The Mechanics of Economic Growth: A Polycentric Entrepreneurship Approach

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Abstract:
We develop a conceptual theory to explain the mechanics of economic growth by way of polycentric disruptive entrepreneurship. Drawing from the entrepreneurship theorizing of Schumpeter and Mises, we observe that progress/growth in (and of) the market process is spasmodic, sometimes chaotic, and occurs through endogenous shocks with varying direction, impact, scope, and frequency. The repercussions of such shocks have effects throughout the economy and its structure, as is already recognized in the literature. In this paper, we the next step and ask and attempt to answer questions that arise from recognizing that such market disruptions not singular events, that they are cumulative, and can cause change in different, if not opposite, market "directions" that therefore cause frictions and uncertainties in the economy. Our contribution lies in the intersection of polycentric theory, market process theory, and entrepreneurship theory, and provides new insights into how we can understand the drivers and causes of economic growth.

Introduction

The role of the entrepreneur in economic change has been recognized early on in economic theory (Cantillon, 2010; Cochran, 1965; Leibenstein, 1968). More recently, scholars revisited this connection and added the suggestion that entrepreneurship could more easily flourish in positive institutional environments (Acs, Estrin, Mickiewicz, & Szerb, 2018; Audretsch, Belitski, Caiazza, & Desai, 2022; Urbano, Aparicio, & Audretsch, 2019). Entrepreneurship is the pursuit of new economic value by the entrepreneur trying to serve a consumer need (Packard, 2017). Overall, the entrepreneur is seen as an engine of economic development (Mises, 1998) and as the one who introduces innovation to the market by the "perennial gale of creative destruction", constantly mutating industries, therefore the whole functioning of the economy is better understood as a process of continuous change (Schumpeter, 1983). In this context, the

interactions that occur among the different entrepreneurs, as well as the consequences of those actions and interactions to the overall market process have also started to be analyzed (Bruton, Sutter, & Lenz, 2021; Packard & Bylund, 2018).

Concurrently, research on polycentrism and polycentric governance emerged to try to better explain how individuals collaborate or compete in environments in which there is no clear central command, focusing on explaining how order would emerge whenever command was spread among many different centers (Aldrich, 2018; Batjargal et al., 2013; Carboni & Orazi, 2021; E. Ostrom, 2010). In short polycentrism can be defined as the existence of "many centers of decision making that are formally independent of each other (V. Ostrom, Tiebout, & Warren, 1961, pp. 831–832). In it, "Multiple independent actors" must determine a "general system of rules" to "mutually order their relationship with one-another" (V. Ostrom, 1972). This system of rules allows for cooperation and competition to occur and for order to emerge even without central command. In entrepreneurship, the discussion on polycentricity focuses on specific polycentric arrangements and, in particular, looks at how overlapping institutions influence the behavior of individuals.

A parallel and more recent discussion on the overlap between entrepreneurship and polycentricity looks at firms as the different centers of the arrangements themselves – instead of looking at the different institutions as the centers – and tries to analyze how do these firms build their environment (e.g. Frank & Shockley, 2016; Gatignon & Capron, 2020). This builds on the initial suggestion of Polanyi (1951) that the market itself is a polycentric arrangement. We take Polanyi's idea as our starting point and develop it to connect the polycentric nature of the market with the market centers themselves, the entrepreneurs. In our model, each individual entrepreneur - and their firm (Bylund, 2016a) - is one center of the polycentric market process. These individuals face uncertainty when organizing and putting forward value propositions that spread the access to value to consumers or pursue tentative innovations that bring previously unreachable value to the set of consumer options. Entrepreneurs thereby continuously expand the possibilities of value that consumers have and continuously expand the boundaries of the market itself by offering different value-propositions to consumers. Effectively, our model positions the microfoundations of economic development into the figure of the (successful) entrepreneurs and explains the market process as a the polycentric facing of uncertainty in the pursuit of profit coming from serving consumers with this value.

By positioning the entrepreneur, and specifically the promoter-entrepreneur (Bylund, 2020) and the innovations that he tries to insert in the market, as the fundamental feature of economic development, we contribute to the better understanding of the role of entrepreneurs in the economy in three main ways: 1. we provide the microfondation of economic development in the individual action of the innovative entrepreneur; 2. we explain the continuous expansion of the market to different, sometimes counterintuitive, and surprising "directions"; and 3. we position the entrepreneur as the conduit between the consumers and the value they are looking for and the improvement in their well-being denoted in economic development. Our contributions also illuminate the possible issues coming from government intervention that tries to push for entrepreneurship.

This paper is organized as follows: in the next section we talk about the different approaches that explain entrepreneurship and the role of the entrepreneur in the economy and what they lack. Next, we talk about the market process and how it progresses by expanding the value-frontiers and spreading the innovations to provide value to consumers. We then introduce our polycentric entrepreneurship economic growth model. Discussions, conclusions, and next steps close.

1. Entrepreneurs in the economy

That the entrepreneur is the engine of the economic growth is now a common understanding (Bradley, McMullen, Artz, & Simiyu, 2012; McMullen, 2011; Minniti & Lévesque, 2008). However, this has not always been the case. In the mid 1900's, scholars suggested that either large organizations (e.g. Dosi, Nelson, & Winter, 2001; Freeman & Soete, 1997) or governments (e.g. Mazzucato, 2013; Samuelson & Nordhaus, 1985) should take the leading role in guiding this process.

The theoretical discussions on how the entrepreneur actually generates development can be summarized in two broad fields: the innovation and the imitation approaches (BoStaph, 2013; D'Andrea & Mazzoni, 2019).

The later case is associated mainly with Kirzner's (Kirzner, 1973, 1997) contributions and his idea of the entrepreneur as the individual agent alert to profit opportunities in the marketplace. Those opportunities would emerge because previous entrepreneurs would commit mistakes. Those errors would generate arbitrage possibilities that allow for the new entrepreneurs to come in and adjust the market in a

process of equilibration through the continuous advancement in knowledge and the consequence removal of ignorance (c.f. Hayek, 1945).

On the other side of the story is the understanding of the entrepreneur as the innovator, the one who disrupts and disequilibrates the market bringing about the "perennial gale of creative destruction" (Schumpeter, 1983). In this view, the market progresses in a spasmodic process in which static states - akin to Walras' partial equilibrium – are interrupted by large leaps forward that modify the arrangement of the market causing new firms and industries to emerge while others shrink or even disappear.

Those two approaches have similar foundations. Both Kirzner and Schumpeter are connected to the Austrian School (Dekker, 2016). Another member of the school, Mises (Mises, 1998) suggested that the entrepreneur is the engine of the market process, the one responsible for organizing production processes and pushing the market forward. Mises, however, took a somewhat different approach when compared to both Schumpeter and Kirzner, he recognized that there would be imitators and innovators among the population of entrepreneurs, but suggested that a specific kind of innovative entrepreneur was the most important one, the *promoter-entrepreneur* would be the one playing this role. This individual would bring about great adjustments to the production structure, without necessarily bringing equilibrium or disequilibrium. As explained by Bylund (Bylund, 2020), the promoter is the individual that expands the productive structure of the economy by adding further specialization to a specific part of the production chain. This specialization is carried out within a firm that becomes the locus of the (tentative) improvement. Whenever the tentative is successful, the entrepreneur profits; else, he faces losses and may even be forced to leave the market. Importantly, the tentative, regardless of its success, modifies the current structure of production of the economy because they bid for the existing resources with the entrepreneurs that are currently in the market.

In Mises' sense, both the imitators and the promoters are important, but the market cannot do without the promoter. The promoter is essential because he is the one solving the new problems, proposing new value and continuously improving the structure of production, making the older production processes obsolete with his greater use of specialization.

2. The Market Process: a Consumer Centric Value-Creation Machine

As mentioned earlier, entrepreneurship is the pursuit of new economic value (Packard, 2017), and importantly, value is something that entrepreneurs can only propose. Value happens in the realm of the consumer. The consumer is the core of the market process, it is to try to provide value to consumers that entrepreneurs act. It is because they expect consumers to value what they are producing that entrepreneurs organize production processes and offer products and services on the market (Mises, 1998). Entrepreneurial action in an unhampered market happens to try to fulfil a future need of a group of consumers willing to buy the product or service.

The market process is a value generation machine in which consumers (imperfectly) indicate what they value, and entrepreneurs face the uncertainty to organize production processes to try to fulfil the needs that they believe consumers will have in the future. As entrepreneurs struggle to provide value propositions to consumers, they learn and educate not only themselves, but also the others in the market, consumers, and more importantly, current and future competitors. The process of continuous adjustment and improvement resembles the suggestions made by Kizner (and Hayek). As time passes, entrepreneurs learn more and more about the consumers and become more capable of serving them with goods and services that consumers themselves are willing to pay for. For example, the continuous improvement in chariots and horse breading to facilitate urban transportation that occurred in larger cities from the middle-ages until the late 1800's. As time passed, entrepreneurs in the industries involved with providing this solution became more capable of understanding what consumers wanted and products and services were improved, reducing the previous 'errors' in the market.

However, this approach to value proposition disregards the fact that there are always unmet values, that the consumer valuation will change as time passes, that human beings are never fully satisfied with their current state. Therefore, the simple improvement and solution of errors is insufficient, something else is needed to explain the workings of the market.

A complementary view is the one more in line with Schumpeter`s suggestion. In this view, entrepreneurs try to innovate, they try to bring about *new value* in their offers. This new value is greater than the value that was possible before. When those entrepreneurial actions find a large enough demand, entrepreneurs become successful and profit; at the same time, consumers gain because now they have access to greater value. Older and less value-generating industries suffer because consumers will shift

from the from the less valuable solutions to the new, more valuable ones. Exemplarily, the introduction of the automobile did exactly that. Transportation was still the core of the value proposition, but the automobile offered things that the horse-chariot duo was unable to. Consequently, the older industries suffered, while the newer (and the ones associated with it) thrived. Similar anecdotes can be found in every industry and at all times. The move from word-of-mouth to newspapers to radio, TV and now streaming; the shift from paper and pen to emailing and internet chatting; the move from (almost subsistence) farming done by a small number of family members to the industrial scale operated by high-tech machinery; and the move from subsistence production for your own consumption to being able to buy everything online, stocking at your own fridge and consuming as you please are other obvious examples.

The fact in these complementary approaches is that consumers are guiding the market through their continuous struggle for more and more value. Entrepreneurs engage in their interactions with consumers willing to propose either a better 'version' of a previously known value (a faster horse or a more reliable pen) or by proposing something that brings about new value (a car in substitution for the horse or the email in substitution for the handwritten letter) (see Bylund & Packard, 2021). Together, these two types of entrepreneurial action form the market process, but the activities of the promoter-entrepreneur are the ones that

3. Entrepreneurs as the Centers of Economic Growth

Polycentrism is understood as the existence of multiple independent decision centers (V. Ostrom et al., 1961; Polanyi, 1951). This conceptual framework is a "robust analytical structure for the study of complex social phenomena" (Aligica & Tarko, 2012, p. 237). It has been initially suggested by Michael Polanyi (Polanyi, 1951) and found different scholarly developments.

Within the overlap between polycentrism and entrepreneurship, the most well-developed are deals with institutional analysis and governance and the polycentric nature of some common resources and how this affects entrepreneurial action. This literature gained even more recognition after Elinor Ostrom's Nobel Prize in 2009. More recently, scholars started to explore how firms exploit institutional voids and create governance structures serving themselves and others in their ecosystem, thus becoming builders of the institutional environment in which they act (Gatignon & Capron, 2020; Ge, Carney, & Kellermanns, 2019).

However, Polanyi's suggestions go beyond the possibilities in the institutional realm. He spoke of polycentricity as a feature of arrangements in which many different decision-makers would be allowed to act. He claimed, for example, that a polycentric arrangement was responsible for the scientific advances of the early 20th century and that centralization of these efforts under a single guidance would not be as fruitful. On similar lines, he also claimed that other social phenomena such as religion, art and the law could be studied using the polycentric framework. Most important for our discussion, Polanyi said that a similar argument could be made for how the market works. In other words, a decentralized, polycentric, market, formed by a multitude of decision makers trying different solutions to what they identify as problems would be better than a centralized system in which everyone would be subject to the errors and mistakes of the same small group decision-makers (Aligica & Tarko, 2012).

As Polanyi (1951) also suggested, the auto coordination in such a polycentric market leads to results that are not necessarily premeditated by the actors that compose the system. Furthermore, the cooperation can only occur properly if the different centers of decision-making are allowed to direct their own resources. Tentative of centrally commanding the direction of the market would distort, and possibly even paralyze the possibilities of cooperation. However, despite the clear connections between the concepts of polycentricity and the market, modern entrepreneurship literature that deals with polycentricity and entrepreneurship focuses on the governance and institutional side of the phenomenon (Batjargal et al., 2013; Li et al., 2021; E. Ostrom, 2010; Webb, Bruton, Tihanyi, & Ireland, 2013), while the fact that entrepreneurs themselves could be seen as the multiple development centers of the market has been relatively understudied.

Therefore, the polycentric nature of entrepreneurship is directed towards the proposition of greater and more diverse value to the consumers. Similarly, to what scientists do in Polanyi's example, entrepreneurs decide independently, but under a somewhat similar playing field, about the various pathways that their businesses are to take and this generates advancements that have overarching consequences for the economy as a whole.

3.1 The polycentric nature of (large) organizations, parallels with the market

The increase in size of corporations pushed for a change in the governance structure in which they are organized. With smaller organizational structures and less specialization, organizations could be commanded from a unitary standpoint (a u-form

organization). The business owner would control everything that was happening and all decision making and action would rely on his judgment and direction. This form of organization is still very common (probably the most common), but, because it tends to be poorly specialized, it usually is not very productive, it is not the one capable of producing a large quantity of output. To solve this problem, many organizations became much larger and specialization became a feature of these corporations in which the role basic organizational structure is different.

Multidivisional (M-form) organizations tend to be much bigger, achieving economies of scales and scope through specialization. The drawback of this, however, is that one individual is not capable of overseeing everything and they need more people in charge to be able to judge and decide on the problems that arise. In this arrangement, because many individuals are pushing the organization in different directions (even if they are somehow coordinated towards a common goal), this distributed decision power is effectively polycentric, similarly to Polanyi's description.

To achieve greater specialization and productivity, these businesses tend to organize in units or divisions, each of which taking care of very specific parts of the business. These units have their responsible (usually C-level individuals) that serve as centers of decision-making and push their part of the organization to whenever they think is most aligned with the grand strategy. In a sense, the M-form organization is a microcosm of the market process – as we will see shortly. In these organizations, the strategic decisions of the top managers serve as the guiding principle that points the development direction of all the units, while in the market as a whole, the (dynamic) consumer valuation is the guide of the development. At the same time, because these divisions belong effectively to a single unit, a misguided decision by one of the units will hurt the organization as a whole and will hardly have positive effects within the organization itself.

This centralization of the problems (and the benefits) that the M-form organizations face is probably the biggest difference between them and the market. One major benefit of the market when compared to the M-form organization is the existence of *competition* and the fact that the profits are shared by the entrepreneurial firms in the market and the consumers. On the other hand, contrary to the M-form, the problems faced by market firms are usually exclusive of themselves and tend to have little, if any effect in the market as a whole, because the consumer usually has a rival provider to choose from in case he needs to. Furthermore, the fact that within the organizations

everyone is working towards the same central goal makes the organization less capable of exploring new possibilities and generating new value propositions, the incentives in M-form organizations are usually to exploit, not to explore.

On the market, on the other hand, because there is constant improvement of the competitors and because consumers are constantly changing their tastes, there are (financial) incentives to constantly explore and look for new and greater value to the consumer. This makes the market somewhat of an advanced application of the M-form organization in which, in addition to the polycentric decision structure, there is an incentive structure that pushed the entrepreneurs to constantly push the value-frontier in the pursuit of offering better value propositions. At the same time, the market distributes the benefits of success between entrepreneurs and consumers and pushes away entrepreneurs that are incapable of offering enough value, freeing up the resources that they were using and making them available to other entrepreneurs.

Finally, the coordination in the market is given by the consumer value directions. While in the M-form, the coordination works under the direction of the ones in charge, the top managers, in this case, there is no direct connection between what the top managers suggest that the organization should be delivering and the consumer valuation.

3.2 How does the market process progress?

As we mentioned, entrepreneurship in the market is, by definition, a polycentric arrangement, but we still have not shown how do entrepreneurs make the market process progress and, therefore, how economic development occurs. The complementary explanations given by Kirzner (1973) and Schumpeter (1983; with Bylund, 2016) are the starting point to explain economic development using this approach. As explained before, the equilibrating actions taken by imitative (Kirznerian) entrepreneurs take the consumer valuations for granted. They assume that whatever consumers value today will also be valuable in the future and the production is therefore adjusted accordingly. Modifications are made in search for better productive performance and minor improvements in the values that are already present. To exemplify, entrepreneurs can develop ways to avoid wasting cheese in the pizza restaurants, could strive to get more efficient ovens, or could rearrange the production process to reduce the need for laborers. None of these initiatives would change the type of value being offered to the final consumer. Profits would still be higher to the

entrepreneur because he is eliminating errors, but no actual advancement in the value frontier of the market would be taking place.

In Figure 1a you have the market with 9 entrepreneurs, some close and some more distant from the value frontier, the more the entrepreneur is distant from the boundaries of the market, the more vulnerable s/he is to a disruption – e.g. the more close to the center of the circumference that represents the market, the more vulnerable the entrepreneur is. As time passes, four of our original entrepreneurs (the green ones) improve their processes, and get closer to the value frontier, but they do not propose anything new. They are making more money because they became more productive (their costs have been reduced), not because they are proposing greater value and being paid more for their product. In Figure 1c new entrepreneurs enter the market (the orange ones), they again are only improving on pre-existent value propositions and getting closer to the value frontier, but not expanding it. Their actions will impact the market, because they will compete for resources and consumers with the previously existing entrepreneurs.

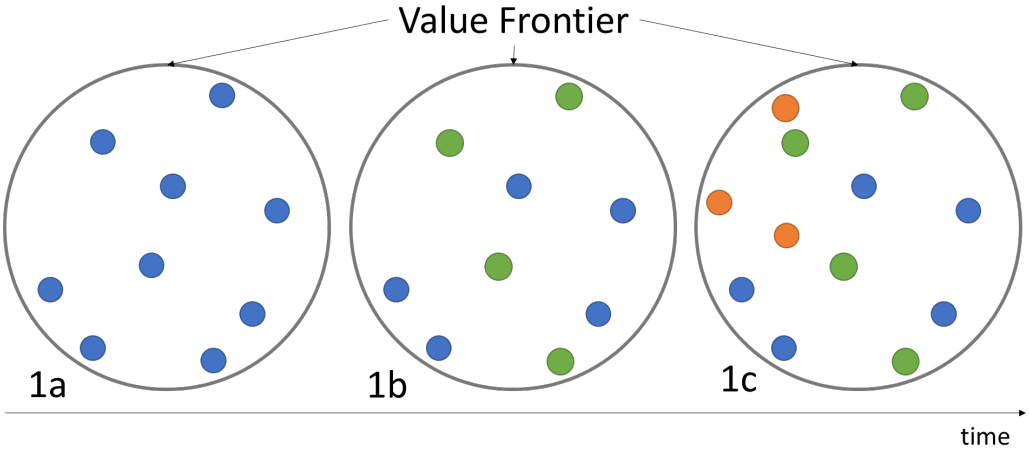

Figure 1: the market with entrepreneurs and the Value frontier within which they act

The complementary part to this continuous error correction is the most important one to explain economic development. They are represented by the attempted disruptions that try to expand the value frontier beyond its current borders, and they are the responsibility of the *entrepreneur-promoter*. For promoters to propose new value, they will have to bid away resources from existing uses. Even if they are not ultimately commercially successful, their actions will affect the allocation of productive factors. These entrepreneurs are not looking for greater efficiency in well-known production processes, they have observed the market and believe to be capable of producing something that will offer hitherto unavailable value to the consumers. Exemplary of this

type of action is the introduction of smartphones in the market in the end of the first decade of the 2000's. To be able to build these new devices (and to offer this new value to the market), entrepreneurs needed to secure resources on the previously existent market. In this effort they compete with the them current users of the resources, bidding the prices of the resources upward (and increasing the cost for other entrepreneurs), and eventually making some of the other users of resources economically unsustainable. The action of these promoters, these innovators – the Schumpeterian entrepreneurs - expands the boundaries of the value frontier in previously unexpected directions while also affecting the possibilities available for the imitators.

In addition, these disruptions are not singular events and no promoter is alone capable of determining the direction of the market process, nor its rate or type of expansion. The consequences of the promoter's market actions are emergent, not designed (c.f. Hayek, 1967). As the imitations, disruptions happen continuously and oftentimes at the same time in multiple industries and geographies at towards very different "directions". In some places and times, they are more frequent - for example, in specific cities in Britain during the first 30 years of the industrial revolution, or in Silicon Valley between 1990's and 2020s -, but the point of the matter is that there are always promoter-entrepreneurs trying to push the boundaries of the value frontier. When they are successful, they gain profit not by becoming more productive, but by fulfilling a greater value in the consumer value-scale. Consumers choose to buy smartphones and abandon simple mobiles and landlines not because smartphones were cheaper, but because they were perceived as more valuable than the alternatives. Automobiles substitute the horse-carriages duos for the same reason.

The most important consequence of the actions of successful promoters is that the value frontier is expanded. But at the same time, promoters cannot control the spill-over effects of their actions, negative or positive. On the negative side, because there will be current resources being bid up, other entrepreneurs will have a harder time in their efforts to secure resources for their own ventures, this will lead to entrepreneurs being unable to continue on the business and some businesses will indeed be destroyed. At the same time, consumers will have a greater range of value possibilities from where to choose. In other words, the market expansion threatens existing entrepreneurs because it increases the dispute for the existing resources (making them more costly) while, at the same time, giving consumers more choice.

Still on the positive side, in addition to the greater possibilities variability of choices and, therefore, of value, the entrepreneurial environment will have a greater market to work on. The action of the promoter expands the imitative possibilities and the possibilities of disruption at the same time. When promoters are successful, they expand the market to their own (actual and possible) competitors and this is hard (if ever possible) to exclude these competitors from benefiting from this (see also D'Andrea & Luce, 2021). The promoter, in other words, does not collect in profit all the benefit he generates to society with his actions.

Graphically, in Figure 2a we see promoters pushing the value frontier and being either successful (the yellow arrows) or failing (the red arrows). These movements made by the promoters bid away resources from entrepreneurs that were previously present in the economy and allow for greater possibilities of value to the consumers in the market. Because of these two factors, the previously existent entrepreneurs will need to modify the way they do business or else, they will be expunged from the market. This disappearance of entrepreneurs that fail to move closer to the value frontier can be seen in the three entrepreneurs in the center in Figure 2b (the ones marked with an "X"). At least some of the entrepreneurs that fail to adapt to move closer to the value frontier will stop being profitable and will have to leave the market.

But the most important consequence of the action of the promoters is the *expansion of the value frontier* that can be seen in Figure 2b. With an expanded value frontier, consumers are being better served, because now they have access to offers that rank higher in their value scale. At the same time, this has overarching economic consequences because the fact that the frontier has expanded opens the possibility for other promoters to act and to push the value frontier even more, in a continuous process of development that aims at offering greater and greater value to the consumer. Also very importantly, the action of the successful promoters and the expansion in the value frontier that they provoke educates the existing entrepreneurs and consumers and therefore open possibilities for imitative entrepreneurs to exploit a previously inexistent part of the market – represented by the blue squares in the Figure 2b (c.f. Packard & Bylund, 2018).

Therefore, the actions of successful promoters *increase* the possibilities of action for both other promoters and imitators. They services provide more value to the consumers, re-allocate productive resources towards where they are used to generate better value propositions, and educate the market about what consumers consider more

valuable and what should be disregarded. In this sense, by facing uncertainty themselves, promoters help to reduce uncertainty for the ones that come after them, since they provide evidence that consumers were willing to pay for their products and services. Other entrepreneurs 'build upon' promoters' developments, whether they like would like this to happen or not.

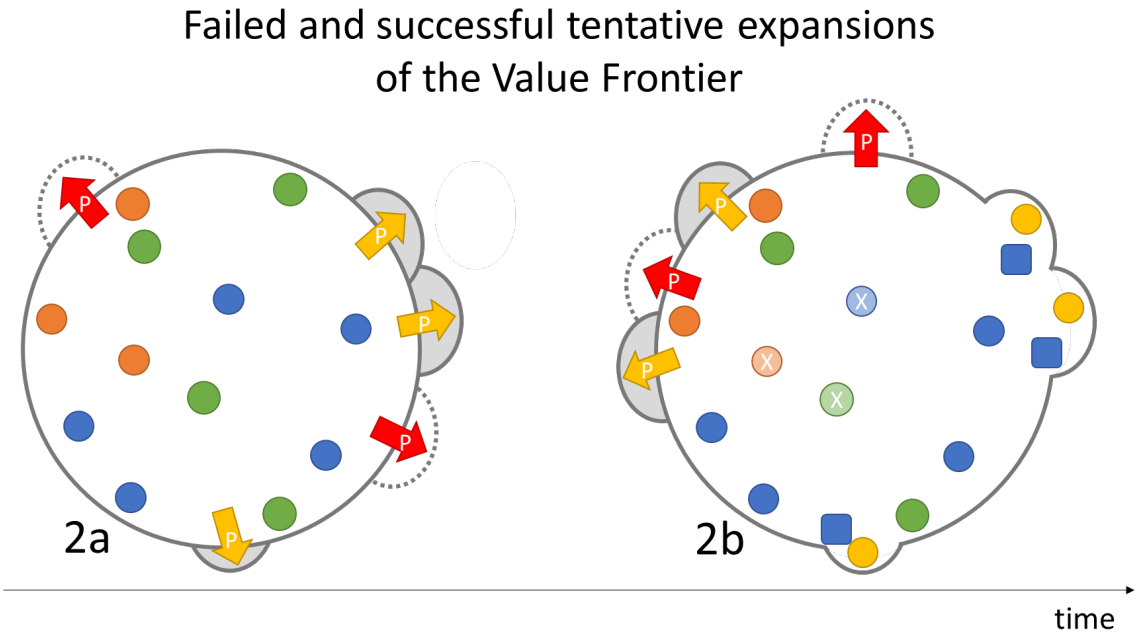

Figure 2: the market with entrepreneurs and promoters

The expansion of the value frontier towards greater perceived value by the consumers is the representation of economic development. Development, in other words, is a combination of 1. the continuous expansion of the value frontier that expands the value frontier and re-allocates economic resources towards their most valuable use in accordance with what consumers find more valuable and 2. the increase in imitative entrepreneurship that is made possible by the expansion of the value frontier and the education of imitators entrepreneurs towards what consumers find more valuable.

Discussions and Conclusions: The Polycentric Economic Growth

The interplay between promoter-entrepreneurs and imitative ones in the pursuit of offering more value to consumers constructs the market process. Through their spasmodic, frequently interrupted, modifications in the market process, promoters cause the advancement of the value frontier in a discontinuous and unpredictable manner (c.f. Elias, Chiles, Li, & D'Andrea, 2020). At the same time, promoters bid away resources from existing entrepreneurs and make their value proposition less attractive, which

forces existing entrepreneurs to adapt or be forced away from the market. This more detailed explanation resembles Schumpeter's creative-destruction process. Successful promoters create new production processes by using resources to offer more valuable goods to the market. At the same time, the businesses of entrepreneurs that do not adapt to the changing tastes of the consumers are destroyed to make room for the new and more valuable developments.

In addition, the direction that the market developments will take is unpredictable. Promoters will try to push in different directions - as the P-arrows show in Figure 2 -, but it is not possible to know which of the value propositions will be successful or fail (respectively the yellow and the red arrows in Figure 2) *à priori*. The action of the promoter, innovations, can only be judged *ex-post facto*. Complementary, entrepreneurs that imitate the developments brought by promoters help in the spreading of the value generating initiatives towards more (and less wealthy) consumers, thereby increasing the value that consumers have access to and further contributing to the economic development (c.f. BoStaph, 2013; D'Andrea & Mazzoni, 2019). In other words, the market process progresses through *polycentric value-seeking disruptive entrepreneurship under uncertainty.* Different promoters push the value boundaries to different directions at the same time, some become successful, others fail. Their actions bid away resources from other entrepreneurs and this leads to the disappearance of some businesses that are unable to keep up with the dynamism of the market and the greater values the consumers expect to get from their exchanges.

The overlap between polycentricity and entrepreneurship was advanced by Michael Polanyi himself, but scholars have not focused on using these specific connections to better understand and clarify the market process and economic development. We presented the overlap and the relations between the two and used entrepreneurship and polycentricity theory to explain how the market progresses towards the creation of greater value to consumers, and consequently, towards greater economic and social development.

The *polycentric innovation machine* that we call the economy is guided from the bottom-up by entrepreneurs. This machine both enlarges the boundaries of the value frontier by pushing for greater value possibilities, and expands the access of previously valuable solutions to underserved markets through imitation. Economic growth is, consequently, the increase in the value-productive capacity of an economy and not necessarily an increase in its output. Entrepreneurs serve as creators and orchestrators of

the capital structure and the more they are capable of offering valuable solutions for the consumers, the more the economy will develop.

The most important part in the interaction is the role of the consumer as the arbiter of value and of the output produced by entrepreneurial firms. The entrepreneur proposes the value, but the consumers are the ones actually experiencing it. This value experience is what bring well-being and prosperity and therefore, economic and social development (Bylund & Packard, 2021). A consequence of this conclusion is that aggregate measures such as the GDP can be inaccurate to measure development because they focus on output produced and not how the consumers actually benefited from it.

As Elinor Ostrom (E. Ostrom, 1990, p. 15) suggested, the competitive market itself is a public good and given the nature of the market process and how it progresses, policy makers should be very careful in their push for specific directions, in markets or in technologies. Policies that try to direct the market will push entrepreneurs to act not in the pursuit of proposing what they believe to be more valuable to the consumers, they will instead choose to act in pursuit of what the policy commands. The distortions caused by public policy tend to be overarching and long lasting and may include the creation of malinvestments, and the maladjustment of the production structure in relation to what consumers really value.

In addition, regulations limit the possibilities of action and imagination of the entrepreneur, thereby, limiting their capacity to exercise judgment and instead guiding them to a direction that is not in the best interests of the consumers. Furthermore, policy, especially when it benefits a specific industry or geographical area, may also attract below average entrepreneurs to try their chances. This, again, distorts the polycentric market organization and makes it less capable of generating benefits to the consumers (c.f. Bylund, 2016b).

Looking at the market process as a polycentric value-creation machine helps us to understand the role of the entrepreneur in the economy and, in particular, the fundamental role of the promoter in allowing for economic and social development. Empirical studies should demonstrate the influence of promoters and imitators in the occurrence of development and should clarify the specific consequences of promoters actions to the overall market, these remain to be executed.

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