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CREATIVE INDUSTRIES, INNOVATION DEVELOPMENT AND AN ECONOMIC CRISIS

This paper discusses patterns of a complex cyclical interaction between phenomena of an economic crisis and creative and innovation activities. Economic growth stimulates investments in innovation that drive creativity and innovation, consequently resulting in further economic growth. However, if there is too much innovation, then this creates challenges in the sense of questioning the established structures, finally creating a need for developing new structures. Organizations, societies, economies or systems can be more or less successful in doing so. As an illustration, the dynamics of the development of creative industries is presented. Based on the conceptions of "creative destruction", the theory of long economic cycles and its modern modifications, and theory of economic growth based on technological progress, the authors propose and argue a hypothesis-based model of dialectic interrelationship of innovation and economic crisis as a multidimensional (creativity, innovation, economy, time) coiling spiral with a decreasing period over time: creative and innovative activities are provoked and stimulated by a crisis, but, in turn, they are also linked with recurrences of crises. Therefore, a challenge for managers and innovation policy makers lies in defining and supporting a corresponding level of creativity and innovation, that is creativity and innovation optimization.

Key words: Creativity, Innovation, Creative Destruction, Creativity Economy, Innovation Economy, Creative Industries, Economic Crisis

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«Креативті индустриялар», инновациялық даму және экономикалық дағдарыс

Мақалада экономикалық дағдарыстың циклдық өзара байланыстығы және микро, макро деңгейлердегі креативті-инновациялық белсенділіктің деңгейі талқыланады. Экономикалық өсу инновацияларға деген инвестицияларды ынталандырады және креативті-инновациялық белсенділік деңгейін арттыруға мүмкіндік беретін гипотеза бекітіледі, бұл өз кезегінде ары қарай экономикалық өсуді ынталандырады. Алайда, бұл процесс дағдарысқа әкелуі мүмкін ұйымдастырушылық-экономикалық жүйелердегі өзгерістермен байланысты. Суреттеме ретінде «креативті индустриялардың» даму сипаты мен динамикасы көрсетіледі. «Креативті деструкция», ұзақ экономикалық циклдардың теориясы және оның қазіргі заманғы модификациялары, сондай-ақ технологиялық прогреске негізделген экономикалық өсу теориясы негізінде авторлар инновациялық және экономикалық дағдарыс арасындағы диалектикалық қарым-қатынастың көп өлшемді (шығармашылық, инновациялық, үнемді, уақыттық) спираль сияқты тұжырымдамалық үлгісін ұсынады, мұнда креативті-инновациялық қызмет дағдарыспен ынталандырылады, бірақ, өз кезегінде, дағдарыстардың қайталануын тездетеді. Тиісінше, экономикалық-басқарушылық зерттеулердің перспективалық міндеттерінің бірі – креативті-инновациялық қызметті оңтайландырудың теориясы мен практикасын дамыту, атап айтқанда, әлеуметтік-экономикалық

жүйелердің орнықты және дағдарыссыз дамуын теңдестіру үшін тиісті жағдайларда тиісті деңгейде креативті-инновациялық белсенділіктің деңгейін анықтау және қолдау.

Түйін сөздер: креативті-инновациялық белсенділік, креативті жою, креативті экономика, инновациялық экономика, креативті индустриялар, экономикалық дағдарыс.

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«Креативные индустрии», инновационное развитие и экономический кризис

В статье обсуждается комплексная циклическая взаимосвязанность экономических кризисов и уровня креативно-инновационной активности на микро- и макроуровнях. Аргументируется гипотеза о том, что экономический рост стимулирует инвестиции в инновации и способствует повышению уровня креативно-инновационной активности, что, в свою очередь, стимулирует дальнейший экономический рост. Однако этот процесс связан с изменениями организационно-экономических систем, которые могут приводить к кризисным явлениям. В качестве иллюстрации приводится характеристика и динамика развития т.н. «креативных индустрий». На основе концепций «креативной деструкции», теории длинных экономических циклов и ее современных модификаций, а также теории экономического роста на основе технологического прогресса авторы предлагают концептуальную модель диалектической взаимосвязи инноваций и экономического кризиса как многомерной (творчество, инновации, экономика, время) сворачивающейся спирали с уменьшающимся периодом, в которой креативно-инновационная деятельность провоцируется и стимулируется кризисом, но, в свою очередь, она ускоряет повторение кризисов. Соответственно, одной из перспективных задач экономико-управленческих исследований является развитие теории и практики оптимизации креативно-инновационной деятельности, в частности определения и поддержания уровня креативно-инновационной активности на требуемом уровне в соответствующие моменты времени для сбалансированного устойчивого и бескризисного развития социально-экономических систем.

Ключевые слова: креативно-инновационная активность, креативное разрушение, креативная экономика, инновационная экономика, креативные индустрии, экономический кризис.

Introduction

In this paper, we discuss patterns of a complex dialectic and cyclical interaction between phenomena of an economic crisis and creative and innovation activities. Generally, we proceed from the following assumption (Dubina et al., 2012). Economic growth stimulates investments in innovation that drive creativity and innovation, consequently resulting in further economic growth. However, if there is too much innovation, then this creates challenges in the sense of questioning the established structures, finally creating a need for developing new structures. Organizations, societies, economies or systems can be more or less successful in doing so.

Actually, we often hear about positive crisis potentials for the development of creativity and innovation economies. Such an idea can be formulated, for instance, like this: *"*Recession is the mother of invention" (Florida, 2009). Indeed, one can assume that a crisis recovers and stimulates creativity and suppresses routine thinking. During a crisis period, when old approaches do not work, creative decisions are being accepted faster, new ideas are not stuck in routine processes and people are ready to take more risks. A crisis pressures systems to change. Joseph Schumpeter (1950) argued already long ago that crises were seedbeds for innovation and entrepreneurship. Innovations developed during periods of crisis generate bursts of a "creative destruction" that launch new technologies, remake existing industries, and give birth to entirely new ones – setting in motion new rounds of economic growth.

So, in this paper, we make an attempt to answer whether creativity and innovation are always incited by a crisis, or these phenomena are involved in more complex interrelations.

Data and Methods

We start our analysis by revealing some tendencies of the crisis impact on the "creative industries". Based on the UNCTAD classification

of "creative industries", it can be shown that during 10 pre-crisis years those industries represented one of the most dynamic sectors in the world trade, and developed to a high-growth value-added sector of the world economy (UNSTAD, 2008). Over that period, the "creative industries" demonstrated an annual average growth of 8.8% (that almost exceeded two-fold average growth of the world GDP), while the growth in exports of many creative services was even higher (e.g., 22% in advertising and 19% in architectural and design services). The proportion of the world GDP generated by the "creative sectors" exceeded the GDP proportion generated by manufacturing food, beverages and tobacco taken together. In the OECD countries annual growth of the "creative industries" during this period was two times higher than in services and four times higher than in production. This positive trend occurred for all groups of creative products and in all regions of the world (UNSTAD, 2008).

The economic crisis and recession of 2008 impacted on all spheres of economic activity in the most of the national economies, resulting in unemployment growth, enterprises bankruptcy, production volume decrease, etc. Undoubtedly, the "creative industries" were also hit by the crisis. Optimistic forecasts before the last recession assumed a growth in employment by 46% and of incomes by 136% in the creative economy industries until 2015 (Holden, 2007). There are no such high-growth trends for the moment, as we see. A minimum employment reduction of 3.5-5% is being expected in all spheres of the creative economy until the recession has been settled. At the end of 2008, the greatest workplace reductions in the creative industries were in advertising and electronic publishing business.

The "creative industries", like other economic sectors, depend on demand. People need "creative goods" no less than food, power resources, etc., but as against other spheres of the economy, creative economy products are created "from nothing", their basic resource is creativity, creative energy, "grey substance". On the other hand, many "creative industries" (industrial design, advertising, etc.) "serve" for other economic sectors. If, for example, car industry declines, then the car manufacturers also reduce their demand for "creative services". Research demonstrates that those creative industries focusing on business (advertising, design, software, architecture, etc.) suffered more severly during the crisis than the creative industries focusing on the consumers (publishing, films, video and computer games, etc.). For example, advertising companies' profits decreased by 10% in 2001; export of goods and services in the design sector halved by 2003; software companies' workplaces decreased by 7% in 2002. In the last quarter of 2008, marketing research companies' revenues decreased; architectural companies suffered from the real-estate market delay; more and more companies referred to free-of-charge and open source software that influenced the incomes of companies that developed commercial software (Wright et al., 2009).

Consumer-oriented "creative industries" were also impacted by the crisis, but to a lesser extent. Main problems for them were in the reduction of purchasing capacity and sponsorship support. Two-fifth of UK companies interviewed thought that the economic downturn will negatively impact their arts sponsorship activities (Wright et al., 2009). In Australia, the majority (73%) of businesses with more than $500,000 invested in artistic relationships and more than half (55%) of businesses with less than $50,000 invested, but expected to decrease expenditure over the next 12 months (CIE, 2009). The Recession and Arts Survey (2009) demonstrates that of the 100 noncommercial art and culture organizations from New York City, 78% indicate that they have reduced their budgets (by 30-50%) or plan doing so; 50% plan to lay off employees; 69% will defer new hires and 45% plan to cancel or postpone programs within the next year.

Some experts believe that the negative impact of the crisis on the creative industries appeared to be less severe than for other spheres of the economy, since "creative products and services" (newspapers, radio, TV, computer and software, Internet, videogames, etc.) are being constantly consumed everywhere, and that this consumption will hardly decrease essentially (Wright et al., 2009). However, no expert asserted a generally positive influence of the crisis on the "creative industries".

Results and Discussion

In this section, move from a particular case of the "creative industries" to a general view of innovation development. The economists G. Mensch and C. Freeman examined the historical timing of innovations and argued that the pace of innovations actually is relatively constant: innovations bunch up during crises, only to be unleashed as economic conditions are restored (Florida, 2009). Based on such findings, we proposed the following hypotheses-based model (although metaphorical) of creative energy accumulation during crisis (Dubina et al., 2012). Investments in innovation

are commonly reduced during periods of a crisis and recession, and innovation activities generally go down, but new ideas and inventions still are accumulated, and they burst forth when economic conditions are improving again (Fig. 1).

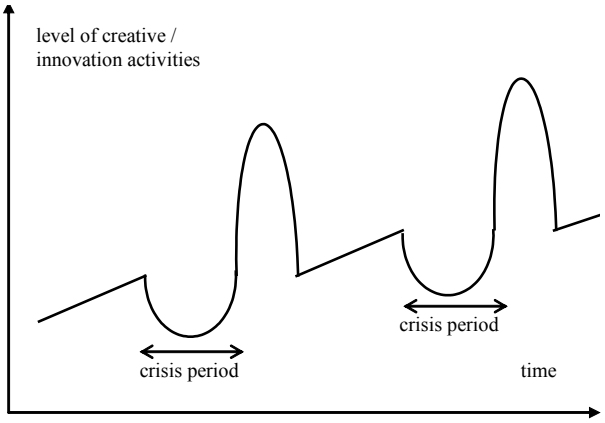

Figure 1 – An "innovation burst" after a crisis
Source: Dubina et al., 2012

Florida (2009) focused his research on patent activity that demonstrates clear spikes during the Long Depression of the 1870-1880s (when, e.g., a steam turbine, transformer, incandescent light, and radio were invented) and the Great Depression of the 1930s (magnetic record, the helicopter, a ball pen, etc.). These findings indirectly confirm the idea about creative energy accumulation in a crisis period, where inventions are patented during a crisis and transformed into innovations when the economy again recovers.

However, obviously, the quantity of patents is not the most reliable parameter for creative and innovation activities. It is known, for example, that many ideas and inventions leading to key innovations were not patented, and many of the patented inventions (up to 80%) are actually invention-imitations, sometimes even simply ridiculous or useless suggestions (Altshuller, 1984). Moreover, the innovation flow increasing over time and the innovation diffusion may overlap, thus complicating the identification of such spikes, also complicating the dating of "the waves" in economic or innovation activities, further complicating correlation attempts (Perez, 2002).

Nevertheless, the studies on patent activity do not easily support the assertion of a cause-and-effect relationship between inventiveness and periods of crisis. Even when we want to assume that inventive and innovation activities can be represented by patent quantity, we may indicate patterns of correlation between periods of crisis and innovations, but this does not automatically prove cause-and-effect relationships. Moreover, although paradoxically, we also could assume quite the opposite, that means that a too rapid growth of creative and innovative activity may provoke a crisis. The high growth rates of the creative industries during the pre-crisis period could indirectly support such an assumption.

Business Week's chief economist M. Mandel argued that the economic crisis of 2008 was partly the result of America's failure to generate high-impact commercial innovations (Florida, 2009). Following this hypothesis, we can assume that a crisis may not be a cause, but a consequence of innovation activity reductions or inabilities to support innovations on a sufficiently high level. So, one particular reason of a crisis may be an organizational or social inability to effectively adopt and manage new ideas and innovations, when organizations and whole economies are "stuck in innovations". We could call this a "creative innovation overproduction". If there is "too" much innovation, then this may create challenges in the sense of questioning the established structures, creating in parallel a demand for developing new structures that have the capability of effectively handling and applying a "surplus" of innovation and creativity. Organizations, societies, economies or systems can be more or less successful in doing so. This situation may relate to the "destructive creation" mode of Schumpeterian firm evolution dynamics (3; 15). If this is the case, then we have, in metaphorical terms, an "overproduction" of "creative innovation" or "creative knowledge-based innovation". On the other hand, there is also a problem in the case of an "overproduction of non-creative innovation" toward the end of a technological regime or business cycle.

A crisis may also be related to an inefficient investment distribution or diversification, carried out on the basis of previous growth tendencies and some form of "innovation euphoria". First of all, the rapid growth of innovation activity in high-tech, biotechnologies and other new and "creative" industries before the last crisis inclined many economists to predict a further rapid rise of these sectors, that, in turn, provoked investments into these industries that resulted in an overestimation of the shares of corresponding businesses and capital transitions from "real economy" to the "creative economy". Secondly, the forecasts of American economic growth, also due to the rise of innovation and innovative technologies, lead some Americans to consumption increases on credit, since they

assumed a continued growth of their future incomes. Thirdly, businesses in creative-innovative industries also actively applied for more credits to develop "potential" technologies, hoping for their "magic" growth which was not always justified. Definitely, the last crises of the 1990s and 2000s were more financial and less "innovational". However, too euphoric expectations about innovations may also, at least partially, contribute to an economic crisis. More obviously, the IT-crisis of 2000 was also preceded by an euphoria caused by prompt growth rates of new information technologies. From February until July 1999, Internet related businesses shares grew by 475 % (Negreponti-Delivanis, 2002), but the recession drama started shortly afterward, and perhaps this was one of the most recent and most prominent examples of a crisis of the "creativity", "knowledge" and "innovation" economy. This was not a crisis of creativity, but rather a crisis of

a) Some "creative industries", like as another example the video game crash of 1983 and/or

b) Some established innovation-creativity trajectories that are not new anymore and/or

c) The saturation effects of technology life cycles as they always occur in the "creative destruction" mode (2; 14).

Studies on creativity, innovation and competition demonstrate their dialectic interrelation (Ford, 1999): a successfully realized innovation strengthens the position of a company in the market. Competitors are compelled to answer with a "creative counterattack" that increases the competitive pressures in this market sector as a whole. Firms can react with new "creativity emissions", and the cycle repeats or continues. External factors (e.g., information technologies or world-wide globalization) accelerate and complicate these processes. Innovations are necessary for survival and development under hyper-competitive conditions, so competition stimulates innovations, but innovations again amplify the competitive pressures.

Based on such considerations, additionally referring to conceptions of "creative destruction" (Schumpeter, 1950), the theory of long economic cycles (Kondratieff, 1984) and its modern modifications (Šmihula, 2009), and theory of economic growth based on technological progress (Solow, 2008), we proposed the following hypotheses-based model of a dialectic interrelationship of innovation and economic crisis (Dubina et al., 2012): creative and innovative activities are provoked and stimulated by a crisis, but, in turn, they are also linked with recurrences of crisis, generating a coiling spiral that (likely) decreases over time (Figure 2). Economic growth stimulates innovation investments and drives creativity and innovation. Consequently, the rise of creative and innovative activities often results in further economic growth. However, at a certain level the "normal" functioning of an economic system (economic cycle) perhaps peaks, and the economy may slow down again. These "circles", or cycles, are not necessarily periodic and the intervals between "circles" may shorten over time (Šmihula, 2009), but more research is necessary to clarify and validate this hypothetical "three"-dimensional model (economic development, innovation activity, time).

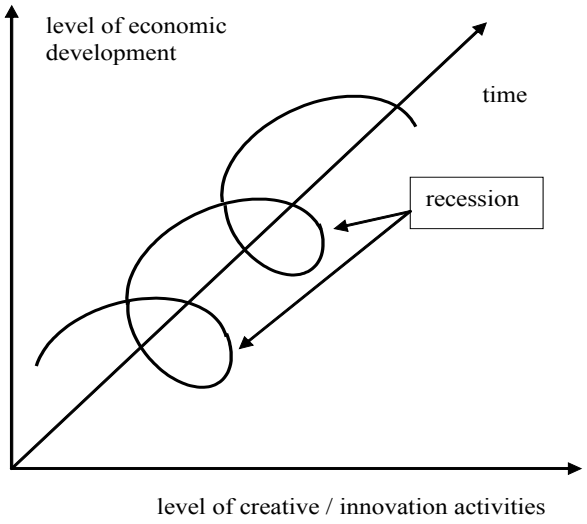

Figure 2 – Dialectical dynamics of innovation and a crisis
Source: Dubina et al., 2012

Conclusion

The results of our analysis add plausibility to the need for additional research about the optimal level (or optimal range) of creative and innovation activities at the level of organizations (micro), industries (meso), and regional or national economies (macro). Therefore, a challenge for managers and innovation policy makers lies in defining and supporting a corresponding level of creativity and innovation, that is creativity and innovation optimization (Baniak and Dubina, 2012; Dubina, 2006; Dubina, 2007).

A number of practical ways for creativity and innovation optimization can be suggested, and one of them is the "reasonable containment", which might appear strange in the context of a "creativity and innovation euphoria," of the level of

creativity and innovation in some spheres and their stimulation in other spheres, i.e. diversification of investments into a wider spectrum of "creativity and innovation spheres", not just for those technologies or technology fields that are given a high (top) "priority" today.

At present, the optimization of creative and innovation activities represents more a theoretical than a practical problem. An attempt of solving such a problem (a challenge) is closely related to the development of indexes and models of analysis about the creativity, knowledge and innovation economy. Such an optimization methodology may offer new ways in preventing or mitigating crises or crisis patterns in the new economy. The concepts and models of the Quadruple and Quintuple Helix innovation systems (Carayannis and Campbell, 2014) and of "democracy as an innovation enabler" (Campbell, 2019) provide further approaches, ways and possibilities, how creativity and innovation can contribute to economic growth and economic development.

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