

Innovation and Crisis in Transition Countries

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Extended Abstract

Schumpeter argued that an economic turmoil provides the chance through creative destruction for firms to become more efficient and innovative and to gain competitive advantages when faced with tough economic circumstances. The purpose of this paper is to answer the question how the crisis 2008/2009 affected the innovation behaviour of manufacturing companies in transition countries that means whether this crisis slowed down or stimulated innovation activity in manufacturing companies.

Entrepreneurial innovations play not only an important role in the successful development of a company, they are also important for the development of a country and its overall economic growth (Cassiolato et al., 2014). Schumpeter defines innovation thereby as a combination of factors in a new way (Schumpeter, 1912 and 1939). There are two innovation scenarios according to Schumpeter, which have been labelled Schumpeterian models Mark I and Mark II. In Mark I growth takes place through competition between new entrepreneurs that try to overreach one another. This disruptive process of developing new solutions is called creative destruction (Schumpeter, 1912). Key players are new entrants and small companies that challenge incumbent firms (Archibugi, et al., 2013a, Breschi, et al., 2000, Francois and Lloyd-Elli, 2003). On the contrary within the Mark II framework, Schumpeter observes that technological progress could be achieved due to large and established companies with specialized research departments

(Schumpeter, 1942). These incumbent companies perform innovation as routine activities because they build on their previous knowledge in specific technological areas. This innovation process is called creative accumulation (Archibugi, et al., 2013a, b).

When looking at innovation from a business cycle perspective, there are different opinions on whether innovations occur cyclically or rather anticyclically. (Barlevy, 2007, Arvanitis and Woerter, 2013). One strand of the literature argues that the high demand during an economic boom provides favourable conditions to develop new products and processes. The other strand's main argument for an anticyclical behaviour is that the opportunity cost, the forgone of achieving productivity growth, is lower in a recession (Barlevy, 2007, Arvanitis and Woerter, 2013). Finally, it is an ongoing discourse whether economic growth drives innovation or innovation drives economic growth (Perez 2009). The most recent empirical literature based on studies of European and Latin American countries indicates that there is no pure cyclical or anticyclical innovation behavior (Archibugi, et al., 2013a, Paunov, 2012, Filippetti and Archibugi, 2011, Arvanitis and Woerter, 2013).

In this context, this paper seeks to investigate empirically whether and into which direction the economic crisis of the year 2008/2009 affected the innovation behavior of companies in transition economies. While there exist several studies for European economies on the cyclicity of innovation during the crisis (see above), not much is known for transition economies yet.

The analysis makes use of the Business Environment and Enterprise Performance Survey (BEEPS) which is implemented by the EBRD (European Bank for Reconstruction and Development) in partnership with the World Bank. BEEPS is a firm-level survey based on face-to-face interviews with managers which provides the advantage that firms self-report various types of their innovation activity. We include two survey waves that were conducted in 2009 and 2012 in 29 transition countries and contain answers of almost 12,000 enterprises in 2009 and 15,600 in 2012. Both surveys have a similar sampling frame and contain identical questions. Each sample include very small firms with a minimum of 20 employees as well as large firms with up to 10,000 employees. Furthermore, the data include firms from different regions (rural areas as well as large cities). Thus, the BEEPS data allow us to analyze the innovation behavior of a group of heterogeneous firms in transition countries. Moreover, the questionnaire includes questions of firms' innovation activities in the last three years (2005 to 2007 in the 2009 survey and 2009 to 2011 in the 2012 survey respectively) which enables us to compare innovation behavior with before and after the crisis.

The empirical analysis makes use of the binary dependent variable “product innovation” and introduces firm size, sales, age, research & development, competition pressure, debt and state aid as explanatory variables.

$$\text{Innovation} = b_0 + b_1 * \text{firm size} + b_2 * \text{sales growth} + b_3 * \text{age} + b_4 * \text{sector} + b_5 * \text{R\&D activity} + b_6 * \text{competition pressure} + b_7 * \text{debt} + b_8 * \text{state aid}$$

First preliminary results of the logit estimation show that before the crisis manufacturing firms had a lower propensity to innovate compared to firms in other sectors. However, after the crisis it changes and manufacturing firms have a higher propensity to innovate. Firms with a stable financial situation due to governmental subsidies or a loan have higher tendency to do product innovation than those without subsidies and loans.

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