

The evolution of the institutional frameworks of economies: ideological wishes vs. politico-economic sustainability

For presentation at the EAEPE Meeting in Paris, November 2013

Pavel Pelikan
Department of Institutional Economics
Prague University of Economics

Abstract: Darwinian evolution has endowed humans, like the other social species, with the need and the abilities to form societies, but, unlike most of these species, not with sufficiently complete genomic instructions on *what form* of societies. Instead, humans are genomically endowed with creativity, flexibility and learning abilities that allow them to invent, form, and at least temporarily adapt to a broad variety of forms, which makes them apparently free to choose, by a combination of fantasy, chance and imperfect reasoning, the actual form themselves. But this freedom often proved short-lived. In the long run, many of these forms failed, having lost in competition with other forms and/or internally decayed.

Limiting attention to the forms of economies, the central question of this paper is: Which of the forms that people may ideologically prefer and are free to choose in the short run can also be evolutionarily sustainable in the long run? To provide the search for the answer with a well-defined terminology, the form of an economy is represented by its institutional framework, meaning the collection of all of its formal and informal institutional rules. The elements of the answer that are found include the inevitable evolutionary failure of all forms of socialism and many forms of capitalism. Possibly sustainable appear only those forms of capitalism that can keep economic inequalities within politically acceptable limits and prevent both the government and the financial sector from over-expanding. While ideological wishes may be useful as conjectures generating trials in socioeconomic evolution, they become harmful if they can hinder analysis from producing reasons for their refutation. An important property of analysis of evolutionary sustainability is to be difficult to hinder.

Introduction

Darwinian evolution has endowed humans, like the other social species, with the need and the abilities to form societies, but, unlike most of these species, not with sufficiently complete instructions on *what form* of societies. Ants, for example, have the form of their anthill genomically encoded through the rules of social behavior that each of them is programmed to follow, so that they neither need, nor can, put this form in question. Humans, in contrast, have many more degrees of freedom: they are genomically endowed with great creativity, flexibility and learning abilities that allow them to invent, form, and at least temporarily adapt to, many different forms. This makes them apparently free to choose, by a combination of fantasy, chance and imperfect reasoning, the form of their society themselves. But this freedom turns out to be much smaller than it may have initially appeared. In the long run, many of these forms have failed, having lost in competition with other forms and/or internally decayed. The question is: which of the many forms that people may ideologically prefer and are free to choose in the short run can also be evolutionarily sustainable in the long run?

Limiting attention to the forms of economies, this paper organizes the search for the answer as follows. To provide the search with a clear and precise language, Section 1 proposes a conceptual model of economic change built around the concepts of institutional rules and frameworks, which neatly distinguishes economic evolution from economic development, and clarifies why economic evolution is best understood as the evolution of institutional frameworks. Section 2 maps the space for possible answers by classifying the frameworks into subtypes of socialism and capitalism. Section 3 brings to light two tests of evolutionary selection – for economic efficiency and political acceptability – that institutional frameworks, to be evolutionarily sustainable, must keep passing. Section 4 shows that all variants of socialism and many variants of capitalism are bound to fail in at least one of these tests, and thus narrows the search to a subtype of capitalism. Section 5 considers the influences of ideological wishes on economic evolution, some of which it finds helpful and some harmful, and concludes by indicating how to use the knowledge of evolutionary sustainability as a defense against the harmful ones.

1 – A conceptual evo-devo model of economic change

The model is based on the recently proposed evolutionary developmental economics (Pelikan 2011, 2012), which explains its “evo-devo” label. It starts with the usual micro-view of an economy: a collection of individuals using their rationality to pursue their objectives

(preferences) under a number of constraints. It then departs from the most usual variants of this view by admitting three facts of life: (i) the objectives need not be narrowly selfish, but may also contain pro-social components – e.g., concerning neighbors, the entire economy, and the environments; (ii) the rationality (in the sense of cognitive abilities) is bounded, and moreover unequally so: more for some individuals than for others; (iii) the constraints, in addition to the usually considered resource ones, also include the economy’s institutional rules – both formal, such as laws codified by known legislators and/or judges, and informal, such as social norms introduced by often anonymous social innovators during cultural evolution, with more or less strong influences of religions.¹

In addition to considering institutional rules individually, the model defines the concept of “institutional framework” to mean the set of all of those, both formal and informal, that belong to a given economy. This concept is central: it neatly splits economic change into two important to distinguish, but often confused, dimensions: (a) economic evolution, which forms and reforms institutional frameworks; and (b) economic development, which is guided and constrained by the actually evolved ones. Expressing the form of a human economy in terms of its institutional framework is an important step to clarity on economic evolution.²

For rather obvious reasons, both economic evolution and economic development face an imperfectly known future – in other words, must work with imperfect information – which forces them to use some trial-and-error searches. Such searches may also be described more explicitly and precisely in terms of “variety, selection, retention,” as proposed by Campbell (1965).³ For many readers, however, the expression “trial-and-error” appears to give more immediately the main idea of what these processes are doing, which makes it often convenient to use, at least in a first approach.

Although the two kinds of trial-and-error searches may look similar, to distinguish them is essential. The developmental searches are producing and changing the network of

¹ The term “institutional rules” thus means here what North (1990) calls more briefly “institutions” – that is, the “rules-of-the-game” that shape human actions and interactions. Why I now avoid the term “institutions” is that it proved to be irremediably ambiguous: twenty years later there are still many economists who refuse to limit its meaning to rules, but also use in many other meanings, most notably in financial economics, where it often denotes large banks – which according to North should be called “organizations.”

² The economists who like and understand biology may find it enlightening to compare the institutional frameworks of economies to the genomes of organism. The genomes are results of biological evolution – the phylogeny – and guide and constrain the development of their organism – the ontogeny. Emphatically, however, this interdisciplinary comparison is not an essential part of the present argument; all the other in biology less educated economists should disregard it.

³ Note the importance, for socioeconomic applications, not to replace Campbell’s general term “retention” by the more biology-specific “heredity” or “replication.” As economies rarely replicate, the successes of the evolutionary searches must be retained in other ways. As argued more extensively in Pelikan (2011, 2012), evolutionary theories that build on these two terms, such as the one by Hodgson and Knudsen (2010), cannot have many interesting economic applications.

markets, firms and government agencies that constitute the working “body” of the economy. They thus include entry and exit of firms, opening and closing of markets, and growth or reduction of government.⁴

The evolutionary searches are producing and changing institutional rules. They consist of two branches: (a) the socio-cultural evolution driven by trials generated by anonymous social innovators, producing and changing informal institutional rules, and (b) the politico-legal evolution driven by trials generated by politically selected legislators, which produces and more or less radically reforms formal institutional rules.

The main connection between the two searches may be outlined as follows. The institutional rules found by the evolutionary search shape the developmental search. The result of this search is a certain network of markets, firms and government agencies which make the economy perform. If this performance is satisfactory, the institutional rules may stay put, if not, they are rejected and the evolutionary search must continue.

Note that this rough description suffices to dispel a frequent misconception about market selection. While this has often been mistakenly compared to natural selection, the present description makes it clear that, far from natural, this selection is significantly shaped and constrained by the prevailing institutional rules – such as property rights in general and the laws regulating entry and exit in particular. What may be compared to natural selection is only the one of these rules, in which they are judged also for their impact on market selection.

To some extent, the evo-devo model of economic change coincides with the North (1990) model of institutional change, but with a few important differences. In addition to using the less ambiguous term “institutional rules” instead of “institutions,” the evo-devo model substantially extends the view of the effects of these rules. While the North model concentrates on the effects on incentives in general and transaction costs in particular, the evo-devo model also, and above all, considers the effects on the processes of economic development. While the former effects are included in the latter, these are much richer.

All this should make it easy to see why evolutionary analysis needs to represent the form of an economy by its institutional framework – and not, as much of comparative economics has been doing, by its supposedly constant resource-allocation mechanism. The crucial weakness of this structurally static representation, which has made many results of

⁴ They thus also correspond to what Schumpeter beautifully denoted as “creative destruction,” which may be seen as the main topic of the so-called neo-Schumpeterian economics. But a confusion may arise: what Schumpeter called “economic development” (Schumpeter 1912/34), his modern followers, starting with Nelson and Winter (1982), call “evolution.” To avoid confusion, it is important to realize that the evo-devo model returns to Schumpeter’s original terminology.

comparative economics worthless or even misleading, is that the forms compared – often socialist planning vs. capitalist markets – could only be judged according to how they coordinate given, assumedly efficient firms, while entirely missing the much more fundamental problem of where such firms may be coming from, and why they should be efficient rather than wasteful. That this miss was fundamental indeed was perhaps most strikingly illustrated during the unification of East-German and West-German economies: the most serious disease of East-German socialism turned out to be the low productivity of its firms – in average only about 25% of the West-German ones – which proved much more difficult to cure than the inefficiencies of central planning, which was relatively easy to replace by market exchanges.

In sum, the key advantage of representing the form of an economy by its institutional framework is that this also comprehends its development over time, including the quantity and qualities of its firms, and not only its current resource-allocation among given firms.

2 – Classifying institutional frameworks for possible answers

To have a well-defined space for the possible answers to the present question, the institutional frameworks of economies must be classified into well-defined types and subtypes (“species” and “subspecies”). To be fruitful, the classifications must be related to how different types of economies are usually called in the actual politico-economic discussions, while allowing analysis to make meaningful propositions about the chances of evolutionary success, or possible reasons for evolutionary failure, of these types and subtypes.

A simple, yet for present purposes sufficient classification appears possible to obtain by starting with the classical distinction between “socialism” and “capitalism.” As both these terms have been given several more or less different and not always well-defined meanings, a clear definition of what they will mean here is compulsory. It appears most fruitful to base the definition on the form of the ownership of capital in general, and firms and banks in particular. To be capitalist, a framework must allow this ownership to be both private and tradable, and must therefore make room for the forming and development of financial markets. In contrast, socialist frameworks require this ownership to be in some way collectivist – belonging to the state (government), or to the collectives of employees (cooperatives), or to a combination of the two. In this definition, socialism does not require comprehensive central planning, but includes different market subtypes, which may allow all kinds of markets – with the crucial exception of the financial ones.

Note that this classification is not exhaustive. It leaves aside the mostly outmoded frameworks in which the ownership of capital is private, but non-tradable. It is also asymmetrical: socialist frameworks are defined to exclude all private ownership of capital, but capitalist ones may admit some collectivist one. The reason is that this asymmetry allows several clear results to be obtained rapidly by relatively simple analysis. In particular, it will make it possible to obtain results concerning all socialist frameworks, and require only the capitalist ones to be classified more finely, as different subtypes of capitalism will be found substantially to differ in the likelihood of their evolutionary success. Some of the results concerning socialist frameworks will then be possible to apply at a correspondingly reduced scale for those capitalist frameworks that allow or require more or less large parts of the economy to be organized and/or run by government.

3 – The two evolutionary tests of the institutional frameworks of economies

An important advantage of evolutionary analysis is that it can be largely value-free – that is, independent of the values and ideologies of the analysts. Instead of letting them choose some social welfare function according to their subjective values – for instance, postulating a certain efficiency-equity tradeoff as desirable – it can assess the institutional frameworks of economies objectively for their evolutionary sustainability. This can be understood to depend on their abilities to keep succeeding in two interrelated but relatively separate tests: (A) for *economic efficiency*, and (B) for *political acceptability*.

To pass test (A), the framework must be able to provide the economy with a certain minimum of efficiency, both allocative and adaptive. This minimum depends on the harshness and the variability of the natural and economic environments: the harsher they are, the higher is the required minimum of allocative efficiency; and the more variable they are, the higher is the required minimum of adaptive efficiency.

To pass test (B), the framework must be able to meet certain minimum demands for what is usually called fairness, equity, or social justice – both procedural, concerning its rules as such, and substantive, concerning the outcomes to which it leads. These demands depend in part on the cultural values and preferences of the population, and in part, as experiments in behavioral economics started to discover, on certain genomically encoded social instincts of *Homo sapiens*. An important instinct, which appears possible to deduce from experiments with the ultimate game, is a limited tolerance to economic inequalities. This alone is a strong reason why, for an evolutionary success, perceiving institutional rules as procedurally just is

not enough; the substantive justice of the outcomes to which they lead inevitably also matters.

As the perception of what is just, both procedurally and substantively, depends on values, these must be recognized to play important roles in test (B). But this may appear to contradict the above claim that evolutionary analysis can be value-free. It is therefore important to make it clear that the values from which this analysis is free are those of the observing analysts, whereas the ones involved in test (B) are those of the population observed. These values are themselves subject to selection during cultural evolution, which both influences, and is influenced by, economic evolution. For instance, cultures with too strong egalitarian values can make it difficult for any institutional framework to succeed in both (A) and (B). Then, either the cultural evolution will weaken these values, or the evolution of their institutional frameworks will keep repeating periods of economic distress with those of political turmoil.

4 – Evolutionary losers: all socialist frameworks and many capitalist ones

In search of evolutionarily sustainable institutional frameworks, it appears best first to eliminate as many losers as possible. They are indeed many, as it suffices to fail in only one of the tests to be one of them. While examples of entirely inept frameworks that fail in both also exist, it is more interesting to consider those that succeed in one and only fail in the other. Economic evolution appears indeed to have tendency to oscillate between frameworks that, thanks to their extensive welfare policies, succeed in (B), but, because of the growing costs of these policies and their negative effects on work efforts, fail in (A), and those that succeed in (A), but cause a rapid growth of economic inequalities, which make them fail in (B). The only hope for human economies is that some compromises can be made that would allow the oscillations to converge towards a framework that could start and keep passing both (A) and (B). It is also such a framework that the present inquiry can be said to seek.

The above classification makes it possible to identify many of the losers quite sharply and rapidly. First, they include all the frameworks defined as socialist. Although these have a theoretical potential to succeed in (B), many of them will fail even in that, if they lack, as all of the really tried ones did, effective defenses against the rent-seeking of the ruling socialist politicians and bureaucrats. But the definite cause of their evolutionary failure is their inherent inability to succeed, in the face of only mildly severe and moderately changing environments, in (A).

Note that arguments that socialism cannot economically succeed have a long history.

Among the first is the one by von Mises (1920), who argued, in essence, that socialist planning cannot conduct efficient economic calculus, and the one by Hayek (1945), who argued, in essence, that the knowledge needed to make a modern economy efficient is so dispersed among so many actors that only markets, and not any socialist planners, can put to efficient social uses. But both these arguments raised respectable counterarguments, which resulted in what is often referred to as the Great Socialist Controversy.

Without entering into the details of this controversy – which some economists still consider to be far from concluded – the evo-devo model offers two simpler and more difficult to refute arguments why all forms of socialism are bound to fail in (A). One, first presented in slightly different terms in Pelikan (1988), concentrates on the developmental trial-and-error processes that are forming and reforming the network of markets and firms. It compares different institutional frameworks in two respects: (1) for the variety of the entrepreneurial trials allowed; and (2) for the speed and the precision of discovering and correcting, or eliminating, the errors committed. Compared to virtually any capitalist framework with reasonable freedom of enterprise and reasonably strict rules for the exit of firms, all socialist frameworks prove doubly inferior: without private and tradable ownership of capital, they substantially reduce the room for entrepreneurial trials, while leaving many more of the committed errors uncorrected for much longer. As opposed to the neoclassical comparison of socialist planning vs. capitalist markets for the efficiency of resource-allocation which produced a draw, this developmental comparison produces a clear two-to-zero victory for at least some types of capitalism.⁵

The second argument concerns the two problems that come to light when human rationality is recognized not only bounded, but moreover unequally so: (1) how to select, among candidates of unequally bounded rationality, the relevantly most rational entrepreneurs and investors; and (2) how to prevent these jobs to grow more difficult than the selected candidates can handle without causing socially costly competence-difficulty gaps (in the sense of Heiner, 1983). It is also for solving these problems – as formally modeled in Pelikan (1999) and verbally summarized in Pelikan (2010) – that all socialist institutional frameworks prove inferior to at least some capitalist ones. The two arguments can be shown intimately linked, but there is no need to enter into the detail of these links here.

⁵ This argument was largely inspired by Schumpeter's observation that "... the problem usually visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them" (Schumpeter 1976/42: p. 84). While it is difficult to show that socialism must be worse than capitalism in the administration – neoclassical analysis was even proving the opposite – it is easy to show it inferior in the "creative destruction": creating fewer efficient structures and destructing fewer of the inefficient ones.

While all this narrows the present search to capitalist frameworks, this does not mean that all of them are guaranteed to succeed. In fact, many of them are also bound to fail, but for somewhat different and often more complex reasons. For them, it is test (B) that is the most difficult to pass. The fundamental reason is that in pure market competition and selection – however just its institutional rules might be – relevantly more rational individuals will keep growing relatively richer and richer than the relevantly less rational ones. Although in good times these may grow somewhat richer in absolute terms, experiments in behavioral economics indicate that for most people the relative wealth matters much more. While the critical limit is difficult to establish with precision, there definitely is one. This means that market selection, if left alone, will sooner or later hit this limit and become politically unsustainable.

The situation is even worse if the institutional rules are not just – for instance, if they allow majority stockholders to dispossess minority ones, or managers to extract too high rents from the owners, or politicians and public servants, in collusion with friends in private firms, to extract too high rents from the citizenry at large. Then many wealth inequalities are perceived as undeserved, and the critical limit is much lower.

But many capitalist frameworks may also fail in (A). A classical example is an incomplete design of property rights. This may cause markets to be so wasteful that the entire framework becomes economically unsustainable. Another classical example is an excessive growth and low efficiency of government. Strictly speaking, this is not a failure of capitalism as such. But the problem is that no capitalist institutional framework can be evolutionarily successful without allowing some government – for instance, for formulating the demand for, and financing the purchase of, crucial collective goods, such as general education and industrial infrastructure; and for designing formal institutional rules without which market competition and selection would sooner or later deteriorate and possibly self-destruct. A capitalist framework may therefore be said also to fail if it is unable to prevent the government allowed from growing unsustainably large and fatally inefficient.

A third, more recent example is an excessive growth of the financial sector, allowed by the wrong design of financial regulations. This sector may be consuming more and more resources for its internal trading, while being only little useful, and possibly even becoming harmful, for the rest of the economy. This is a possible failure of capitalism itself, which mistaken government policies may aggravate, but not cause. Several subtypes of capitalist institutional frameworks, without any government interference, can be shown to cause this failure quite naturally all by themselves.

Some readers may find it interesting to compare an over-expanding government and an over-expanding financial sector to cancers that divert more and more resources to themselves, threatening to choke the entire organism. An interesting observation may then also be that effective immunological defenses against cancers are encoded, and can therefore be understood as necessary, in the genomes of all evolutionarily successful multicellular organisms.

A general economic lesson can be put as follows: a capitalist institutional framework, to be evolutionary sustainable, must possess some specialized rules protecting the economy against malignant over-expansion of any of its parts. For governments, such rules include requirements of transparency combined with hard budgetary constraints, and for the financial sector, they include laws limiting the growth and the diversification of financial firms, and small taxes on certain financial transactions.⁶

5 – Possible roles of ideological wishes

Most people appear to have wishes, or preferences, concerning the form of the society in which they would like to live themselves, or which they believe would be best for many others, if not for everyone. It is such wishes that are labeled here as “ideological.” Their existence appears easy to explain as part of the social instincts with which *Homo sapiens* is genomically endowed. More difficult is to explain why they differ so much across individuals. A well-known difference is between what is usually called “the left” and “the right.” With a reference to tests (A) and (B), the traditional left may very roughly be characterized as caring mainly, if not exclusively, for success in (B), while thinking little, if at all, about the demands of (A); and the traditional right as doing precisely the opposite. It used to be assumed that ideological differences stem from class differences: poor workers should belong to “the left” and rich capitalists to “the right.” But this is demonstrably no longer true, and probably never was: a vast majority of the leaders of the left came from upper classes.

For present purposes, however, the origins of different ideological wishes are unimportant. What matters here is only that they exist and have played, and still play, both helpful and harmful roles in economic evolution. The questions are, how to distinguish the two, and how to minimize their possible harmfulness. The answers suggested by the *evo-devo* model may be summarized as follows.⁷

⁶ More about such rules together with their more extensive analytical justifications can be found in Pelikan (forthcoming).

⁷ Influences of Popper’s (1963) ideas on conjectures and refutations must also be acknowledged.

In the view of economic evolution as a trial-and-error process, the helpful roles are those of conjectures contributing to the generation of trials. Some ideological wishes were indeed the key triggers of many beneficial and workable social and economic reforms. It may even be argued that without them, the evolution would come to a stop. That other wishes generated trials that turned out to be enormous social errors is no counterargument: such trials are inevitable ingredients of all trial-and-error searches. The problem only is that many of them could be evitable if the reasons for their rejection were in time known and widespread.

It is in analysis supposed to produce such knowledge that ideological wishes have played, and still play, their most harmful roles. As tendencies to wishful thinking appear to be inseparable parts of human nature, ideological wishes usually try to hinder analysis in this task – often by making it overlook important weaknesses of the preferred trials and exaggerate less serious drawbacks of the disliked ones. Then erroneous trials cannot be rejected in time by theory, but must wait to be rejected at enormous social costs in practice. Analysis of evolutionary sustainability of institutional frameworks turns out to have the socially important property of being largely immune to influences of ideological wishes, which also makes it able to produce timely warnings against the most harmful ones.

References

- Alchian, A.A. (1950), "Uncertainty, evolution, and economic theory", *Journal of Political Economy* 58, 211-222.
- Hayek, F.A. (1945), "The use of knowledge in society," *American Economic Review* 35: 519-530.
- Heiner, R. (1983), "The origins of predictable behavior," *American Economic Review* 73: 560-95.
- Hodgson G. and T. Knudsen (2010), *Darwin's Conjecture: The Search for General Principles of Social and Economic Evolution*, University of Chicago Press: Chicago.
- von Mises, L. (1920/1935), "Economic Calculation In The Socialist Commonwealth," in F.A. Hayek, ed., *Collectivist Economic Planning*, Routledge & Sons: London.
- Nelson, R.R. and S. Winter (1982), *An Evolutionary Theory of Economic Change*, Harvard University Press: Cambridge, Mass.
- North, D.C. (1990), *Institutions, Institutional Change, and Economic Performance*, Cambridge University Press: Cambridge and New York.
- Pelikan, P. (1988), "Can the imperfect innovation system of capitalism be outperformed," in G.

- Dosi et al., eds., *Technical Change and Economic Theory*, Pinter Publishers: London and New York.
- Pelikan, P. (1992), "The dynamics of economic systems, or how to transform a failed socialist economy", *Journal of Evolutionary Economics* 2, 39-63; reprinted in H.J. Wagener, ed., *On the Theory and Policy of Systemic Change*, Physica-Verlag: Heidelberg, and Springer-Verlag: New York.
- Pelikan, P. (2010), "The government economic agenda in a society of unequally rational individuals," *Kyklos* 63: 231-255.
- Pelikan, P. (2011), "Evolutionary developmental economics: how to generalize Darwinism fruitfully to help comprehend economic change," *Journal of Evolutionary Economics* 21: 341-366.
- Pelikan, P. (2012), "Agreeing on generalized Darwinism: a response to Geoffrey Hodgson and Thorbjørn Knudsen," *Journal of Evolutionary Economics* 22: 1-8.
- Pelikan, P. (forthcoming), "Financial regulations for minimizing economic and social crises: an evolutionary-developmental analysis reckoning with unequally rational individuals," in L. Mamica and P. Tridico, eds., *Economic Policy and the Financial Crisis*, Routledge: London.
- Popper, K.R. (1963). *Conjectures and Refutations: the Growth of Scientific Knowledge*, Routledge: London.
- Schumpeter, J.A. (1912/1934), *The Theory of Economic Development*, Harvard University Press: Cambridge, Massachusetts.
- Schumpeter, J.A. (1942/1976), *Capitalism, Socialism, and Democracy*, New York: Harper and Row.