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The dark side of financial dynamics: a Schumpeterian destructive creation process

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Abstract

The purpose of this article is to show how the Schumpeterian evolutionary approach to financial market dynamics can shed light on the instabilities that recurrently occur in financial systems and undermine economic viability. In this aim, we argue that the liberalization of financial markets has led to the financialization of the economy over the last four decades as the most remarkable phenomenon that resulted in a sharp divorce between long-term economic development and short-sighted financial efficiency and triggered systemic difficulties in the global economy. Loosely regulated markets are perverted and embarked on a destructive creation path, damaging systemic stability.

Markets do not obviously achieve macroeconomic performance since weak regulation generates counter-productive incentives preventing financial institutions from supporting activities to contribute to economic transition. The main conclusion is that to enable financial markets to finance sustainable economic development, alternative extra-market (public) macroprudential regulation is needed beyond the free-market efficiency assumption.

Keywords: destructive creation, evolutionary economics, financial crises, regulation, innovation, creative destruction

JEL: B52, E14, G01, G18, O31

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1. Introduction

"Any innovation may meet hostility from established incumbents because the gains to novelty are necessarily losses to tradition, and so it is essential that the system is guided by institutions that are sufficiently open to accept the challenge from novelty" (Metcalfe 2008, p. 116).

Each systemic crisis generates its own reflections and alternative models to shape the future through "New Renewed Economics". The Great Depression of the 1930s and the stagflation of the 1970s both led to radical, diametrically opposed changes in macroeconomic theory and policy. The former gave rise to the Keynesian revolution, focusing on the role of public policy in economic development. The latter gave rise to the New Classical Economics revolution, focusing on the natural rate hypothesis and rational expectations. Both reframed our economies over several decades and had structural consequences on our lives. For the third time in a century, faced with the scale of the Global Financial Crisis of 2007–2009 (GFC), the economics profession, governments and corporations alike have been forced to question their beliefs and usual practices. Seminal analyses, alternative propositions or patch-up solutions have been suggested without any radical shift in the organization of markets. To date, most professionals agree that we should mix all the instruments (such as fiscal policy, monetary policy, financial regulation, development policies, etc.) to fight instability. The idea seems a good one, but its implementation still faces theoretical, ideological and technical obstacles. For instance, gathering some leading economists in a collective book that aims at "Rethinking Macroeconomic Policy after the Great Recession", Blanchard and Summers (2019) ask a sensitive question, crucial for both scholars and policymakers: "Should the financial crisis and the Great Recession lead to yet another major reassessment, to another intellectual revolution? Will it? If so, what form should it, or will it, take?" The cause is not lost, however, since the GFC has brought to the fore the critical importance of financial market stability and the points of fragility markets may suffer in their evolution, jeopardizing the smooth functioning of economies.

The purpose of this article is to show how the Schumpeterian evolutionary approach to financial market dynamics can shed light on the instabilities that recurrently occur in financial systems and undermine economic viability. The methodology of the article consists of drawing upon the Schumpeterian concepts of Creative Destruction (CD) and dynamics of entrepreneurial innovations in a monetary capitalist economy. The article offers a systematic evolutionary/institutional analysis of the behaviour of liberalized financial markets to understand the roots of financial instability and states why and how the CD process of capitalism is perverted and transformed into a Destructive Creation (DC) process that may threaten systemic stability.

This theoretical exercise proves to be relevant in the analysis of the process of financialization of market economies over the last four decades. The Schumpeterian conceptual framework shows that financialization has weakened the resilience of markets by transforming economic dynamics into pure speculative mechanisms and provoked systemic difficulties in the global economy. The crucial role of the regulatory framework comes into the picture as a logical outcome of such an analysis. Indeed, financialization was triggered by the liberalization of markets. It has occurred thanks to system wide withdrawal of public (extra-market) supervision mechanisms, replaced by self-regulation models. Financialization and self-regulation rule are two sides of the same phenomenon, and the Schumpeterian approach points to their fragility and irrelevance. If one assumes with Schumpeter that the monetary and financial system is the headquarters of the economy, its smooth working becomes the very critical

condition for the sustainability and viability of the whole economic engine. The path that financial markets may take in their evolution is of the utmost systemic importance and the role played by public authorities as facilitator of decentralized free-market actions, or as framer of macroeconomically consistent individual strategies, is a central concern as far as systemic stability is concerned. When markets are left to their own mechanisms without effective public regulation, they do not display any self-adjustment mechanism. They may lead to socially inconsistent outcomes such as systemic disasters. No direct links exist between markets microeconomic efficiency and macroeconomic/systemic stability.

From the evolutionary/institutional economics perspective, innovation and evolution do not obviously mean optimal change and financial dynamics do not lead to innovations able to ensure smooth economic development. Contrary to the Schumpeterian CD dynamics of an entrepreneurial economy, in a financialized economy, DC comes into the picture from the 1990s with the "new economy" (the hi-tech and the like era of the 1990s–2000s). Therefore, the recurrent real and financial instabilities over the last decades with dramatic economic and social consequences call into question the linear and positive interpretations of capitalist development.

Economic dynamics lies in continuous changes that develop through incessant and often uncertain individual and social actions that determine the path of economic evolution. These actions are obviously shaped under the influence of a given (but continuously changing) institutional environment. In such a multilateral interaction, the prevailing monetary and financial structure determines the nature of the accumulation process and fixes the type and the boundaries of economic evolution. The main result of this study is to figure out the central and critical role of financial regulation according to the endogenous weaknesses and fragilities of markets. In the light of the GFC, macroprudential regulation proves to be the relevant direction for a global governance framework of financial markets.

This article develops this issue through three sections. The first section draws upon the Schumpeterian evolutionary approach to examine the entrepreneurial innovative dynamics of a capitalist economy that continuously revolutionize the economic structure from within. However, the effectiveness of the CD process relies on the smooth and stable working of the monetary/financial system, the headquarters of market economies, that shape the development path. The second section shows that from the late 1990s, financial markets have been liberalized and their regulation and supervision mainly left to self-regulation rules of market players. Restrictive and binding rules for public verification of market operations that would be observed and used as incentives for systemic stability have been removed. Banking and financial innovations have proliferated and led to what Schumpeter had called, a century earlier, reckless finance. The third section maintains that such an evolution is mainly related to regulatory shifts. When financial regulation is relaxed in favour of market self-regulation, recurrent systemic instabilities occur. Financial system stability obviously calls for an alternative regulation that should aim at supplying relevant long-term incentives, apt to direct financial markets' strategies toward sustainable development objectives beyond the short--sighted financial profitability. Appropriate market regulation seems to be macroprudential regulation, able to handle systemic issues at a global level and frame the supervision of markets according to the prerequisites of economic sustainability and viability. This approach seems to be relevant for various issues that the 21st century economies have to deal with, such as the recovery and growth process in the face of growing global instabilities and the financing of the environmental transition that requires long-term and stabilized financing commitments beyond the short-term efficiency of speculative operations.

1. Innovation dynamics: financial markets as the headquarters of a capitalist economy

Schumpeter (1954) is one of the rare economists in the history of economic thought to bring forward an explicit distinction between two opposite methodologies in economics, the Real Analysis and the Monetary Analysis.

The former is what most economists have used since the classical economists, including Marx: although provoking some (side) effects on economic evolution, money and finance are not the main issues to be considered in the study of long-term economic evolution. In the terms of mainstream economics, this means that the economic equilibrium as well as possible disequilibria are all resting mainly on the evolution of real variables under shocks.

When it comes to the latter, a few analyses that exist (since, at least, James Steuart, a little-known author, contemporary of Adam Smith) have resulted in alternative monetary approaches in line with post-Keynesian, institutionalist and some evolutionary models of capitalism (Ülgen 2013). These approaches are directly or indirectly in line with two distinctive assumptions that characterize the Schumpeterian evolutionary analysis that assigns a central role to financial markets:

– capitalism is, by nature, a process of qualitative economic change and can never be stationary (Schumpeter 1947);

– capitalism is a debt (monetary) economy since every economic decision needs to be financed through the banking and financial system (Schumpeter 1934).

1.1. Economic development and entrepreneurial innovations

Schumpeterian economic dynamics is an open-ended process of qualitative change (Fagerberg 2003) relying on entrepreneurial innovations. The fundamental issue to be studied about economic evolution is not how capitalism administers existing structures but "(…) how it creates and destroys them. As long as this is not recognized, the investigator does a meaningless job. As soon as it is recognized, his outlook on capitalist practice and its social results changes considerably" (Schumpeter 1947, p. 84). Therefore "(…) 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" (Schumpeter 1952, p. 38–39). This CD process is usually regarded as a positive and progressive one since it is assumed to carry society toward higher levels of welfare. Entrepreneurial innovations are the source of capitalist dynamics resting on a sort of Keynesian animal spirits in a very positive sense of the term. Capitalist accumulation dynamics mainly lie in continuous changes initiated by entrepreneurial expectations. The entrepreneur is identified as an innovator who acts under uncertainty to replace old things by new ones. Any existing structure and all the conditions of doing business are always in a process of change. Economic progress means turmoil; new products and methods compete with the old ones and remove them in the evolution.

However, such a process is not obviously an optimal selection process. Indeed, most models that study the working of a capitalist economy blithely assume "Fisher's Fundamental Theorem of Natural Selection" (Silverberg 1994) that implies that the more performant economic units will improve their share in society at the expense of less performant ones thanks to a superior technology – due to

innovations. McCraw's opus (McCraw 2007) on Schumpeter as the Prophet of Innovation points to the very popular aspects of the concept of innovation as the ephor of a "new society", capitalism has historically developed through booms and busts at the mercy of DC waves. So, innovation and evolution do not obviously mean an optimal change contrary to what many scholars and policymakers assert: a straightforward Schumpeterian process of change that would lead to enhanced efficiency in markets so as to provide "the impetus for further economic progress" (Greenspan 2000). From the evolutionary economics perspective, it is worth noting that "…the nineteenth-century idea of unhampered evolution necessarily reaching optimal outcomes is misconceived. Both in the biological and the economic context, evolution is not a grand optimizer, nor a perfectionist" (Hodgson 1994a).[1]

A few authors focus on the destructive aspects of innovations (Komlos 2016; Schubert 2015, among others), arguing that all innovations do not generate more positive outcomes than their possible negative consequences at all time. Although McCraw (2007, p. 69) argues that "Schumpeter turned Karl Marx on his head. Hateful gangs of parasitic capitalists become, in Schumpeter's hands, innovative and beneficent entrepreneurs," Schumpeter himself was aware of the limits of the creative component of innovations in economic development (Schubert 2013). The question is then posed on whether innovations do lead to sustainable development. Whether entrepreneurial innovations do work as a source of economic progress is not clear: "…creativity is at once constructive and creative but also destructive: evolutionary progress is by no means painless and has never been." (Komlos 2016, p. 1).[2]

Komlos points to different externalities stemming from innovations that could deteriorate living conditions.[3] Contrary to the periods of industrial revolution, in the 20th century most innovations played a destructive but very profitable role in economic and social evolution.

The case of the US economy over the recent period of hi-tech/internet revolution (1990s–2000s) witnessed a net loss of jobs around several hundred-thousand people. Mokyr (2014) states, "It is thus now plain we have overestimated the productivity gains associated with technological change in the twentieth century." Komlos (2016, p. 9) then maintains: "With desperate innovations such as Google glass, Apple watch, Windows 8 and 10, or iphone 6, creative destruction's gentle winds have mutated into cyclones of destruction". In Schumpeterian terms, this means that innovation dynamics do not lead to systemically consistent changes that would be able to ensure smooth economic development.

Another critical feature of innovative capitalism as a debt-related monetary economy is that economic evolution relies on peculiar characteristics of financial mechanisms that play a critical role in economic evolution. Capitalist development relies on the smooth working and the sustainability of debt-depending financing of growth that proves to be extremely fragile in the absence of an appropriate institutional framework. The recurrent real and financial instabilities with dramatic economic and social consequences in the last decades call into question usual linear and positive interpretations of innovation-led development and require an alternative qualitative analysis of market organization.

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[1] Smith (1982, p. 5) also maintains that one cannot suppose that, "natural selection leads to the evolution of characteristics which are optimal for the survival of the species." If one assumes that evolution is a historical process, a unique sequence of events, the aim of the evolutionary (game) theory is rather to, "identify the selective forces responsible for the evolution of particular traits or groups of traits" (Smith 1982, p. 9) but, "Nothing is implied about intention, and nothing is asserted about whether or not the equilibrium state will favour species survival," (Smith 1982, p. 5).

[2] Komlos (2016, p. 6) also adds: "…there has been a shift in the destructiveness of new technologies and this effect has so far not been captured adequately in the economic statistics that are used to gauge the performance of the economy and to formulate an adequate policy response."

[3] Such as advertising gimmicks as Pavlovian conditioning tools, planned obsolescence while the new does not add any further use-utility; continuous upgrading of softwares without real improvements that consumers could perceive and really use, etc.

1.2. Financing of innovations: banking system and financial markets

Although Schumpeter puts the emphasis on the entrepreneurial innovations as major sources of economic change, the author of *The Theory of Economic Development* (1934) also maintains that capitalist society is a monetary economy and economic activities are basically related to and generate monetary and financial operations. Schumpeter (1947, 1951) points to a specific process: the financing of enterprises by bank credit. This function is the keystone of the modern credit structure (Schumpeter 1934, p. 107) such that banks prove to be active protagonists of the capital accumulation process. Credit operations, "do affect the working of the capitalist engine – so much as to become an essential part of it without which the rest cannot be understood at all" (Schumpeter 1954, p. 302). The processes/products used to finance economic activities are supplied by banks and remarketed by financial institutions. In a private wealth accumulation economy (capitalism), individuals have to launch activities according to their own expectations about the profitability of their plans. However, they must be able to accede to finance to make these plans effective before the economic activities give back profits (or losses). The private expectations-based monetary/financial system makes the decentralized decision process possible. A peculiar point of interest is that economic development needs "good finance" to occur in a sustainable way. In this regard, financial markets (financial institutions and banks) play a crucial role in the process of creation (financing of decentralized expectations) and allocation (use of existing funds) of resources thereby affecting the economic performance of firms. This keenly holds when it comes to entrepreneurial innovations (CD process) as change means new uncertainty and often requires durable financial support to start a bet.[4]

Schumpeter (1939, p. 104) argues that the functions of the entrepreneur and the banker are different. The entrepreneurial function (identified with the innovation process) must be separated from the capitalist-financier (whose function is mainly risk-bearing) and from the manager (dealing with day-to-day operations). Banks are the ephor of innovations and play a specific societal role: they (must) support and accompany the entrepreneurs in economic evolution. The banker is an information and assessment actor which should evaluate the scope and the profitability of entrepreneurial projects in the name of society (Schumpeter 1939, p. 116–118). This role had been emphasised by several authors and policy makers: "From St Simon's followers in France to Marx and other reformers prior to World War I, nearly all financial observers expected banking to become the economy's industrial planning agency, alongside government" (Hudson 2010).

Money enters the picture as "a tool of rational cost-profit calculations, of which the towering monument is double-entry bookkeeping" (Schumpeter 1947, p. 123). This towering monument is the social way of recording and checking in economic relations among independent decision units. Coordination among individuals does not require a full equilibrium; transactions are decentralized and, contrary to a central clearing *à la* Debreu, a bilateral payment does not require unanimous approval. Schumpeter (1939, p. 885) states: "The path that leads from the financial sector to real investment is tortuous and unsafe". Financial innovations make this path much more unsafe.

[4] This is true for the first period of implementation but also for the follow up of the engagements to allow entrepreneurs to deal with the consequences of unexpected results. Since debt-related financial engagements are not revocable, the support of banks through time is necessary to prevent early failures. As it will be emphasized in the next session, in a financialized economy, ruled by short-sighted speculative strategies, the banking and financial system is involved in rapid daily decisions and cannot fulfil its role of financially supporting the evolution of real activities that take a longer time than financial speculative operations.

In this analysis, there is no room for financial innovations (Leathers, Raines 2004, p. 671) since the central role of banks is not to induce monetary/financial innovations but to finance/accompany entrepreneurial innovations. When banks take the initiative of innovation, they can evolve toward reckless finance (Schumpeter 1939, p. 642; Schumpeter 1951, p. 214) and regular banking business may be made ancillary to innovative aims (Schumpeter 1939, p. 348). Moreover, in a monetary economy, banks – as creators of *ex nihilo* credit-money – do not need to innovate in order to finance productive activities; their ability to lend is never limited by a given amount of funds[5] (Schumpeter 1939). In line with this logic, one can argue that financial innovations aim at improving financial profitability, whatever the consequences on economic development, they are not designed to make banks more able to finance productive activities.

Such an intuition can be extrapolated to the analysis of modern finance since financial innovations of the late 20th century are not related to the creation of new productive value but to the desire of increasing the speed and the scope of short-sighted speculative returns that become independent of productive relations. Innovative activities of banks turn easily into speculative behaviour, provoking reckless finance when banks go beyond their essential role of financing entrepreneurial innovations (Schumpeter 1934, p. 106).

2. Issues of financialization of market dynamics and financial innovations

Since the late 1990s, most market economies have been liberalized and financial regulation and supervision has been mainly left to self-regulation rules of market players. Public regulation has become "a cash register" for the self-assessment models of banks and financial intermediaries without any restrictive constraint of public verification over market operations that would be used as incentives for systemic stability. Banking and financial innovations have proliferated thanks to pro-market regulation that has initiated and supported the financialization wave and led to a new speculative accumulation regime, to what Schumpeter had called, a century earlier, reckless finance.

2.1. Financialization: a new speculative regime

Financialization is an outcome of a peculiar evolution of capitalism that relies on the assertion that liberalized financial systems and international financial integration[6] are prerequisites for economic growth and development. This assertion also advocates a sharp reduction of government intervention into the economy. Financialization can be identified by the dominance of financial criteria over the economic decisions and activities such that short-sighted financial operations become the main source of increasing and fast returns, regardless of real sector long-term development needs and constraints (Epstein 2005; Hein, Detzer 2014; Kotz 2011; Marszałek, Szarzec 2023; Orhangazi 2008; Palley 2007,

[5] "(…) there is never any such thing as a definite quantity of bank accommodation available" (Schumpeter 1939, p. 606). At that point, it is obvious that Schumpeter reveals himself to be a forerunner of the theory of endogenous money, diametrically opposed to the Neoclassical and Monetarist/New Classical quantity approach to (exogenous) money.

[6] Roughly speaking, international financial integration means opening and liberalization of the capital account (and then of domestic financial markets).

to quote but a few).[7] Financialization is supported by liberal economic theories and policies that assume free market efficiency and then advocate a sharp reduction of government intervention into the economy (La Porta, Lopez-de-Silanes, Shleifer 2002; Hartmann et al. 2007).

In this line, financial (markets) development – also called financial deepening – is usually considered as an outcome of the working of efficient free markets and private actors. A substantial strand of the academic literature maintains (Dorrucci, Meyer-Cirkel, Santabárbara 2009; Barajas, Chami, Yousefi 2013) that financial development would enhance productivity and industrialisation thanks to the functions[8] that the financial system would perform in the process of economic growth. Following the well-known works of Goldsmith, McKinnon and Shaw in the 1960s and 1970s, it is asserted that liberalized finance would improve the competitive incentives leading to innovations and then allowing banks to provide more efficient financial services (Levine 2005). The supposed causality from finance to growth mainly rests on the hypothesis that free market price mechanisms have full capacity to make economy work efficiently through the encounter between supply and demand in order to set equilibrium prices at lower transaction costs and lead to the most efficient use of scarce resources, including the financial needs of productive activities. It is then expected that if financial repression is removed – thanks to financial liberalisation policies – the working of financial markets should allow every efficient (and then growth-generating) economic activity to be realised at low costs and then to enhance society's welfare (Bekaert, Harvey, Lundblad 2005). This happy picture should also be improved thanks to financial innovations that should be generated under the incentives of new competition due to the liberalisation of financial markets.

The development of this "financial repression" literature (Chinn, Ito 2005; Hartman et al. 2007; Klein, Olivei 1999; La Porta, Lopez-de-Silanes, Shleifer 2002; Ülgen 2017) offered considerable theoretical support to financial liberalisation policies and resulted in a new socio-economic structure, the so-called financialised accumulation regime, mainly founded upon speculation-based financial growth. Numerous authors (King, Levine 1993; Greenspan 2000; Ülgen 2019) referring to Schumpeterian CD, point to this role of finance in the process of technology-based growth and put the emphasis on the contribution of new financial techniques and products to the funding of global mergers, but also to the financing of small enterprises and start-ups in innovative sectors. King and Levine (1993) state that Schumpeter might have been right about the importance of finance for economic development as financial services would stimulate economic growth by increasing the rate of capital accumulation and by improving the allocative efficiency of markets. Theoretical development and political implementation of such assertions led in recent decades to the development of hi-tech markets that was accompanied by worldwide mergers financed by syndicated loans and LBOs and gave rise to concentrated industries while new techniques to fund small enterprises and start-ups gained ground.

Market operations on securitization, independently of the evolution of real economy and income distribution, supported financial growth without increasing-income-related solvent consumption. The unmonitored and over-sized loans/mortgage boom allowed FIRE (finance-insurance-real estate)

[7] Different definitions of financialization globally tend towards a common identification criterion that is the dominance of short-sighted speculation-led financial operations over real productive activities long-run profitability at the expense of income redistribution and state intervention at a macroeconomic level. This leads to an increase of the share of financial returns and corporations within the overall economic performance. In a financialized economy, market incentives are determined by expected speculative financial returns.

[8] Such as mobilisation of savings and their efficient allocation to productive uses; facilitating (and reducing the costs of) transactions; improving risk management and corporate control, etc.

sectors to engage in speculative products (CDOs, SIV) and became the main source of profits in the accumulation process (Brunnermeier et al. 2009). The realm of a rent economy without real growth, relying on the realisation of rapid and high returns on investment, decoupled from long-term productive perspectives, overcome other objectives such as sustainable long-term growth, employment, durable profitability, better distribution to sustain demand on markets and regular spending of households. This new regime of accumulation prevents any economic private/public actor from engaging in long--term investment and development plans.

Financialization has been supported by a system-wide retreat of public regulation and supervision from the control mechanisms in financial markets. Institutions become unable to play their social role of providing reliable and durable references for individuals. The implementation of this regime since the 1990s nourished the de-industrialization process of major mature economies which were transformed into speculation-based and low-real-growth structures while hi-tech and mortgage bubbles fuelled systemic crises in advanced and emerging economies and resulted in the GFC with persistent unemployment and cumulated worldwide disequilibria.[9]

To date, the balance of this regime seems negative as the last decades financial innovations and expanding finance are related to poorly performing production and the recovery and stabilisation policies, implemented in the aftermath of the GFC, did not succeed in mitigating cumulated disequilibria and giving markets relevant incentives to generate productive activities able to prevent persistent unemployment. The so-called financial development through liberalized and innovative markets leads to reckless finance that provokes a process of destructive creation process, generating systemic crises.

2.2. Financial innovations and reckless finance: a process of destructive creation

Different innovations in financial markets may lead to systemic instability through many ways, such as the speculative wild excesses – through reckless borrowing and lending in mortgage financing (Schumpeter 1951, p. 219), and bubble speculations resting on new opportunities that result in manias as banks withdraw from their regular activities (Schumpeter 1939). The "symbiotic relationship between the entrepreneur and the banker" is then interrupted (Hanusch, Pyka 2007) and financial innovations are directed toward rapid and highly speculative financial opportunities far from the needs of productive activities. In the aftermath of the GFC, Volcker (2009) ironically stated that the only financial innovation that raised productivity was the ATM (which was a product of mechanical engineering designed in the 1960s in UK and not on Wall Street).

In the Schumpeterian vision of CD, innovations replace old methods and products with better process, commodities, and services. When it comes to financial innovations, Ülgen (2014) offers a critical analysis on this assumption and points to the fact that in the Schumpeterian analysis, financial innovations do not have the same characteristics as entrepreneurial innovations and may lead to a destructive creation process harming the real-sector long-term perspectives if not regulated by tight public supervision. Indeed, the structural changes that occurred from the 1990s, along with

[9] Papaioannou (2007, p. 13) remarks that those works are supportive to political public-choice theories of state control: "according to which state intervention to credit leads to resource misallocation. Their results contradict «development» theories of state ownership that emphasize the positive effect that government can have in banking, for example by mitigating negative externalities, encouraging risk-taking investment, financing strategic sectors, etc."

financial innovations, supported by supervisory agencies and legislators, helped modify the traditional banking business model. The change came on both the liability side of bank balance sheets (for instance, through money market mutual funds), and on the asset side, with the growth of public capital markets, and led to several large, complex and highly leveraged financial companies. Financial engineering on securitisation and associated derivative instruments accompanied this evolution and changed the character of the financial sector.

Obviously, banks' innovations change the economic conditions as much as the entrepreneurial innovations. They affect the functioning of the economic engine because they modify the monetary and financial conditions on which the whole economic structure is founded. Most of the recent monetary and financial innovations seem to increase the elasticity of finance. However, in view of the current financial disequilibria faced by numerous economies in the world, such financial innovation dynamics present a real challenge to systemic stability. However, the evolution of financial systems that could promote growth by enhancing the conditions of entrepreneurial innovations financing, turns out to be deceptive since the financial liberalization of the 1990s results in systemic crises all around the world. This mechanically incites banks and financial intermediaries to protect their positions against increasing uncertainty by withdrawing from market activities and then prevents risky innovative projects from having access to stable financial structures.

Innovations in banking and financial markets do not lead to socially positive outcomes as it is expected in the case of entrepreneurial (real economy related) innovations. Lerner and Tufano (2011) note that the dynamics of financial innovation are quite different from those in manufacturing and claims of the beneficial impacts of financial innovations must be approached with caution. Janicko (2015) documents that financial innovation usually leads to higher volatility of the business cycles because of excessive pessimistic or optimistic sentiment and an influx of supplementary credit. Cecchetti and Kharroubi (2012), studying a sample of 50 advanced and emerging market economies over 1980–2009, also show that the level of financial development may have positive effects on economic growth only up to a point, after which it does harm to economic development. Especially in advanced economies, a fast-growing financial sector[10] proves to be detrimental to aggregate productivity growth. Therefore, it seems relevant to consider the possible negative consequences of financial innovation dynamics in order to determine the conditions that could lead innovations to sustain economic development without generating systemic turmoil. It is worth noting that the destructive nature of financial innovations does not lie in some exuberant behaviour of market actors but in the very characteristics of monetary and financial operations which display ill-dynamics, opposed to Schumpeterian entrepreneurial dynamics. Since real sector innovations and financial innovations do not have the same characteristics, financial market organization cannot be thought of and regulated in the same way as the real-productive activities organization. Financial innovations, even though they are routine--breaking like entrepreneurial innovations, lead to systemic crises and macro instability when financial oversight is weak and loosened.

In the face of such a "deterministic evolutionism", some interesting results are obtained through, among others, the deterministic chaos framework (see for instance, Silverberg and Lehnert 1993) in a Schumpeterian vein: innovations destroying the old structures and resulting in a new economic

[10] Although beyond the scope of this article, it is worth noting that shadow banking and the use of new technologies (artificial intelligence, blockchain, cloud computing and big data – as the "ABCD" of Fintech (Lai et al. 2020) – contribute to the complexity and opacity of financial operations that render regulatory reforms more than necessary.

regime, generating at the same time systemic Kondratieff-like cycles. Unfortunately, only a few works has been developed with regard to the crisis-generating monetary and financial dynamics of a capitalist economy. Mainstream approaches rely on a ontogenetic evolution rule in line with Carl Menger's quite static monetary analysis, which does not include the possibility of cumulative causation with increasing systemic changes (Hodgson 1994b, p. 221), while Schumpeterian work argues that there would be no evolutionary stable strategies to let natural selection prevent alternative strategies from perturbing a previously reached equilibrium state.

Indeed, understanding the phenomenon and the process of innovation is a core issue in evolutionary economics, since society's dynamics lie in continuous changes that develop through incessant and often uncertain individual and social actions that shape the path of economic evolution. At the same time, these actions are framed under the influence of a given (but continuously changing) institutional environment. In such a multilateral interaction network, the prevailing monetary and financial structure – made up of private and public institutions and the regulatory rules in force as well – determines the nature of the accumulation process and then fixes the type and the boundaries of economic evolution.

3. Paving the financial way for a re-creative destruction economy: regulatory issues

Market-friendly (liberal) theoretical and policy perspectives are at the core of the light regulation policies that have been implemented since the 1990s. Regulatory and technological barriers among different types of intermediaries have been removed and allowed financial innovations to proliferate. After several decades of financial liberalisation and subsequent recurrent crises and persistent unemployment, it seems that a possible economic recovery requires de-financialization of economies through an alternative regulatory plan for financial markets relying on an active collective intervention in favour of systemic stability apt, to support sustainable development.

3.1. Weak regulatory perspective: market efficiency-led supervision vs. sustainable long-term growth

Financial innovations in markets have been encouraged by the conviction that liberalised markets could self-regulate in the case of turmoil without tight public prudential intervention. For instance, Greenspan (1997), the long-lasting chairman of the Federal Reserve from 1987 to 2006, maintains that detailed rules and standards are burdensome and ineffective, if not counterproductive, and that the main regulatory rule must be to ensure that effective risk management systems are in place in the private sector in order to foster financial innovation without imposing rules that inhibit it. In the same vein, Beck, Demirgüç-Kunt and Levine (2006) argue that regulatory policies that restrict entry and banks' activities can provoke financial instability and systemic banking distress. In line with these market-friendly "deregulation approaches", decentralized and private control practices, resting on micro-prudential rules, replaced macro-prudential public supervision. In line with the Basel II market discipline pillar, which is basically relying on the market discipline and not on the macro-prudential systemic perspective, light financial regulation allowed banks to manage their risks through their

own internal models. Under the New Basel Capital Accord, banks are allowed discretion in estimating the key inputs of their internal ratings-based (IRB) approaches for the calculation of the regulatory capital regarding the credit portfolio and through ratings they purchase from rating agencies on the securities they issue (and often co-design and co-issue with rating agencies): "The New Basel Capital Accord is based around three complementary elements or «pillars». Pillar 3 recognizes that market discipline has the potential to reinforce capital regulation and other supervisory efforts to promote safety and soundness in banks and financial systems. Market discipline imposes strong incentives on banks to conduct their business in a safe, sound and efficient manner. It can also provide a bank with an incentive to maintain a strong capital base as a cushion against potential future losses arising from its risk exposures. The Committee believes that supervisors have a strong interest in facilitating effective market discipline as a lever to strengthen the safety and soundness of the banking system" (BIS 2001, p. 1).

Such an evolution reflects the regulatory changes in favour of market self-regulation mechanisms. When macro-regulation is relaxed and based on the belief that markets can self-regulate without need for extra-market public intervention, which would promote systemic financial stability objectives to ensure sustainable and viable growth, the economy evolves towards paths of instability and recurring crises. Yet, Mazzucato and Wray (2015, p. 6) remark that, "…for growth to be not only «smart» (innovation-led) but also «inclusive» (as targeted by growth strategies such as the European Commission's 2020 Strategy and the OECD's Innovation Strategy of 2010), it must be growth that produces employment and less inequality. The key goal of this paper is to reconsider and discuss the role of finance in this way, that is, how to restructure it to serve the «real» economy, rather than itself, in order to produce both innovation-led growth and full employment. This requires bringing together the thinking of Keynes, Minsky, and Schumpeter, as well as understanding the role of the public sector as doing much more than fixing static market failures (Stiglitz 1989)."

Given the crucial role of banks and the whole financial system (different from the production of tomatoes or tourism business), liberalisation and related innovations must be regarded relatively to their possible effects on systemic stability. When financial systems are weakly regulated, the capitalist economy loses any common social anchor (the major one being the monetary and financial system's rules that should ensure economic viability), that is required for giving private expectations a relevant global horizon for future engagements. Therefore "word becomes wind", it is quickly swept out by the imbalances and growing systemic fragilities; confidence crises then come into the picture. Obviously, in a liberally regulated financial system, private market actors' strategies that rest on micro-rationality and liberal self-regulation models that rely on transparency, responsibility and disclosure in financial corporate governance, are revealed to be a chimera, since they provoke conflicts of interest and inefficient supervision. It is worth noting that even in the aftermath of the global financial crisis, the new Basel rules (now, called Basel IV, see BIS 2019) do not really propose alternative regulatory rules, the constraints imposed on bank activities still turn the attention to the denominator and the calculation of risk weighted assets and some stress testing tools that mainly concern the soundness of individual institutions, keeping promoting micro-prudential regulation. Very little attention is paid to macroprudential rules, even though they are the main appropriate means of intervening in, if not preventing, systemic crises. However, work on macroprudential rules requires a holistic view of the fragilities of financial markets.

To deal with this endogenous fragility of capitalist finance, Minsky (1992) points to the capital development of the economy as the prime problem that economic theory needs to address. This is a Schumpeterian problem since Schumpeter argued that money was a social institution/social tie

which should rest on some stronger regulatory principles. In other words, the institutional/social embeddedness of the financial sphere does matter for consistent systemic viability (Ülgen 2014). At that level, it is worth noting, following the analysis of the innovation and diffusion process suggested by Silverberg, Dosi and Orsenigo (1988), that in a dynamic framework, the behaviour of banks cannot be considered as fixed characteristics to which the innovation process can be referred, but rather must be regarded as a critical part of such a process. Thus, a relevant and coherent financial regulation must take a very flexible but a consistently directed form. Flexible to let financial actors imagine and innovate, but consistently directed toward systemic stability so as to supervise actors' strategies according to the objective of improving financing conditions of innovations and their diffusion through society within a sustainable development framework.

In the aftermath of the GFC, the major lesson to be drawn is that capitalist finance evolution needs to be accompanied by a coherent financial regulation that should prevent systemically dissonant market strategies and motivate actors to rather engage in stability-consistent long-term activities. Financial innovations do not obviously enable market strategies to provide economies with positive changes as entrepreneurial innovations are supposed to do. Real sector innovations and financial innovations do not have the same features; financial markets' organisation requires specific regulation and supervision according to the objective of systemic stability and sustainable development.

3.2. Some directions for a comprehensive financial regulation and supervision

The post-GFC period has seen an abundance of work on the reasons and dynamics of systemic financial instability, and on the regulatory modalities likely to enhance the viability of financial markets and, by extension, the sustainability of economic development.

Usually, the literature on bank regulation that focuses on improving social welfare opposes two directions, the public interest approach and the private interest approach to regulation (Barth, Caprio, Levine 2006). The former states that there are significant market failures (mainly related to informational asymmetries) that require government intervention to ameliorate the functioning of markets. To spur economic development and to ensure systemic stability, financial markets regulation seeks to protect consumers of financial institutions' failures and to reduce the volatility and weaknesses of financial operations. The private interest approach is basically relying on the limits of public intervention in markets; limits that would be due to regulatory or political capture. Public regulators' decisions are assumed to be imperfect and also polluted by their own personal interests. Therefore, public interventions would not be appropriate enough to ensure stable market functioning and might also provoke disturbances leading to market failures.

In this line, Barth, Caprio and Levine (2006, p. 12) argue that pro-private sector regulation should improve bank operations in line with Basel II's third pillar on market discipline through the disclosure of reliable, comprehensive, and timely information. This way of self-regulation would lead to more efficient banks. The authors maintain that the public interest view of bank regulation and supervision to boost banking performance does not lead to better stabilization of markets (Barth, Caprio, Levine 2006, p. 13). So, in the light of the GFC, the private interest approach[11] does not seem to be relevant

[11] That is, dependent on a twofold assumption: markets are self-adjusting (despite possible informational asymmetries) and individuals aim-based micro-regulation is performant enough to lead to consistent decisions.

to deal with macroeconomic fragilities. Regulatory measures suggested by international organizations remain partial. For instance, the capital and liquidity requirements focus on the individual institutions soundness and do not take into account the global interconnectedness among large institutions. Two issues remain not integrated into the regulatory reforms:[12] a comprehensive macro-regulation/macroprudential framework and a strong and effective international (global) regulatory coordination. Yet both are sine qua non for global systemic financial stability. Indeed, in the wake of the GFC, Basel III developed a set of reform measures in banking prudential regulation to promote short-term resilience of individual banks' liquidity (the liquidity coverage ratio, LCR, with a one month horizon), and to promote resilience in the longer run (the net stable funding ratio, NSFR, with a one year horizon). However, as Acharya (2013, p. 13) remarks, a consistent macroprudential approach is still missing: "Basel III, like its predecessors, is fundamentally flawed as a way of designing macroprudential regulation of the financial sector." With regard to international coordination, Bliss (2007, p. 149) recommends that a single agency conduct safety and soundness supervision of systemically important financial institutions on a consolidated worldwide basis instead of letting multiple independent national or regional regulators decide on possible interventions in a decentralized way. In this vein, Schoenmaker and Oosterloo (2013, p. 265) point to the trilemma of financial supervision focusing on the impossible management of integrated financial markets between global systemic stability and independent national supervision.

The global stability of interconnected financial systems obviously calls for an alternative regulation that should aim at supplying relevant long-term incentives, apt to direct financial markets' strategies toward sustainable development objectives beyond the short-sighted standard financial profitability perspectives. Appropriate market regulation is a sine qua non of a viable economic development.

Financial markets are the headquarters of the economy, and the path that they may take in their evolution is of the utmost systemic importance since it will determine the economy's (in)ability to generate growth and create wealth through market and private interest-led operations in a sustainable way. In such an environment, the role played by public authorities is a central concern as far as systemic stability is concerned.

Schumpeter (1934, 1939, 1947, 1951) advocates for discriminant policies that should move out speculative excesses and reckless finance while rescuing institutions that merit it in order to treat the systemic problems in a macroprudential way. From an institutionalist perspective, this means that a relevant alternative regulation must seek to shape markets' behaviour by assigning to the financial system its positive role in economic development, i.e. its capacity to support sustainable economic development. To do so, financial regulation and supervision should prevent incentives to encourage short-sighted speculative strategies. Ülgen (2014) argues that from this point of view, a very Schumpeterian financial innovation would lie within new regulatory forms.[13]

In a recent paper, Klapkiv and Ülgen (2022) maintain that the Schumpeterian approach, developed in some Minskyian directions (Minsky 1986), can be used as a suitable way of building up relevant

[12] In this article, we do not present the different reforms undertaken by national and regional authorities (such as the US, UK, EU, to quote but a few) but only focus on the major choices put forward by the Bank for International Settlements as the representative framework of the "New Financial Regulation" in the aftermath of the GFC.

[13] Opposed to the liberal wisdom, Schumpeter (1951, p. 185) remarks that the crucial role of public intervention in the banking/financial system is to support economic activities especially in case of crisis, as it was the case of the Reconstruction Finance Corporation Act of 1932, which played a major role in handling the Great Depression in the USA by "keeping capitalism alive in the oxygen tent".

principles to reform the institutional organisation of financial markets to design robust finance, apt to serve economic development. A preventive-precautionary approach that should consider financial stability in a global and macroprudential perspective while reinforced by some microprudential mechanisms can provide a relevant anchor rule that would allow regulators to frame relevant guidelines for a comprehensive reform of financial systems. It would be appropriate to replace the flawed opposition between the public interest and private interest approaches to regulation in a financial decision-dependent market economy by an integrated monetary model that focuses on the organic links between the real and the monetary features of the economy and on its endogenous fragilities. It is then "time to 'tame the finance monster', i.e. to definancialise the capitalist accumulation process. Re-regulation (…) must be founded on alternative principles to cut financial markets' ardour down and push them to adopt less speculative strategies. That means, at least, the prevention of speculative positions through new regulatory rules, for instance by separating the financial intermediation and the traditional – productive system financing – bank activities. 'Finance to finance' and 'finance to produce' must be distinguished" (Ülgen 2014, p. 272–273) and managed in a way that is consistent with the characteristics of capitalism. This assertion is not linked to a contradiction between competing theoretical models, but to the reality of the internal contradictions that govern the operating dynamics of the capitalist economy, contradictions that are exacerbated under the phenomenon of financialization, led by the loosening of systemic safety and regulation mechanisms, essential for the viable functioning of markets.

4. Conclusions

This article develops a specific Schumpeterian approach to the destructive creation dynamics of a capitalist economy and seeks to partly contribute to the project announced by Hanusch and Pyka (2007) who advocate for further development of the Neo-Schumpeterian Economics that devoted considerable attention to the role of the financial and public sector with respect to economic development. For this purpose, we implement an evolutionary/institutional methodology to study the relationship between the innovation dynamics, the prevailing financial and monetary structure of the accumulation process and systemic instability in a financialized economy.

In financialized economies, financial innovations propagate through the entire economy thanks to market-friendly (liberal) regulation and often provoke a destructive creation path, which is an essential fact about financialized capitalism. This opposition between the Schumpeterian real-economy--based entrepreneurial innovation dynamics (CD) and twenty-first-century speculative-rentier-based financialized capitalism dynamics (DC) reflects the endogenous tendency of our economies to generate recurrent catastrophes. Schumpeter was aware of such an opposition and studied the paradox and suggested some solutions while Minsky has developed a more accurate financial instability framework. Both were aware of the perverse effects of financial liberalization on economic evolution and have advocated for alternative public-hand guided systemic regulation. Capitalist finance evolution needs to be shaped by a consistent financial regulation that should prevent systemically dissonant market strategies and motivate actors to rather engage in stability-consistent long-term activities.

Two major results of this analytical study can be put forward. First, liberalized financial markets generate speculative strategies that threaten the economy's viability. Therefore, the smooth functioning

of capitalist finance requires macroprudential regulation and supervision that must be framed at the global level through strong international cooperation. Second, de-financialization and collectively-led and sustainability-seeking developmental policies are prerequisites for a possible durable economic recovery in mature economies and might play a guiding role for emerging and developing market economies.

As Mazzucato (2013, p. 863) states: "For financial markets to be reformed to support rather than hinder innovation, it is essential to consider the type of financial structure that supports the innovation process. (…) regulation of financial markets must go hand in hand with policies that are aimed at innovation and industrial policy. The problem is not one of the big bad banks and dodgy financial innovations (e.g. hedge funds and credit default swaps) versus the (potentially) innovative 'real economy' – restraining the former and liberating the latter. The key problem is how to de-financialize real economy companies, and to find ways to reward value creation activities (in both the financial sector and real economy) over value extraction activities."

This directly points to the critical role of public regulatory and supervisory authorities, including the central bank. It is obvious that a structural modification of financial systems under the supervision of public (extra-market) financial regulation is required to redirect market actors' strategies towards sustainable long-term financing mechanisms of job-creating and societal-development-friendly productive activities. From this perspective, our analysis can also offer a number of critical future developments in terms of more relevant and sustainable financial environment, whose scope extends beyond traditional debates in economic theory and policy. For instance, one of the current issues linked to financial evolution dynamics is the financing of the energy transition and the restructuring of productive systems, which require long-term and stabilized financing commitments, beyond and outside the short-term profitability criteria of markets that usually guide speculative financial operations. The future has to be reinvented through alternative societal frameworks in order to deal with multiple-facet constraints such as environmental-ecological sustainability, improvement of human wellbeing and fighting against persistent worldwide inequality and poverty, etc. However, all this requires again global financial governance aimed at providing sustainable regulation for a humanly viable economy. A plan that Keynes (1980) dreamed of in 1942–1944 for the post-WWII era.

References

Acharya V.V. (2013), The Dodd-Frank Act and Basel III: intentions, unintended consequences, and lessons for emerging markets, in: M. Kawai, E.S. Prasad (eds.), *New Paradigms for Financial Regulation. Emerging Market Perspectives*, Asian Development Bank Institute and Brookings Institution Press.

BIS (2001), *Pillar 3 (Market Discipline)*, Supporting Document to the New Basel Capital Accord, Bank for International Settlements, Basel Committee on Banking Supervision, Consultative Document, https://www.bis.org/publ/bcbsca10.pdf.

BIS (2019), *Consolidated Basel Framework*, Bank for International Settlements, Basel Committee on Banking Supervision, Consultative Document, https://www.bis.org/bcbs/publ/d462.htm.

Barajas A., Chami R., Yousefi S.R. (2013), *The finance and growth nexus re-examined: Do all countries benefit equally?,* IMF Working Paper, WP/13/130, May.

Barth J.R., Caprio G., Levine R. (2006), *Rethinking Bank Regulation. Till Angels Govern*, Cambridge University Press.

Beck T., Demirgüç-Kunt A., Levine R. (2006), Bank concentration, competition, and crises: first results, *Journal of Banking & Finance*, 30(5), 1581–1603.

Bekaert G., Harvey C.R., Lundblad C. (2005), Does financial liberalisation spur growth?, *Journal of Financial Economics*, 77, 3–55.

Blanchard O., Summers L.H. (2019), Introduction: rethinking stabilization policy: evolution or revolution?, in: O. Blanchard, L.H. Summers (eds.), *Evolution or Revolution?: Rethinking Macroeconomic Policy after the Great Recession*, The MIT Press.

Bliss R.B. (2007), Multiple regulators and insolvency regimes, in: D.G. Mayes, G.E. Wood (eds.), *The Structure of Financial Regulation*, Routledge.

Brunnermeier M., Crockett A., Goodhart Ch., Persaud A.D., Shin H. (2009), *The Fundamental Principles of Financial Regulation*, ICMB-CEPR, https://www.princeton.edu/~markus/research/papers/Geneva11.pdf.

Cecchetti S.G., Kharroubi E. (2012), *Reassessing the impact of finance on growth*, BIS Working Papers, 381, July, https://www.bis.org/publ/work381.pdf.

Chinn M.D., Ito H. (2005), *What matters for financial development? Capital controls, institutions, and interactions*, NBER Working Paper, 11370, https://www.nber.org/papers/w11370.

Dorrucci E., Meyer-Cirkel A., Santabárbara D. (2009), *Domestic financial development in emerging economies. Evidence and implications*, European Central Bank Occasional Paper Series, 102, April.

Epstein G., ed. (2005), *Financialisation and the World Economy*, Edward Elgar.

Fagerberg J. (2003), Schumpeter and the revival of evolutionary economics: an appraisal of the literature, *Journal of Evolutionary Economics*, 13(2), 125–159.

Greenspan A. (1997), Fostering financial innovation: the role of government, in: J.A. Dorn (ed.), *The Future of Money in the Information Age,* Cato Institute.

Greenspan A. (2000), *Structural change in the new economy*, Remarks before the National Governors' Association, Federal Reserve Board 92nd Annual Meeting, Pennsylvania, 11 July, https://www.bis.org/review/r000713a.pdf.

Hanusch H., Pyka A. (2007), Principles of neo-Schumpeterian economics, *Cambridge Journal of Economics*, 31(2), 275–289.

Hartmann P., Heider F., Papaioannou E., Lo Duca M. (2007), *The role of financial markets and innovation in productivity and growth in Europe*, ECB Occasional Paper, 72, September.

Hein E., Detzer D. (2014), *Finance-dominated capitalism and income distribution: a Kaleckian perspective on the case of Germany*, FESSUD Working Papers Series, 62.

Hodgson G.M. (1994a), Evolution and optimality, in: G. Hodgson, J. Samuels, M. Tool (eds.) *The Elgar Companion to Institutional and Evolutionary Economics*, Edward Elgar Publishing Limited.

Hodgson G.M. (1994b), Theories of economic evolution, in: G. Hodgson, J. Samuels, M. Tool (eds.), *The Elgar Companion to Institutional and Evolutionary Economics*, Edward Elgar Publishing Limited.

Hudson M. (2010), *The transition from industrial capitalism to a financialized bubble economy*, Levy Economics Institute Working Paper, 627, The Jerome Levy Economics Institute of Bard College.

Janicko M. (2015), Mainstream versus heterodox view on financial innovation, *International Journal of Economic Sciences*, 4(1), 1–24.

Keynes J.M. (1980), *The Collected Writings*, vol. 25, Macmillan-Cambridge University Press.

King R.G., Levine R. (1993), Finance and growth: Schumpeter might be right, *Quarterly Journal of Economics*, 108, 717–737.

Klapkiv L., Ülgen F. (2022), An evolutionary perspective on the endogenous instability of capitalist dynamics, *Central European Economic Journal,* 9(56), 291–308.

Klein M., Olivei G. (1999), *Capital account liberalisation, financial depth and economic growth*, NBER Working Papers, 7384.

Komlos J. (2016), Has creative destruction become more destructive?, *The B.E. Journal of Economic Analysis & Policy*, 16(4), 20160179.

Lai T.L., Liao S.-W., Wong S.P.S., Xu H. (2020), Statistical models and stochastic optimization in financial technology and investment science, *Annals of Mathematical Sciences and Applications*, 5(2), 317–345.

La Porta R., Lopez-de-Silanes F., Shleifer A. (2002), Government ownership of banks, *Journal of Finance*, 57(1), 256–301.

Leathers C.G., Raines J.P. (2004), The Schumpeterian role of financial innovations in the New Economy's business cycle, *Cambridge Journal of Economics*, 28(5), 667–681.

Lerner J., Tufano P. (2011), *The consequences of financial innovation: a counterfactual research agenda*, NBER Working Paper Series, 16780.

Levine R. (2005), Finance and growth: theory and evidence, in: P. Aghion, S.N. Durlauf (eds.) *Handbook of Economic Growth*, Elsevier.

Marszałek P., Szarzec K. (2023), The good, the bad or the ugly: financialization through heterodox and mainstream lenses, *Bank i Kredyt*, 54(3), 239–258.

Mazzucato M. (2013), Financing innovation: creative destruction vs. destructive creation, *Industrial and Corporate Change*, 22(4), 851–867.

Mazzucato M., Wray R.L. (2015), *Financing the capital development of the economy: a Keynes-Schumpeter--Minsky synthesis*, Levy Economics Institute of Bard College Working Paper, 837, May.

McCraw T.K. (2007), *Prophet of Innovation. Joseph Schumpeter and Creative Destruction*, The Belknap Press of Harvard University Press.

Metcalfe J.S. (2008), The broken thread: Marshall, Schumpeter and Hayek on the evolution of capitalism, in: Y. Shionoya, T. Nishizawa (eds.), *Marshall and Schumpeter on Evolution: Economic Sociology of Capitalist Development*, Edward Elgar.

Minsky H.P. (1986), *Stabilizing an Unstable Economy*, McGraw-Hill, reprint 2008.

Minsky H.P. (1992), *The Financial Instability Hypothesis*, Working Paper, 74, The Jerome Levy Economics Institute of Bard College.

Mokyr J. (2014), Riding the technology dragon, *Milken Institute Review*, 2, 87–94.

Palley T.I. (2007), *Financialisation: What it is and why it matters*, The Levy Economics Institute Working Papers, 525.

Papaioannou E. (2007), *Finance and growth*, ECB Working Paper, 787, July, European Central Bank.

Schoenmaker D., Oosterloo S. (2007), Multiple regulators and insolvency regimes, in: D.G. Mayes, G.E. Wood (eds.), *The Structure of Financial Regulation*, Routledge.

Schumpeter J.A. (1934), *The Theory of Economic Development*, Harvard University Press, reprint 1961.

Schumpeter J.A. (1939), *Business Cycles*, vol. 2, McGraw-Hill Book Company.

Schumpeter J.A. (1947), *Capitalism, Socialism and Democracy*, Routledge, reprint 2000.

Schumpeter J.A. (1951), Essays, in: R.V. Clemence (ed.), *With a New Introduction by R. Swedberg*, Transaction Publishers New Brunswick, reprint 1991.

Schumpeter J.A. (1952), *Ten Great Economists. From Marx to Keynes*, Taylor & Francis e-Library, reprint 2003.

Schumpeter J.A. (1954), *History of Economic Analysis*, Taylor & Francis e-Library, reprint 2006.

Schubert C. (2013), How to evaluate creative destruction: reconstructing Schumpeter's approach, *Cambridge Journal of Economics,* 37(2), 227–250.

Schubert C. (2015), What do we mean when we say that innovation and entrepreneurship (policy) increase 'welfare'?, *Journal of Economic Issues,* 49(1), 1–21.

Silverberg G. (1994), Formal models of economic evolution, in: G. Hodgson, J. Samuels, M. Tool (eds.), *The Elgar Companion to Institutional and Evolutionary Economics*, Edward Elgar Publishing.

Silverberg G., Dosi G., Orsenigo L. (1988), Innovation, diversity and diffusion: a self-organisation model, *The Economic Journal,* 98, 1032–1054.

Smith J.M. (1982), *Evolution and the Theory of Game*, Cambridge University Press.

Ülgen F., ed. (2013), *New Contributions to Monetary Analysis: The Foundations of an Alternative Economic Paradigm*, Routledge.

Ülgen F. (2014), Schumpeterian economic development and financial innovations: a conflicting evolution, *Journal of Institutional Economics*, 10(2), 257–277.

Ülgen F. (2017), Financial development, instability and some confused equations, in: F. Ülgen (ed.), *Financial Development, Economic Crises and Emerging Market Economies,* Routledge.

Ülgen F. (2019), Innovation dynamics and financialisation: Is another regulation possible to re--industrialise the economy?, *Journal of Innovation Economics & Management*, 2, 133–158.

Volcker P. (2009), Think more broadly, *The Wall Street Journal*, 14 December, 7.

Ciemna strona dynamiki finansowej: schumpeterowski proces destrukcyjnej twórczości

Streszczenie

Niniejszy artykuł rozwija specyficzne schumpeterowskie podejście do dynamiki destrukcyjnej twórczości w warunkach ufinansowienia gospodarki i częściowo przyczynia się do realizacji projektu Hanuscha i Pyki (2007). Autorzy ci opowiadają się za dalszym rozwojem ekonomii neoschumpeterowskiej, która poświęcała wiele uwagi roli sektora finansowego i publicznego we wspieraniu rozwoju gospodarczego.

Kierunek ewolucji rynków finansowych ma ogromne znaczenie systemowe, przy tym rola władz publicznych w ułatwieniu zdecentralizowanych działań wolnorynkowych i tworzeniu spójnych makroekonomicznych strategii jest kluczowa dla stabilności systemowej. Biorąc pod uwagę brak bezpośredniego związku pomiędzy efektywnością mikroekonomiczną rynków a stabilnością makroekonomiczną/systemową, pozostawienie rynków ich własnym mechanizmom, bez skutecznej regulacji publicznej, może powodować katastrofy systemowe.

W latach 90. wraz z nastaniem „nowej gospodarki" (hi-tech z lat 1990–2000), schumpeterowska teoria twórczej destrukcji (ang. *creative destruction*), przedstawiająca postęp w gospodarce jako źródło dobrobytu społeczeństwa, zostaje przeciwstawiona koncepcji destrukcyjnej twórczości (ang. *destructive creation*). W warunkach ufinansowienia gospodarki znaczenie destrukcyjnej twórczości istotnie wzrosło. Powtarzające się w ostatnich dziesięcioleciach przypadki niestabilności finansowej o dramatycznych konsekwencjach gospodarczych i społecznych podważają linearne i pozytywne interpretacje rozwoju gospodarki kapitalistycznej.

Celem tego artykułu jest pokazanie, w jaki sposób ewolucyjne podejście Schumpetera do dynamiki rynków finansowych może rzucić światło na przejawy niestabilności, która cyklicznie pojawia się w systemach finansowych i osłabia efektywność gospodarki. Badanie ma charakter teoretyczny i opiera się na podejściu narracyjnym. Aby osiągnąć cel badawczy, przedstawiono ufinansowienie gospodarek rynkowych w ciągu ostatnich czterech dekad jako najbardziej istotne zjawisko, które osłabiło odporność rynków i wywołało trudności systemowe w gospodarce światowej.

Zagadnienie to jest omawiane w trzech częściach artykułu. Pierwsza opiera się na schumpeterowskim podejściu ewolucyjnym w celu zbadania dynamiki innowacyjnej przedsiębiorczości, która nieustannie rewolucjonizuje strukturę gospodarki kapitalistycznej. Skuteczność procesu twórczej destrukcji zależy jednak od sprawnego i stabilnego funkcjonowania systemu monetarnego/finansowego najważniejszych gospodarek wolnorynkowych, które kształtują ścieżkę rozwoju. Druga część artykułu pokazuje, że od końca lat 90. rynki finansowe zostały zliberalizowane, a ich regulację i nadzór pozostawiono głównie zasadom samoregulacji uczestników rynku. Restrykcyjne i wiążące zasady publicznej weryfikacji operacji rynkowych, mogące stanowić narzędzie stabilności systemowej, zostały usunięte. Innowacje bankowe i finansowe rozprzestrzeniły się i doprowadziły do tego, co Schumpeter nazwał sto lat wcześniej nieodpowiedzialnymi finansami. Trzecia część artykułu wskazuje, że taka ewolucja jest głównie związana ze zmianami regulacyjnymi. Kiedy przepisy finansowe zostają złagodzone na rzecz samoregulacji rynku, pojawiają się powtarzające się przejawy niestabilności systemowej. Stabilność

systemu finansowego wymaga oczywiście alternatywnej regulacji, która powinna mieć na celu dostarczanie odpowiednich długoterminowych bodźców, zdolnych do ukierunkowania strategii rynków finansowych na cele zrównoważonego rozwoju, wykraczające poza krótkowzroczną rentowność finansową. Odpowiednia regulacja rynku jest warunkiem *sine qua non* stabilności i rentowności działalności gospodarczej. Podejście to wydaje się istotne dla wielu kwestii, z którymi muszą sobie radzić gospodarki XXI w., takich jak proces odbudowy i wzrostu w obliczu rosnącej globalnej niestabilności oraz finansowanie transformacji środowiskowej, która wymaga długoterminowych i ustabilizowanych nakładów finansowych, wykraczających poza krótkoterminową efektywność operacji spekulacyjnych.

Główne ograniczenie badania wiąże się z przyjętymi założeniami teoretycznymi – Schumpeter i pośrednio Minsky zakładają, że interes publiczny jest nadrzędny w stosunku do interesu prywatnego. Obecnie takie podejście wymaga krytycznej dyskusji. Istotne jest więc również rozważenie tej kwestii z perspektywy policentrycznego podejścia w stylu Elinor Ostrom, zgodnie z którym zarówno interes publiczny, jak i interes prywatny mają słabe strony. Z uwagi na powyższe warto rozważać regulacje w kategoriach publiczno-prywatnej organizacji rynków, co zostanie uwzględnione w następnym badaniu.

Słowa kluczowe: destrukcyjna twórczość, ekonomia ewolucyjna, kryzysy finansowe, regulacja, innowacje, twórcza destrukcja