore in Burlamaqui: 2015, Burlamaqui: 2019 (chapter 10), and Burlamaqui:2020.

[54] Minsky is "reading" Schumpeter trough his own theory here. Innovations in financial relations since WWII validates his theory for sure, but although financial innovation is *mentioned* by Schumpeter's, it's hardly a central feature of his theory.

However, Minsky's own analysis on the "return of finance" is made clear in the "Schumpeter and finance" paper just referred:

> "The emergence of return and capital-gains-oriented blocks of managed money *resulted in financial markets once again being a major influence in determining the performance of the economy*. However, unlike the earlier epoch of finance capitalism, the emphasis was not upon the capital development of the economy but rather upon the quick turn of the speculator, upon trading profits" (1992:111-12, my emphasis).

These are sharp observations, and, from my discussion of Schumpeter's theoretical structure, they hit a nerve. In Schumpeter's theory of development, what is central is not really "finance" understood as the financial system as a whole, but mostly credit, and *credit serving a specific purpose: development*. Banks are analyzed, fundamentally, as the providers of credit, understood as the vehicle for innovations. That means, *they are proxies for development banks and Schumpeter's bankers are, in fact, venture capitalists*. Their "function" is, indeed, to finance the "creative part of creative destruction". There is little discussion of the financial system's other features, characteristics, or flaws.

Apart from BC's fine discussion of their role in magnifying prosperity and, simultaneously producing the roots of depression trough financial fragilization, Schumpeter doesn't really get "inside" the financial structure and especially on how it *evolves* and *innovates*. Neither financial innovation nor the liabilities side of the banks' balance sheets are incorporated in the analysis. In contrast to Minsky (and Fisher) *debt* is not a structural problem in his cycle except for turning otherwise "therapeutic" recessions into "pathological" depressions or "abnormal liquidation periods" which will ultimately – mysteriously one could add – find their way back to equilibrium. Entrepreneurs are the "typical debtors" in the system, but they seem to end up always paying their debts. Those who fail file for bankruptcy, but the banking system apparently does not face any serious liquidity or solvency problems[55].

This is clearly another place where the "creative-destruction paradigm" needs amendments[56], and where Keynes and Minsky theorizing prove superior and are needed. Keynes' financial theory of asset pricing along with his investment theory of business fluctuations, once incorporated, could generalize Schumpeter's innovation-led investment approach turning it into a finance-based theory of strategic asset's creation and liabilities' management. Minsky devised the need for that bridge long ago:

> "Keynesian theory, centering around the pricing of assets, capital and financial, in an economy where profits exist because development is the normal state, offers just the analytical framework in which the power of Schumpeter's vision becomes evident" (1990, 67).

[55] In his historical narrative, although finance and bankruptcies show up, as already mentioned, theory and history don't really tie to each other well. A typical statement is the following: "difficulties incident to the adaptation to a new fiscal policy, new labor legislation, and a general change in the attitude of government to private enterprise" had made the Depression worse. Most serious of all, particularly in the United States, there had been a wholly unnecessary epidemic of bank failures." (Schumpeter quoted by McCraw: 2007,350).

[56] The other, just to recall, is a proper role for the state in forging, or helping to forge, structural transformation.

Such a theory would enable for the full incorporation of leverage, liquidity preference, and solvency constraints into schumpeterian competition, and deliver a more sophisticated, and empirically grounded, financial dynamics to a Schumpeter-based, and Keynes-Minsky rekindled analysis (Along the lines suggested by Keynes: 1936, chapter 17, Minsky: 1975 chapters 4-5, 1986a and 1988, Kregel:1997a).

Minsky's financial fragility hypothesis coupled with his "wall-street paradigm" would also be of service. Their fitness would consist in incorporating financial innovation, debt and the liabilities' side of both bankers and entrepreneurs balance sheets to the theory's core. This, in turn, would allow for coupling schumpeterian development with the *permanent* buildup of financially fragile positions which could impede the adoption of otherwise perfectly sound innovation strategies. Additionally, Minsky's financial analysis would provide an explanation for a type of banking dynamics where financial innovation can become quite destructive and end up financing, most likely trough securitization, the destructive side of creative destruction; and for a type of financial system that fosters *destructive creation* instead of creative destruction, as the 2007 global financial crisis so vividly showed. The outcome will certainly re-shape, update and improve the robustness of this new paradigm (cf. Minsky 1986, and 1986b, 1990, 1992, Burlamaqui and Kregel: 2005 and Kregel:2014 part 3).

This was already clearly perceived by Minsky in his 1990 paper:

> "The economic theory that integrates Schumpeter and Keynes, which unifies what is usually called the real and the financial, improves our understanding of capitalist economies" (51)

Unfortunately, this economic theory is not at our disposal yet. Best case scenario, it's a work in progress[57].

[57] To my knowledge, the best starting point for that theory is provided by Minsky himself in his 1990 paper referred above.

5. Conclusion

Schumpeter started his academic life trying to blend equilibrium and evolution, Marx and Walras. This permeated his whole career and was never fully discarded, as can be seen in many passages of his History of Economic Analysis, published after his death, or in papers such as "The historical Approach to Business Cycles" published in 1949, the year before he passed away, where we read right in the opening section[58]:

> "I am as much as anyone can be convinced of the necessity of bringing to bear upon the study of business cycles the whole of our theoretical apparatus and not only aggregative dynamic schemata but also our equilibrium analysis" (1949 [2005]:322).

It is *really* difficult to understand the persistent reference to equilibrium after its crystal-clear rejection in CSD[59]. Nevertheless, Schumpeter appears to have changed his mind over the course of his life, and the inflection point seems to reside in Business Cycles as pointed by McCraw. While working on the book, Schumpeter must have become bothered by the incongruity between the massive data and historical material he was processing and his "model". The – many -discouraging reviews he got certainly contributed to a reconsideration of analytical assumptions and priorities, and this produced his "final thesis". The "thesis" seems to indicate his progressive detachment from equilibrium and a move towards economic and business history, industry case-studies, business reports and corporate balance sheets as *the* fundamental tools for economic analysis (1949 [2005]: 322-24).

> "To let the murder out and to start my final thesis, what is really required is a large collection of industrial and location monographs all drawn up according to the same plan and giving proper attention on one hand to the incessant historical change in production and consumption functions and on the other hand to the quality and behavior of the leading personnel" (1949[2005]: 328).

However, it is still rather disturbing that Schumpeter delivers his "final thesis" in the same paper he starts by paying his respects to equilibrium analysis. Nevertheless, the "final thesis" is reinforced in *History of Economic Analysis*, in a well-documented passage:

> "What distinguishes the 'scientific' economist from all the other people who think, talk, and write about economic topics is a command of techniques that we class under three heads: history, statistics, and 'theory.' The three together make up what we shall call Economic Analysis. [Later in this chapter, J. A. S. added to these three a fourth fundamental field, Economic Sociology.] ….. Of these fundamental fields, economic history— which issues into and includes present-day facts— is by far the most important. I wish to state right now that if, starting my work in economics afresh, I were told that I could study only one of the three but could have my choice, it would be economic history that I should choose (1954: Kindle Locations 2292-2299).

[58] This is one of Louçã's main points in his contribution for Burlamaqui and Kattel (eds): 2019.
[59] As I mentioned before, equilibrium is an analytical "iron cage" in which it's easy to get in but very difficult to get out.

The equilibrium puzzle remains, and we will never know what accounts for its resilience[60]. What really matters here is that if we side with the "final thesis" almost all the Neo-Schumpeterian descendants of Schumpeter chose the other side of the divide. They stuck with equilibrium, espoused neoclassical assumptions[61] and progressively more mathematically oriented research and modelling strategies which largely forgot history. The Journal of Evolutionary Economics, the International J. A. Schumpeter Society's major outlet is a living proof of that. In my, admittedly unconventional interpretation, this was a big mistake: it narrowed down Schumpeter's agenda, dramatically, instead of developing and expanding its boundaries.

To sum-up, let me try to sketch "in desperate brevity", as Schumpeter was fond to say, what a radical, Schumpeter-based and Keynes-Minsky rekindled approach to economic and institutional analysis, although still in need of proper development, should have as its building blocks:

1. Capitalism is a historical process in which change (not equilibrium) is the most relevant feature. Change, therefore, should be *the* object of investigation in an evolutionary research program,
2. Economic agents are creative and firms- the main economic units- are agents of transformation. Knowledge skills and organisational – dynamic- capabilities are cornerstones of competitive advantage for both banks and firms.
3. Competition*,* understood as *creative destruction*, and as a *selection mechanism is* the *engine* that propels economic change,
4. Innovations - applications of new ideas and/or methods to the economic sphere - are the main *fuel* of that engine,
5. Credit and innovation's function both as *"levers of riches"* and as *uncertainty creators;* their interplay is at the root of the system's twin operating features: *progress* and *conflict,*
6. Financial innovations are central to financial evolution, yet also linchpins to unstable, financially fragile, and often financially unsustainable development processes,
7. Financial fragility sprigs from the relationship among "technological" and financial innovation, indebtedness, and uncertainty,
8. Profit rates tend to differentiate (not to equalize) and no "proportionality law" between investments and profits applies,
9. Institutions and public policy are the main tools for building stability trough the establishment of conventions, rules and regulations which create regularities and convergence of expectations,
10. Regularities and stability are not fixed, but rather an evolving result of complex institutional arrangements and policy measures which can turn into destabilizing forces in a creative destruction environment,
11. States, more precisely entrepreneurial states are pillars of successful development processes,

[60] Would it be lack of self-confidence to disrupt established paradigms? Not likely. Schumpeter, of all economists, was not shy in shaking up the conventional wisdom of the profession or reviewing his own previous ideas. So, clarifying this puzzle is a window of opportunity for intellectual history minded Schumpeter scholars.

[61] For example: Say's law is ever present in the hundreds of models published in the Journal of Evolutionary Economics.

12. The main causal chain in the operation of the system runs from policy makers, bankers, and entrepreneur's decisions to the determination of investment, the speed of technological change, productivity increases and employment profiles.

In conclusion, I'll subscribe to McCaw's position in his inspired review of CSD:

> "Does Joseph Schumpeter's *Capitalism, Socialism and Democracy* rank with the most important works of economic history of the twentieth century? Of course, it does. Has there been a more penetrating analyst of capitalism than Joseph Schumpeter? No, I do not think there has". (McCraw:2000,1)

However, for the reasons given in this paper, it needs to be updated.

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