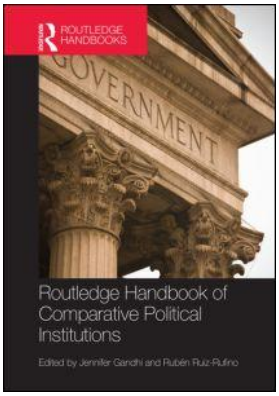


# Routledge Handbook of Comparative Political Institutions

Jennifer Gandhi, Rubén Ruiz-Rufino

## Endogenous change of institutions

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Adam Przeworski
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# ENDOGENOUS CHANGE OF INSTITUTIONS

*Adam Przeworski*

## Introduction

The central claim of "new institutionalism" is that institutions affect outcomes, they "matter." Yet the new institutionalism also recognizes that institutions are endogenous. Suppose both these claims are true. What are their joint implications? What historical paths should we observe if they are true? When should we expect institutions to change?

These are the questions examined here. The chapter offers a rudimentary analytical framework for understanding endogenous institutional change, with some distinctions and examples. It is not intended as a summary of the empirical literature nor as a review of alternative approaches (see Greif and Laitin 2004; Greif 2006; Caporaso 2007;[1] and Tang 2011). Its purpose is purely methodological. Moreover, I consider only one form of endogeneity, namely, the class of situations in which institutional change is induced by some developments generated by the existing institution, not by some conditions that arise independently.

As a heuristic example consider the filibuster rule used with regard to confirmations of judicial appointments by the U.S. Senate. Let the current number of accumulated judicial vacancies be $y(t)$ and the number of new vacancies that appear at each time $x(t)$. Using the filibuster (60 percent majority) rule, the Senate converts at each time the proportion $\alpha$ of the backlog, $y(t-1)$, into the current number of vacancies, thus generating a process $y(t) = (1-\alpha)y(t-1) + x(t)$. The current number of vacancies is evaluated at each time by each of the senators according to their preferences. Each senator, $i \in 100$, has some threshold value $\hat{y}_i$, such that when $y > \hat{y}_i$ this senator prefers to change the rule for confirming appointments to simple majority. If and when a majority of senators finds that there are too many vacancies, $\sum_i i : \{y(t) > \hat{y}_i\} > 50$, the filibuster rule is replaced by a simple majority rule. Hence, institutional change occurs when the number of vacancies generated by the current institution exceeds some value.

This is all there is to it, and the standard tools of dynamic games suffice to analyze it.[2] There is some institution, this institution affects some outcomes, these outcomes are evaluated by individual agents, and when those who can change the institution do not like its outcomes, preferring some feasible alternative, they change it. Note again that a particular institution may change independently of the outcomes it generates, when some other conditions change. Filibuster rule, to continue with the example, may be abolished simply because the partisan composition of the Senate changes independently of the number of vacancies it generates. Such a change is

also endogenous in the broader sense in which particular institutions can exist only under specific conditions and change with these conditions, even when these conditions are exogenous with regard to the particular institution.[3] In what follows I focus exclusively on endogeneity in the narrower sense, namely, institutional change that results from the dynamic of some states of the world that are generated by the institution subject to change.

To build intuitions, I first present a sketch of the first theory of endogenous change, Marx's theory of the dynamic of capitalism, and a more complete theory of history as a succession of stages by Lagerlöf (2002). Then I offer a rudimentary analytical framework, followed by a series of distinctions and examples that highlight specific issues. A brief summary closes the chapter.

## Stage theories of history

Stage theories of history, beginning with Auguste Comte's distinction between "theological, metaphysical, and positive" mental states, saw development of societies as proceeding lawfully from some less to some more advanced forms of social organization. Thus, for Herbert Spencer societies were to evolve from "military" to "industrial," for Lewis H. Morgan from "savagery" to "barbarism" to "civilization," for Émile Durkheim from "*solidarité mécanique*" to "*solidarité organique*," for Ferdinand Tönnies from "*Gemeinschaft*" to "*Gesselschaft*," and for political science of the 1960s from "traditional" to "modern." None of these theories, however, specified the micro-mechanisms by which each stage would evolve to reach the next one. The first theory that did was Karl Marx's theory of capitalism, which is why I use it to exemplify endogenous institutional change. Yet among the stages distinguished by Marx (and Frederick Engels)—primitive society, slavery, feudalism, capitalism, communism—he analyzed the dynamics of only one. To illustrate what a complete stage theory of history would look like, I therefore use a recent paper by Lagerlöf (2002), where the stages are hunting and gathering, slavery, and wage labor.

### *Marx: capitalism*

Summarizing his views as of 1859, Marx wrote:

> At a certain stage of development, the material production forces of society come into conflict with the existing relations of production…. From form of development of the productive forces these relations turn into their fetters. Then begins an era of social revolution…. No social order is ever destroyed before all the productive forces for which it is sufficient have been developed, and new superior relations of production never replace older ones before the material conditions for their existence have matured within the framework of the old society.

This is history working like a clock: an institutional system operates successfully as long as one hand rests behind the other and changes when the two hands coincide, not a minute sooner nor later. But societal clocks can only work if someone pushes the hands: Even if the theorems of social science concern macro-level changes, their proofs must explain how such changes are generated.

Marx's solution was to think of actors as occupants of places in the relations of production—"here individuals are treated only as personifications of economic categories, embodiments of class relations and class interests" (*Capital*, Vol. I, *Preface to the 1867 edition*)—and to consider only the actions they *must* undertake as such. As individuals, capitalists can be good fathers, correctly

understand how capitalism functions, even be revolutionaries (Engels), but they must maximize profits; otherwise they will not remain capitalists.

Why, then, must capitalism be replaced by another form of social organization? To answer this question, the reader must forbear by entering into Marx's peculiar accounting scheme. In Marx's terminology, capital has two parts: constant (fixed) + variable (labor). Then comes the crucial assumption: only labor generates surplus. Hence surplus value = variable capital, and total output = constant capital + variable capital + surplus. Constant and variable are inputs that are reproduced in each cycle of production, surplus is output above the costs of reproducing them. And now see what happens in this accounting scheme to the rate of profit = surplus/total capital. When constant capital is 200 and variable capital is 100, the rate of profit is 100/(200 + 100) = 0.33. When constant capital is 500 and variable capital remains the same, the rate of profit is 100/(500 + 100) = 0.166. *The larger the constant capital, given the variable, the lower the rate of profit.*

Thus, technological progress consists of increased labor productivity. And as more fixed capital per worker is used, the volume of production increases but the rate of profit falls: "the gradual growth of constant capital in relation to variable capital necessarily leads to a gradual fall of the general rate of profit." (*Capital*, III: XIII). Hence, as time progresses, the capitalist system must arrive at a state in which the rate of profit is zero, no one wants to invest, no one wants to produce. The system must die: there is an optimal time to change institutions, and the agents of change, capitalists, want to change them at that time. Capitalism contains a "contradiction": its development necessarily leads to its death. (Note that Keynes and Schumpeter thought the same, but for different reasons.)

Does this outcome transpire because capitalists are myopic, not seeing that by investing in fixed capital they will bring the system down? Marx's answer is that capitalists must compete with one another:

> A capitalist with more capital will obtain a larger revenue than a small capitalist who appears to make higher profits . . . When the larger capitalist wants to make space for himself in the market, he uses it [the revenue] in a practical manner, that is to say, he deliberately lowers his rate of profit to push the little one against the wall.... A capitalist operating improved methods of production that are not yet generally adopted sells below the market price but above his individual cost . . .
>
> *(Capital, III: XIII)*

Hence, capitalists are caught in a prisoners' dilemma: if one does not invest, he will be pushed out of the market by those who do; if all invest, the average rate of profit will go down:

> The competitive struggle decides which part of capital will be particularly affected. The class, as such, inevitably has to lose.... The antagonism between the interests of each individual capitalist and those of the capitalist class as a whole comes out to the surface.
>
> *(Capital, III: XIII)*

It is remarkable that workers play no role in the development or the fall of capitalism. They, too, are caught in a prisoners' dilemma of their own, with competition in the labor market reducing wages to subsistence (costs of reproduction of variable capital). They can accelerate the downfall by organizing but cannot affect the tendency. (See Vol. II, Chapter X.)

I introduce this example because the theory is thoroughly modern. The assumptions, specifically that technical progress is always labor saving, are wrong and they lead to wrong conclusions.

But look at the structure of the theory: The relevant actors are those whose decisions affect the equilibrium of the institutional system, the actors are strategic, but caught in a prisoners' dilemma. The dynamic effect of their decentralized actions is to make the particular form of social organization, capitalism, obsolete. When it becomes obsolete, no one has incentives to maintain it, so it must change.

## *Lagerlöf: hunting-gathering, slavery, and wage labor*

Marx developed a theory of the dynamics of capitalism but not of the systems that according to him preceded and would follow it. To see a theory of institutional change that specifies the dynamics at each stage and the trajectories that lead from one stage to another, consider a simplified version of Lagerlöf (2002). In his story, there are three possible institutions: hunting-gathering (HG), slavery, and wage labor (which he calls "freedom" and Marx would have called "wage slavery"). Under HG everyone gets an equal share of the collective product; under slavery, the slaves and their guards (slaves must be supervised) receive subsistence incomes and slave owners get the rest; under the wage system workers get the marginal product and capitalists get the rest.[4] A dictator, who is a member of the elite under each system, decides which institution to adopt.

Because the story concerns agriculture, the state of each system at each time is given by agricultural productivity (output per unit of land), $A_t$, and the size of the population, $P_t$. Output is produced according to $Y_t = F(A_t, P_t)$. In turn, the dynamics of agricultural productivity and of population are specific to each institutional system, $A_t = I(P_t)$ and $P_t = I(A_t)$, $I \in \{HG, slavery, wage\}$. Given the production possibilities and the dictator's income under each system, we can determine which institutional system is best for the dictator given each state $\{A, P\}$. Because starting from any initial conditions we can determine the trajectory of the system in the $\{A, P\}$ space, we can also determine the evolution of institutions. A simplified version of the dynamics is reproduced in Figure 4.1.

HG is optimal for the dictator when population is small relative to agricultural productivity, slavery when agricultural productivity is high and the population is of middle size, wage system when population is large relative to agricultural productivity. The thick line is the trajectory of population and agricultural productivity that results from the laws of motion under each


*Figure 4.1* Stage dynamics

institution. Because both the population and productivity increase under each system (but at different rates), the trajectory leads from HG to slavery to the wage system.[5]

## A framework

Let the set of institutions that are feasible given exogenous conditions be $I$: $\{A, B, \ldots\}$. Institutions determine (perhaps many-to-one) the manner in which some available resources, $x$, are transformed into some outcomes, $y$, which are positively or negatively valued by individuals, who are economic agents and political actors. Outcomes are generated according to $y = I(x)$,[6] so that $y_t$ is some process, for example $y_t = (1 - \alpha)y_{t-1} + x_t$, as in the example of the filibuster rule. An agent $i$ prefers institution $A$ to institution $B$ if the present value of his or her payoffs, $V_i(I)$, is such that $V_i(A) > V_i(B)$.[7]

### *Optimal vs. equilibrium change*

To see what is entailed, consider a simple example generalized from Acemoglu, Aghion, and Zibilotti (2006). Suppose $y_t$ stands for average per capita income, which is positively valued by everyone. Assume that an institution $A$ generates a faster rate of growth of incomes when $y$ is low and institution $B$ results in faster growth when $y$ is high. Figure 4.2 plots next year's income as a function of the current one, so that the growth rate is zero along the 45 degree line.

When $y < \hat{y}$, the rate of growth is higher under $A$, while for $y > \hat{y}$ it is higher under $B$. Hence, the optimal time to change institutions is when $y = \hat{y}$. If the change occurs when $y < \hat{y}$, it is suboptimal because it is too early; if it occurs at $\hat{y} < y < y'$, it is suboptimal because it is too late. But suppose that it does not happen until $y$ reaches $y'$, at which $y(t + 1) = y(t)$, so that the economy does not grow any more, stuck at this income level. Then the change never happens.

This much is general, so that the question to be studied in each case concerns the value of $y$ at which those who have the power to change institutions want to change them. Institutions can be altered in a centralized way, meaning that someone's decision to change them applies uniformly to everyone, or in a decentralized way, resulting from decisions of individual agents.

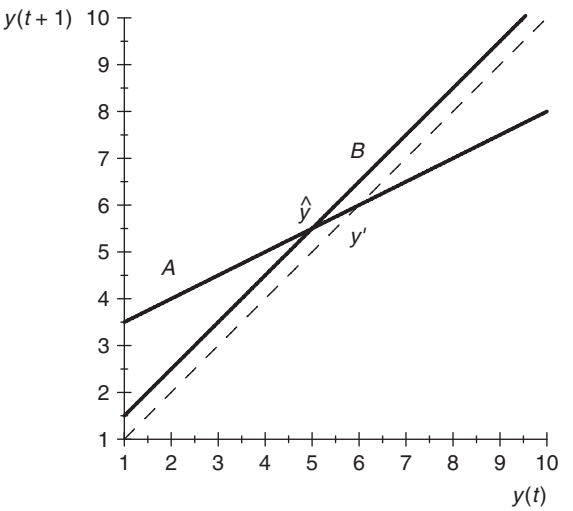


*Figure 4.2* Optimal institutional change

Changing an electoral system requires a centralized decision but the institution of marriage may evolve as a result of decentralized decisions of individuals. Political institutions entail rules enforced by the threat of coercion, so the rest of the analysis is limited to centralized decisions. These decisions can be made only by those who have the power to change institutions: a dictator, a homogeneous elite, some group within a heterogenous elite, or a broader collectivity, including the entire electorate. These are the potential decisive actors, *D*.

Endogenous institutional change may occur because (1) the existing institutions become inferior to some feasible alternative for those who have the power to change them,[8] (2) those who have the power to alter institutions change, including their removal by force, as a result of the functioning of the existing institutions, or (3) those who control the existing institutions fear that unless they change them they would be removed and they prefer new institutions to the eventual outcome of being removed.

Consider an example that perhaps has been studied most extensively: extensions of suffrage along the lines of class. According to Justman and Gradstein (1999), these extensions occurred because excluding people from suffrage was costly in terms of labor productivity and, when output became more dependent on productivity, the elite's gains from political incorporation outweighed the potential losses from redistribution of income that would result from extending voting rights. The argument of Lizzeri and Persico (2004) is similar, replacing productivity gains with demand for public goods: the newly enfranchised would vote for a more extensive provision of public goods, so that when the value of public goods increased among the elite, a majority of it opted for an extension. In turn, Llavador and Oxoby (2005) think that a party of industrialists would extend suffrage to workers in order to obtain a mandate for pursuing industrialization policies, while a party of landowners would want to block such policies by enfranchising peasants in addition to workers. Hence, what matters in their story is which elite occupies office under the existing institutions and if, as industry grows under restricted suffrage, industrialists win an election and suffrage is extended to workers. Finally, there are several arguments to the effect that extensions occurred because of revolutionary threats by the lower classes which gained in strength as a consequence of economic development under restricted suffrage (Bendix and Rokkan 1962; Przeworski and Cortés 1971; Freeman and Snidal 1982; Jack and Lagunoff 2003; Xi 2014).[9] The reasoning here is that even though because of its redistributive consequences the elite would be made worse off by extending suffrage, it would have been even worse off if it were overthrown by force as a result of not conceding to the demands of the excluded.

The main point of these distinctions is that the equilibrium change need not be optimal. Depending on who holds power under the extant institution and on how the power holders compare their interests under the extant institution and some feasible alternative, change may be premature, delayed, or not occur at all.

## *Conflicts over institutions*

Now, it is banal that if everyone is affected in the same way by each institution, the choice of institutions will be optimal; moreover, it will be optimal regardless who decides and how the decision is made. Hence, to understand institutional change that is by some criterion socially suboptimal it is necessary to introduce conflicting interests. Suppose that under *A* the decisive actor extracts some rents from others, while under *B* it does not. Let the total income of *D* under *A* be $A(x) + R$ and under *B*, $B(x)$. If the rate of growth follows the dynamic portrayed in Figure 4.3, then the institutional change will either occur later than optimal by the criterion of maximizing the average income or not at all. The optimal change occurs when $A(x) = B(x)$,

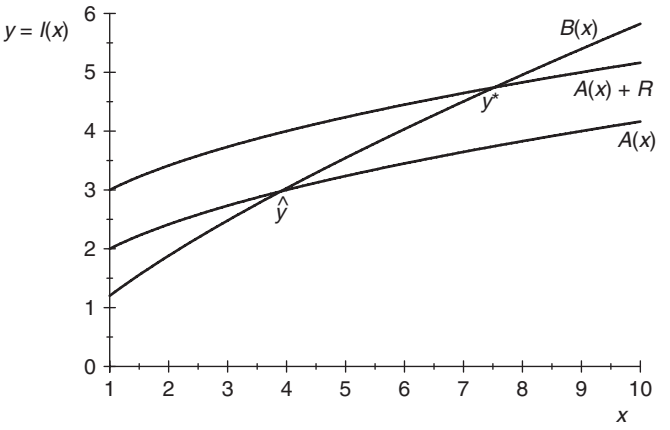


*Figure 4.3* Optimal and equilibrium change when dictators extract rents

at $y = \hat{y}$, but $D$ wants to change institutions only when $B(x) - A(x) = R > 0$, which occurs when $y = y^* > \hat{y}$.

Conversely, in many studies of democratization (Acemoglu and Robinson 2000; Rosendorff 2001), the elite fears that its incomes would be taxed if poorer people have a political voice, so that the incomes of the elite under $A$ are $A(x)$ but under $B$ they would be $(1 - \tau)B(x)$, where $\tau$ is the tax rate. Institutional change will be again late by the criterion of maximizing growth, occurring when $B(x) - A(x) = \tau B(x) > 0$.

One more twist. Suppose that the elite is divided in terms of its views with regard to $B$. Assume that one part of the elite would lose by a change to $B$ and another part would gain. In the Lizzeri and Persico model, for example, members of the elite differ in their evaluations of suffrage extension because they would receive different values of transfers and public goods if suffrage were to be extended. As another example, consider an authoritarian regime in which some part of the elite fears retribution for the acts of repression it committed while another part thinks it will escape unscathed if the regime falls. Such situations cannot be summarized schematically because we need to specify how such conflicts might be resolved: in the Lizzeri and Persico model, for

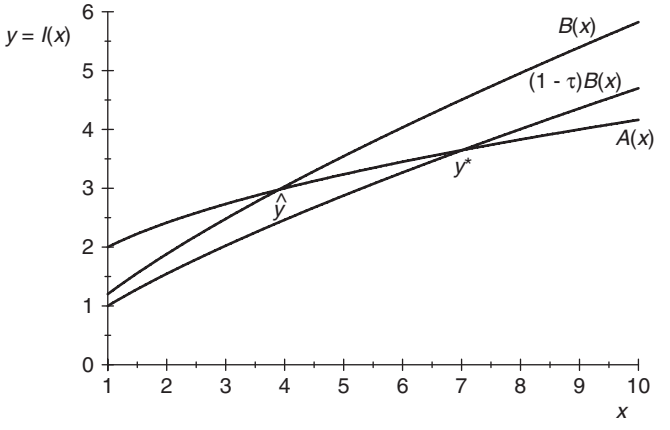


*Figure 4.4* Optimal institutional change when the elite is taxed under democracy

example, elections generate a different outcome than a referendum. Yet many, if not most, institutional changes occur when the elite divides with regard to the consequences of change.

## *Push and pull*

Once interests are in conflict, the defenders of the existing institution may face the specter of losing power if they persist to maintain it. Suppose now that the elite under $A$ can decide to change institutions to $B$, where its incomes would be taxed, or face a threat of a revolution, $R$, that would reduce its incomes even more drastically. Now the elite under $A$ faces a lottery with the expected value of $E_pA(x) = (1 - p)A(x) + pR(x)$, $p$ being the probability of a successful revolution. Hence, the elite switches to $B$ when $(1 - p)A(x) + pR(x) = (1 - \tau)B(x)$, or $A(x) - B(x) = p(A(x) - R(x)) - \tau B(x)$. Hence, whether and when a change occurs depends on the relation $p \gtrless \tau B(x)/(A(x) - R(x))$, that is, whether a successful revolution is a real threat relative to being taxed. The threat of revolution induces the entrenched elite to shift earlier to a more productive institution. This shift may occur too early but at least prevents permanent stagnation. Revolutions are the locomotive of history (as in a poem by Mayakovsky), even if they (almost) never occur.

Any theory that assumes that political actors are forward looking must consider the eventual consequences of institutional change for those who have the power to make this decision, but push factors may be present or absent. Push factors are absent in Marx's theory outlined earlier: He could never reconcile his theory of capitalism which self-destructs with his calls for a revolution. But they are present in many theories in which the rulers under some institution face a threat of revolution.

This threat may or may not be endogenous. For example, in Acemoglu and Robinson's (2000) model of suffrage extensions, the threat of revolution arises randomly, independently of the state of the economy. Hence, the presence of push factors is not sufficient to render the change endogenous. Yet in several other analyses of suffrage extensions the threat of revolution arises because economic development under restricted franchise leads to the emergence and political organization of the working class, so that this threat is endogenous.

## *Some examples*

### *Self-institutionalization (Przeworski 2015)*

Consider the viability of the institution of contested elections, specifically the probability that a series of contested elections would be interrupted by a constitutional breakdown in the form of a coup, autocoup, civil war, or some other major constitutional violation. The process works as follows: At each time there is a ruler, elected or not, who decides whether to hold a competitive election, in which his probability of winning depends on the true distribution of support, or hold an election in which he assures himself of victory, or not hold one at all. Rulers who do not expose themselves to the possibility of losing an election may be overthrown by force; rulers who run competitive elections may lose them. What each incumbent does not know is what will happen to him if he loses an election: he may be treated by the winner as just a future electoral opponent or he may experience a hard landing in the form of violent death, imprisonment, or exile. Each incumbent attaches some probability, $\theta_t$, to soft landing. If no alternation in office by elections had yet occurred, this probability is $\theta_0$, but with each successive alternation this probability is updated upward until it converges to $\theta = 1$. Under these assumptions, a ruler holds competitive elections if he believes that his probability of winning is high relative to his military prowess, that his landing is likely to be soft, and that the value of being in electoral opposition is not much lower than the value of being in office. If the incumbent loses the election, the winner

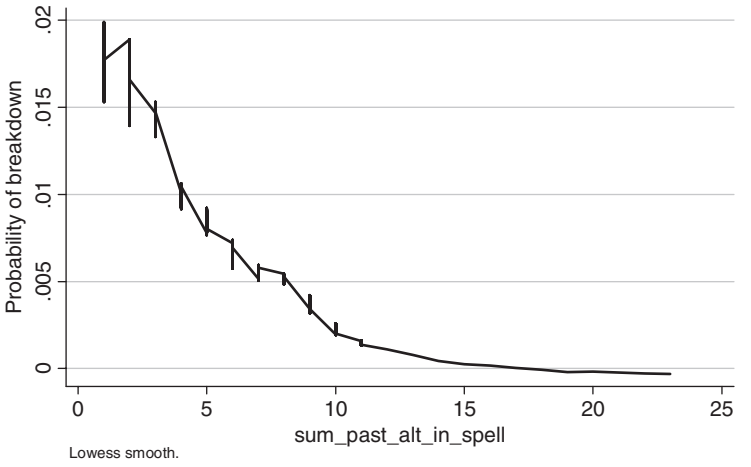


*Figure 4.5* Probability of institutional breakdown given the number of past alternations

may still not reciprocate, even though he knows that the defeated incumbent is of a type who exposes himself to defeat and peacefully yields office, so that $\theta_1 > \theta_0$, if the probability that he would lose in turn is very high and the value of soft landing is relatively low. If the winner does hold competitive elections and loses in turn, $\theta_t$ is again updated upward, etc. Hence, each peaceful alternation in office resulting from elections increases the probability that the electoral mechanism would survive, until this probability converges to 1, so that the institution of processing conflicts through competitive elections locks in.

Empirical patterns show that this is what in fact happens. Hence, the institution of contested elections is more likely to survive if it has generated more partisan alternations in office. An institutional breakdown occurs either early or not at all. In this sense, this institution is "self-institutionalizing."

## *Institutional cycles (O'Donnell 1977)*

Argentina is the world record holder in having experienced the largest number of changes between democracy and dictatorship since the end of World War II. Here is an explanation relying on but greatly simplifying O'Donnell's (1977; see also Gerchunoff and Fajgelbaum 2006) analysis. The particular feature of the Argentine economy is that its main exports have been wage goods: cereals and meat. The consequence is that the exchange rate is a crucial variable in determining the state of the entire economy: When the Argentine currency (the name of which changed over time but let us call it by its current name of *peso*) has a high value in relation to the dollar, agricultural output is directed to the internal market, real wages are high, inflation is low, aggregate demand is high, but the balance of payments is negative; when the *peso* is low, wage goods are exported, real wages are low, aggregate demand is low, and the balance of payments is positive. Negative balance of payments accumulates to a foreign account crisis; low real wages lead to insufficient domestic demand and slow growth. There are three political actors—industrial bourgeoisie, agricultural bourgeoisie, and industrial workers—and two possible coalitions: bourgeois and industrial. The industrial coalition wants the value of the *peso* to be high, so that agricultural output is directed to the domestic market, real wages are high, and so is domestic demand for industrial output. The bourgeois coalition wants the value of the *peso* to be

low, so that the agricultural output is exported, real wages are low, and the trade balance is positive. The industrial coalition supports democracy; the bourgeois coalition can exist only under dictatorship, as it has to repress real wages.

The result are institutional cycles: When the balance of payments becomes too negative, the industrial bourgeoisie, which is the pivotal actor, breaks its alliance with the working class and collaborates with the agricultural bourgeoisie in devaluating the currency and repressing real wages by force. When aggregate demand falls too much, the industrial bourgeoisie abandons its agricultural ally and supports democracy to increase real wages. Whether or not this theory is true is not the issue here (and the effects of exchange rates are much more complicated than assumed here). The point is that institutional change need not be irreversible and there are some structural conditions, in this case economic, which may induce back and forth shifts of institutions.

The problem with this argument is that political actors are myopic. The optimal institution here is one that would support stable exchange rates and avoid the cycling. Without parametrizing the model it is impossible to say which regime could sustain this equilibrium, but it would obviously have to entail some power sharing among all the three political forces. The present Argentine government has been attempting to play this balancing act, thus far with some success. But the situation remains brittle.

## *A caveat: ineffective institutional reforms*

The central assumption of "new institutionalism" is that institutions are a "deeper," "primary" cause of economic development than the availability of factors of production and technological change. The theoretical program has been laid out by North (1997: 224): "To make sense out of historical and contemporary evidence, we must rethink the whole process of economic growth…. The primary source of economic growth is the institutional/organizational structure of a political economy." Specifically, we learn that "Third World countries are poor because the institutional constraints define a set of payoffs to political/economic activity that do not encourage productive activity" (North 1990: 110).

This assumption has practical, policy, consequences: it licenses institutional engineering. Indeed, all the examples above are based on the assumption that a change of institutions results in a change of the manner outcomes are generated out of inputs, $y = I(x)$. If this were true, institutional reforms would be always effective: changing institutions would change the outputs given exogenous conditions. Yet often reforms are futile: institutions change and life goes on as before. One reason may be that the mapping of institutions to outcomes need not be one-to-one. As Rodrik (2008) emphasizes, different institutions may generate the same outcomes, good or bad. And if this is true, those who want to change institutions because they are dissatisfied with the way they function may be disappointed.

Perhaps the most vivid illustration are the Soviet-style communist systems. As distinct from contemporary China, where most economic and political decisions are decentralized to regions and subregional units (Xu 2011), the Soviet Union adopted a U-form of organization (Maskin, Qian, and Xu 2000), in which decisions were centralized in functional ministries. Without effective yardstick competition, principals could not effectively evaluate agents, and because the interests of principals and agents often diverged, the principals were repeatedly dissatisfied with the performance of agents. To remedy the situation, the Soviets incessantly introduced institutional reforms that involved the relations between the central planners and the firms as well as between the one-party and the state apparatus. Yet the agents always found some ways to get around the new rules and the status quo stagnated. As Khrushchev lamented in a 1962 conversation with Fidel Castro, "You'd think that I, as first secretary, could change anything in this

country. Like hell I can. No matter what changes I propose and carry out, everything stays the same" (quoted in Taubman 2003: 598).

More generally, there is evidence that political regimes dichotomized as democracies and non-democracies affect the rate of growth of population but not of aggregate output (Przeworski *et al*. 2000).[10] Neither do they affect the distribution of incomes in market economies (Przeworski 2012). Even if institutions cause outcomes, institutional reforms may be futile when different institutions generate the same outcomes.

## Conclusions

What historical patterns should be observed if institutions matter but are endogenous in the strong sense that they change as a function of the conditions they generate? As the examples detailed indicate, these assumptions do not restrict much the variety of feasible historical trajectories. Institutions may or may not change endogenously. Importantly, suboptimal institutions may lock in if they do not change when the conditions they generate still allow it: institutions are subject to traps, as in the example of economic growth. In turn, good institutions may also lock in once they survive some initial period; they may be self-institutionalizing, as in the example of competitive elections. Institutions may experience cycles if the elites which dominate each of them are not sufficiently far-sighted, as in the example of Argentina. When different institutions generate the same outcomes given the endogenously generated conditions, institutional reforms may be ineffective, as in the example of communist reforms. Yet one may also expect that some historical patterns do follow stages: the dynamic of outputs generated by one institution generates endogenous transitions to some other institutions, with different dynamics, and so on, as in the examples of Marx and Lagerlöf. Because all institutions have distributive consequences, institutions are subject to conflicts, and a revolutionary threat by the social forces generated by a particular institution may propel their change by the elite vulnerable to this threat, as in the example of suffrage.

The purpose of this chapter is merely to introduce an analytical framework for understanding endogenous change of institutions and to make some distinctions that may be relevant in analyzing particular cases. It is best summarized as a recipe, a list of questions that needs to be posed when studying institutional change:

1. What are the states that affect the evaluation of alternative institutions by different political actors?
2. How do these states change as a consequence of the functioning of the institution in place?
3. What are the feasible alternatives to the institution in place?
4. Are those in power under the institution in place threatened with being removed unless they change institutions?
5. If optimal change can be defined, when is it to be expected that the change will be optimal, premature, or belated, and when will a society be stuck with suboptimal institutions?

## Notes

1 This is a different approach, developed narrowly to explain the institutional evolution of the European community. The mechanism of change here is deviations from agreements.

2 Greif and Laitin (2004) invent a "puzzle," namely, that if the institutional equilibrium is self-enforcing then all change must be exogenous, and solve it by introducing concepts of "quasi-parameters" and "institutional reinforcement." As is obvious from what follows here, I see no such puzzle. Already Marx knew how to cope with this issue.

3 Montesquieu as well as Rousseau, the latter in his folkloric description of Poland, claimed that particular institutions can function only if they correspond to cultures, mores, religions, or geographic conditions. J. S. Mill considered the issue of endogeneity in the first chapter of *Considerations*, entitled "To What Extent Forms of Government Are a Matter of Choice."
4 Both under slavery and wage labor, there are subcases in which not everyone is employed. I ignore them here.
5 There are also conditions, not portrayed here, under which slavery becomes a trap.
6 Note that $x$ and $y$ may be the same, as in "corn" models of growth, where the same commodity can be consumed or invested to be used as an input.
7 The present value is $\sum_t \beta^t U(I_t)$ or $\int_t e^{-\rho t} U(I_t)dt$, where $U(I_t)$ is the instantaneous utility an agent receives at each time from the institution $I$.
8 Jennifer Gandhi (personal communication) suggested an interesting example of an institution becoming simply obsolete: electoral quotas for women may become unnecessary when voters learn not to discriminate as the result of more women occupying prominent political positions as an effect of the quota.
9 I do not include Acemoglu and Robinson (2000) because in their formulation revolutionary threat is exogenous and random.
10 Note that several researchers, most recently Acemoglu *et al.* (2014), found that regimes affect the rate of growth of per capita incomes. But this effect is due exclusively to different rates of population growth.

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