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SPIS TREŚCI

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RETROECONOMICS – A THEORY OF THE TECHNOLOGICAL BACKWARDNESS OF ECONOMY

The process of globalization is more or less associated with both the positive and the negative aspects of the economy. One of the most significant threats to modern economic development is posed by the globalization of a necroeconomy.

A necroeconomy, or a "dead economy," in its essence, is the supply of goods manufactured using outdated technology for which (goods) there is no demand due to their low quality (or absence thereof) and/or high production costs but where demand is artificially generated by the government. This ugly economic phenomenon was identified for the purposes of the post-Communist economy [Papava, 2002] since the elimination of competition under the conditions of a command economy wiped out the economic interest to upgrade the technological base in many sectors of the economy [Lipowski, 1998: 13-17].

It should be emphasized that the technological backwardness of production itself does not constitute a sufficient condition for the emergence of a necroeconomy (it is just a necessary condition); along with technological backwardness, the government should deliberately strive to operate "dead enterprises" by means of generating an artificial demand for their products.

Due to the fact that the restriction of competition is a precondition for the creation of a necroeconomy, it can be concluded that the phenomenon of the necroeconomy is present wherever enterprises with technologically obsolete equipment operate solely at the expense of government support. One example of this can be found in the India of the 1980s [OESD, 2007: 69-85]. Thus, it appears that a necroeconomy is not only a symptomatic problem for post-Communist countries (as initially indicated in the publications referenced above), but it can be encountered in other countries where enterprises with outdated technology and no real demand for their products operate with government support and, in select cases, entirely at government expense.

The type of economy that fosters the functioning of firms (i.e., retro-firms) that are relatively technologically backward in comparison to contemporary global achievements but where, nevertheless, the demand for their products still exists is referred to as a ***retroeconomy*** *("retro" being Latin for "back"). We suggest calling the theory of the technological backwardness of an economy* ***retroeconomics.***

What are the similarities and differences between a necroeconomy and a retroeconomy? One similarity is that both types of economies make use of outdated technology; the difference is that under necroeconomic conditions, enterprises use equipment so out-of-date that the demand for products they manufacture is virtually nonexistent and, therefore, these enterprises operate solely with government support while in a retroeconomy, the demand for such products does exist and enterprises enjoy only moderate support from the government. In other words, both types of economies require government intervention but while the former exists exclusively at the expense of the government, the latter requires a government-sanctioned protection of the domestic market from international competition (see below for more details).

What constitutes the building blocks of a retroeconomy? Even though these factors vary in nature, they ultimately result in a single outcome – the establishment of a retroeconomy. In particular, these factors include the following:

I. *Protection of intellectual property,* which restricts the free dissemination and accessibility of new technological know-how, thus increasing the threat of unauthorized duplication and re-engineering of these technologies. Under these circumstances, the authorized use of new technology becomes expensive, especially for firms that operate in poor countries with a relatively low level of economic development. As a result, priority is given to relatively outdated technologies in these particular countries;

II. *Monopolization of the economy,* wherein monopolies purchase patents on new technologies not for the purpose of applying them in a more or less efficient manner but to prevent third parties from employing them even if the monopolies in question put the patents to use at a later time. By then, it is quite possible that even newer technologies will have been developed, rendering the purchased but idle technology useless (due to moral depreciation). This factor is particularly significant in modern conditions when monopolies have entered a new era [Stiglitz, 2016];

III. *The behavior of the leading international competitors* which, as a rule, do not sell the highest-quality latest-generation technology [Porter, 1990: 548]. On the contrary, in order to maintain a competitive advantage, they sell already used, second-hand technology, effectively carrying out second-hand investments [Papava, 2002: 800]. Due to such policies, economically backward countries accumulate not innovative but imitation (or quasi-innovative) technologies [Polterovich, and Tonis, 2010; Segerstrom, 1991] while international competition leaders sidestep morally deteriorating, resource-demanding, labor-intensive and/or environmentally hazardous enterprises, largely promoting the use of the newest technology in the vacated economic space. It is noteworthy that the depiction of the innovative process as two different parts – innovation as such (or creation of new) and imitation (simulating and employing that which has already been created) is attributed to the renowned Austrian-born American economist, Joseph Schumpeter, who, thus, greatly contributed to the subsequent understanding of innovative processes;

IV. *Low level of education* and an absence of an appropriately educated workforce make it virtually impossible to utilize information even via open channels (not to mention channels of commercial knowledge transfer). This problem is evident in insufficient levels of not only higher and vocational but also secondary education;

V. *Zombie economy*, signifying a consolidation of firms (and associated banks) rendered insolvent as a result of a financial crisis which continue to operate via bank loans taken on the basis of government guarantees [Ahearne, and Shinada, 2005; Hoshi, 2006; LeLaulu, 2009]. Naturally, zombie-firms have no interest in technological upgrades to manufacturing and/or replacing management since, owing to government support, they manage to maintain operation without these efforts as evidenced, for example, by the Japanese experience

[Ahearne, and Shinada, 2005]. It is clear that a zombie economy contributes directly to the establishment of a retroeconomy. At the same time, we should bear in mind that against the background of the global financial crisis of 2007-2009, the globalization of zombie economies [Harman, 2010; Onaran, 2012; Quiggin, 2010], in turn, led to the threat of the zombification of a necroeconomy (where it previously existed) [Papava, 2010], the most conspicuous example being Russia's economy [Lindsey, 2002: 210-212; Papava, 2015].

It is noteworthy that of the five factors listed above, the first four contribute to the formation of a retroeconomy in poor and economically less-developed countries while the fifth factor impacts not only the latter but also those economically developed states.

Although the retroeconomy established in economically backward countries at the expense of an imitation policy ensures economic growth, imitator countries are under the threat of a long-term maintenance of relatively low levels of productivity as compared to developed countries [Howitt, 2000]. The principal reason for the differentiation of productivity by country lies in the variance between the type of knowledge applied in each country and the way it is applied [Parente, and Prescott, 2000].

Due to the fact that the routine established at retro-firms contributes to a virtually indefinite prolongation of protectionist measures in foreign trade, it is very likely that these firms will gradually transform into zombie-firms (operating via loans taken at the expense of government guarantees) and if circumstances remain unchanged, eventually become necro-firms, the examples of which are emerging in the modern Chinese economy [Lipton, 2016].

The most compelling threat of the preservation of a retroeconomy and the prolongation of technological entrapment is posed by the zombification of the economy since zombie-firms have no interest in technologically upgrading manufacturing (as well as management) as they manage to operate at government expense. In turn, a zombie economy may transform into a necroeconomy if the process of zombification is so protracted that bank loans taken on the basis of government guarantees prove not to be sufficient. In particular, if the technological base in these firms is not upgraded for an extended period of time, then it becomes so outdated that demand for products manufactured by these firms no longer exists and their preservation solely hinges on the artificial demand generated by the government.

It is an unfortunate fact that the preservation of non-viable firms receives active support from various politically and socially influential groups while groups representing the interests of yet unestablished industries or firms do not exist, precisely due to the fact that they (industries, firms) have not yet been established [Anderson, 2004: 199]. In other words, if non-viable firms have lobbying groups, new industries or firms that have not yet been instituted cannot have similar lobbyists. Under these circumstances, we believe, the only actor potentially able to lobby for new industries or firms to be created is the government.

The phenomenon of a retroeconomy is already quite deep-rooted throughout the world and it is essential to consolidate the attention of economists and politicians on this threat in order to preclude the zombification of a retroeconomy, not to mention its transformation into a necroeconomy.

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Retroeconomics – A Theory of the Technological Backwardness of Economy

Summary

The theory of technological backwardness and its detrimental effect upon a country's economy is something I call retroeconomics. To explain further, the type of economy that fosters the functioning of firms (i.e., retro-firms) that are relatively technologically backward in comparison to contemporary global achievements but where, nevertheless, the demand for their products still exists is a retroeconomy. The establishment of a retroeconomy is based on different factors: a) protection of intellectual property; b) monopolization of the economy; c) the low level of education; d) zombie economy. The role of the government is very important for overcoming the effects of a retroeconomy. The main actor potentially able to lobby for new industries or firms to be created is the government. It is essential to consolidate the attention of economists and politicians on the threat of retroeconomic phenomenon in order to stop the process of the zombification of a retroeconomy.