The evolution of the institutional frameworks of economies: ideological wishes vs. evolutionary sustainability

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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, defined as 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 genomics 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 appear. 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 which clearly distinguishes economic evolution from economic development, and explains why economic evolution is most logical to understand as the evolution of institutional frameworks, defined as the collections of all institutional rules, both formal and informal, belonging to an economy. Section 2 proposes a simple, but for present purposes sufficient typology of institutional frameworks by classifying them into forms of socialism and forms of capitalism. Section 3 brings to light two evolutionary selection tests – (A) for economic efficiency and (B) for political acceptability – that institutional frameworks, to be evolutionarily sustainable, must keep passing. Section 4 shows why all forms of socialism are bound to fail in at least one of these tests, and thus narrows the search to forms of capitalism. Showing that the same is bound to happen to many of these, Section 5 identifies some of the features that forms of capitalism, to be evolutionarily successful, must possess. Section 6 considers the influences of ideological wishes on economic evolution, some of which it finds helpful and some harmful, and concludes by indicating how evolutionary analysis may neutralize the harmful ones.

1 – An 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 is based on the usual micro-view of an economy: a collection of individuals using their rationality to pursue their objectives (preferences) under a number of constraints. But it 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 introduces the notion of “institutional framework,” defined as the collection of all the rules, both formal and informal, that belong to an economy. The model makes this notion central and uses it to split economic change into two important to distinguish, but often confused, processes: (a) economic evolution, which forms and reforms institutional frameworks; and (b) economic development, which is guided and constrained by the actually evolved ones. As will be made clear below, expressing the form of an economy in terms of its institutional framework and distinguishing the two processes are important steps to clarity about economic change.²

By according institutional rules and frameworks such a prominent position, the evo-devo model may be seen as taking another step in the long collective learning during which economists – initially only a few, but today in growing numbers – have been realizing the prime importance of institutional factors for the performance of economies. In addition to its conceptual clarity – which, in the discussions of institutions, is still more of an exception than the rule – the model clearly connects institutional rules and frameworks to the two processes of economic change, and thus makes institutional economics truly evolutionary.

Why distinguishing economic development from economic evolution may appear

¹ The term “institutional rules” 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. In financial economics, for instance, it usually denotes large banks and other financial firms, which according to North’s definitions 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 organisms. 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.
difficult is that both must deal with an imperfectly known future, and both must therefore use some trial-and-error searches. In other words, they both must proceed by more or less randomly generating a *variety* of trials, submitting these to a systematic *selection*, and *retaining* the selected successes.\(^3\) At first sight, the two searches may indeed look very similar. A more penetrating look is therefore needed to see the difference: the developmental trials tentatively change the network of markets, firms and government agencies under the guidance and constraints of the prevailing institutional rules, whereas the evolutionary trials tentatively change these rules – the formal ones by legislators or judges, and the informal ones by socio-cultural innovators.

It may also be unclear how the two processes interact. The explanation offered by of the evo-devo model may roughly be summarized as follows. The prevailing institutional rules of an economy shape its development. The outcome is a certain network of markets, firms and government agencies, together with the technologies employed, which make the economy perform. If this performance is successful (in the sense explained below), the institutional rules may stay put; if not, they are rejected and the evolutionary search must continue.

There is of course also the possibility, due to the discontent with any status quo and the urge to search for novelties that appear to be parts of the genomically given human nature, that even highly successful institutional rules may be rejected. The evolution is then forced to make a new trial, which may be less successful. Such a lack of success may then trigger a long series of trials and errors, before some sufficiently successful institutional framework is found, and the evolution can take a more or less long rest.

Note that this rough summary suffices to dispel a frequent misconception about market selection. While this has often been mistakenly compared to natural selection, the evo-devo model makes it clear that, far from natural, this selection is part of economic development, and therefore 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 selection of these rules, in which they are judged also for the ways in which they allow, or hinder, market selection to work.

Note also that all this nicely interconnects neo-Schumpeterian economics, seen to deal with the dynamics of development under capitalist institutional rules, with the new

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\(^3\) To description of a general evolutionary process in terms of “variety-selection-retention” is due to Campbell (1965). Note the importance for socioeconomic applications of not reducing Campbell’s general notion of “retention” to the more biology-specific “heredity” or “replication.” As economies and economic organizations rarely replicate, the successes of the evolutionary searches among them must be retained in other ways. As argued more extensively in Pelikan (2011, 2012), evolutionary theories that build on these biology-loaded terms, such as the one by Hodgson and Knudsen (2010), cannot have many interesting economic applications.
institutional economics following North (1990, 2005), most interested in institutional change. There is only a minor problem with labels: what Schumpeter called “development” (Schumpeter 1912/34), his modern followers, to begin with the pioneering work by Nelson and Winter (1982), started to label “evolution.” The evo-devo model fully accommodates their work, but implies that more logical would be to follow Schumpeter also in the labeling and call it “development.”

While the evo-devo model also accommodates the Northian view of institutional change, it modifies and extends this view in several ways. In addition to employing the less ambiguous term “institutional rules” instead of “institutions,” and to assembling all these rules that belong to an economy into the convenient notion of “institutional framework,” the model substantially extends the view of their effects. While the Northian view concentrates on their effects on incentives, and especially on transaction costs, the model also, and above all, considers their effects on the dynamics of economic development. While the former effects are included in the latter, these are much richer.

The evo-devo model also importantly modifies comparative economics. It discloses how misleading it may be only to compare idealized and assumedly constant resource-allocation mechanisms for their static efficiency, as standard comparative economics has for a long time been doing, and how important it is also to compare institutional frameworks for their adaptive efficiency. How misleading the standard analysis may be clearly appears when considering its comparison of socialist planning with capitalist markets. By limiting attention to the static efficiency of their respective ways of coordinating given, assumedly efficient firms, it produced what is now known to be a gross error: it claimed that socialist planning could be at least as efficient as capitalist markets. It is only, as shown in more detail below, by also comparing the respective institutional frameworks for their ways of shaping the selection of firms, and thus influencing how efficient or wasteful these will actually be, that a reasonably correct, by the recent economic history well corroborated result, can be obtained.  

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 markets and organizations, and not only its current resource-allocation through given markets among given organizations.

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4 The need for extending comparative economics in this direction may be seen clearly indicated long ago 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).
2 – A simple typology of institutional frameworks

To have a well-defined space for dealing with different institutional frameworks, these must be classified into well-defined types (“species”). To be fruitful, the classifications must be related to how different forms of economies are usually called in actual politico-economic discussions, while allowing analysis to deduce about each of them meaningful propositions concerning its chances of evolutionary success, or possible causes of its evolutionary failure.

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 necessary. It appears most fruitful to base the definition on the form of the ownership of capital in general, and of 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 all of this ownership to have some collectivist form – belonging to the state (government), or to the collectives of employees (cooperatives), or to a combination of the two. Note that socialism is not limited to forms of central planning, but also includes different market forms, which may allow the forming of all kinds of markets – with the crucial exception of the financial ones.

This classification is not entirely exhaustive. It leaves aside the mostly outmoded frameworks in which the ownership of capital is private, but non-tradable. It is also asymmetrical: socialism is defined to exclude all forms of private ownership of capital, but capitalism is allowed to admit some collectivist ones – such as government ownership of certain production organizations, and all of the voluntary cooperatives that can succeed in fair competition with privately own firms. The reason is the fruitfulness of analysis: this asymmetry will allow several sharp results to be obtained by relatively simple means.

3 – The evolutionary tests of the institutional frameworks of economies

An important advantage of evolutionary analysis is that it can be made largely value-free – that is, independent of the values and ideologies of the analyst. Instead of letting her or him choose some social welfare function according to own 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 deduced from 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 what appears to be 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 strong egalitarian values may cause all institutional frameworks to fail both in (A), because of their tendencies to discourage individuals from innovating and enterprising, and in (B), because of their exaggerated demands for equality, which no real-world economy can lastingly meet. Then, either their cultural evolution will weaken these values, or they will themselves disappear – unless valued and therefore protected by an economically more successful culture.

4 – The inevitable evolutionary failure of all forms of socialism

In search of evolutionarily sustainable institutional frameworks, it is 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 logical to limit the search to those that succeed at least in one. They are indeed many: the evolution of institutional frameworks abounds in examples both of those 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 of those that succeed in (A), but cause an incessant growth of economic inequalities, which make them sooner or later fail in (B).

It is for a rapid elimination of as many losers as possible that the fruitfulness of the proposed typology of institutional frameworks comes to light. Namely, it makes it possible rapidly to eliminate all the frameworks classified 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 actually did, effective defenses against the rent-seeking of the ruling socialist politicians and bureaucrats. But the most fundamental 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 claiming 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 must be wasteful because it 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 all of it to efficient social uses. But both these arguments raised respectable counterarguments, such as the neoclassical models of informationally decentralized planning, which lead to what is often called the Great Socialist Controversy.

Here, however, there is no need to enter into the detail of this controversy. 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 form and reform 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 both make fewer entrepreneurial trials and leave many more of the inevitable errors uncorrected for much longer. As opposed to the neoclassical comparison of socialist planning with capitalist markets for static efficiency, which produced a draw, this
comparison produces a clear two-to-zero victory for at least some forms of capitalism.

Perhaps the strongest corroboration of this comparison appeared in the unification of East-German and West-German economies: the most serious disease of the East-German socialism turned out not to be the inefficiencies of central planning, which was relatively easy to replace by market exchanges, but the low productivity of its firms as they had developed during some 40 years under the East-German socialist institutional rules – in average only about 25% of the West-German ones – which proved much more difficult to remedy.

The second argument, which can be shown connected to the first, starts by replacing the neoclassical perfect rationality assumption with the realistic recognition that human rationality (in the sense of cognitive abilities) is not only bounded, but moreover unequally so. As formally modeled in Pelikan (1999) and verbally summarized in Pelikan (2010), this recognition turns human rationality into a singular kind of scarce human capital, which raises two problems: (1) how to select, from the set of unequally rational candidates, the relevantly most rational entrepreneurs and investors; and (2) how to prevent the jobs of the selected entrepreneurs and investors from growing more difficult than what their holders can handle without causing socially costly competence-difficulty gaps (in the sense of Heiner, 1983). It is then easy to demonstrate, by a simple comparative institutional analysis, that all socialist institutional frameworks are substantially inferior to at least some capitalist ones also in the ways of solving these problems.

5 – Which forms of capitalism may evolutionarily succeed?

While all this narrows the present search to capitalist frameworks, this does not mean that all of them are guaranteed to be evolutionarily successful. Many 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 the working of market competition and selection – even if shaped by institutional rules that meet all the norms of procedural justice – will allow relevantly more rational individuals to keep growing relatively richer and richer than the relevantly less rational ones. Although in good times the latter 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 must definitely be one. This means that market selection, if left alone, will sooner or later hit this limit and become politically unsustainable.

The situation is of course 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 taxpayers. 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 and enforcing 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 
needed government from growing unsustainably large and critically 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 cannot be accused of being its prime cause. 
A purely capitalist institutional framework, without any government interference, can be 
shown to cause this failure all by itself.

Some readers may find it inspiring to compare an over-expanding government and an 
over-expanding financial sector to forms of cancer that divert more and more resources to 
themselves, and thus undermine the survival of the entire organism. An interesting 
observation then is that effective immunological defenses against cancers can be found 
encoded in the genomes of all evolutionarily successful multicellular organisms. With some 
imagination, this may be seen to suggest that institutional defenses against over-expansion of 
both government and the financial sector may have to be parts of evolutionarily successful 
forms of capitalism. Emphatically, however, this biological comparison is meant only 
informally to inspire understanding readers, and not a formal part of the present argument.

Back to economics, the main lesson of all this may be summarized as follows: a 
capitalist institutional framework, to be evolutionary sustainable, must evolve two features: 
(1) some minimum, politically acceptable redistribution of income for final consumption
which would harming as little as possible the efficiency of production – for which net consumption tax appears to be most promising; and (2) some specialized rules protecting the economy against overly wasteful over-expansion of both government and the financial sector – which appears possible to achieve by a combination of transparency and hard budgetary constraints for the former, and antitrust laws limiting the growth and the diversification of financial firms together with small taxes on certain financial transactions for the latter.\(^5\)

### 6 – Evolutionary 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 pro-social instincts with which Homo sapiens is genomically endowed. More difficult is to explain why they differ so much across individuals. The best-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 requirements 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: most of the leaders of the left have always been coming from the upper classes.

For present purposes, however, the origins of different ideological wishes are unimportant. What matters here is that they exist and have played, and still play, both helpful and harmful roles in economic evolution. Two questions are crucial: (1) How to distinguish these two kinds of roles? (2) How to neutralize the harmfulness ones? The answers suggested by evo-devo economics, strongly influenced on this point by Popper’s (1963) ideas on conjectures and refutations, may be summarized as follows.

Referring to the view of economic evolution as a trial-and-error process, helpful are those ideological wishes that contribute to the generation of trials. Some ideological wishes were indeed the key triggers of many beneficial and workable social and economic reforms, which changed the institutional frameworks of economies in ways that increased their chances of evolutionary success. It may even be argued that without them, the evolution would come

\(^5\) A preliminary summary of why to limit the growth of financial firms and tax financial transactions is in Pelikan (2013), and a more extensive analytical justification of these policies can be found in Pelikan (2014).
to a stop. That many other ideological wishes generated trials that turned out to be enormously costly social errors is no counterargument: such trials are inevitable ingredients of all trial-and-error searches. It may only be noted that many of these errors could have been avoided if their true consequences were properly explored by economic theory, and the results of this exploration widespread in political practice.

It is in this exploration and the spreading of its results that ideological wishes have played, and still play, the most harmful roles. As tendencies to wishful thinking also appear to belong to human nature, ideological wishes tend to bias theoretical analysis by making it overlook important weaknesses of the preferred trials and exaggerate the possibly less serious drawbacks of the disliked ones. Then even seriously erroneous trials cannot be rejected in time by theory, but must wait to be rejected at enormous social costs in practice – as was the case of all forms socialism and of the wrongly regulated financial capitalism. Thanks to its value-free nature, it is the suggested evolutionary analysis of institutional frameworks that appears most immune to biases caused by ideological wishes, and thus also most promising tool for producing timely warnings against the harmful ones.

But there is an important question that remains to be explored: to what extent may ideological propaganda modify individual preferences and social values in a way that would facilitate the success of the ideologically preferred institutional framework in its evolutionary tests? Only two preliminary remarks about its possible findings are here possible to make. First, this extent is far from unlimited: as experiments in behavioral economics indicate, human economic behaviors contain more of genomically determined features, and are less malleable by education, than what used to be believed. Second, to the extent that these behaviors are malleable, ideological propaganda may not be able to modify them in the ideologically desired direction, but – as the experiment with real socialism in Central and Eastern Europe strikingly demonstrated – may even produce the opposite results. A more systematic exploration of this question must be postponed to another occasion.

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