

Information, Organization, and Freedom

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Abstract. We suggest, in a Coase-Demsetz perspective, that the social demand for individual rights -- or freedoms (whether civil, political or economic) -- is derived from, because complementary to, the changing size of all hierarchical organizations. The recent and general downsizing and decentralization process observed worldwide is itself the result of the information revolution and of its new abundance. It follows that social demand for freedoms depends in turn – and inversely - on the cost of information (and thus on markets imperfection) as well as on traditional determinants such as the distribution of resources and human capital. This implies that freedoms are adopted, implemented, or “produced” by various political regimes according to an objectively observable and contingent determinant. We believe this approach can shed light on the reason for the waxing and waning of freedoms in modern history.

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1.

"What is the best constitution? Tell me first for what people and what time" replied the sage Solon (quote from the 1946 Bayeux speech of General de Gaulle).

1. Introduction

What makes the rule of law, economic freedom, and personal liberty change across nations and over time? While classical liberals have spent much time and effort in developing research demonstrating that such an institutional environment leads to a prosperous society and human flourishing, much less work has been oriented towards an explanation of the characteristics of the environment, if any, that led to democratic constitutions and free markets, democratic regimes being characterized by a number of civil and political freedoms as well as many economic ones, compared to non democratic regimes.

The classical liberal position, however, is confronted to a major puzzle: If freedom is always and everywhere welfare improving, both as a possible argument in the utility functions (beneath wealth) and through its positive influence on prosperity and economic well being, why has its adoption come so late and only in a minority of countries? ² Late indeed in world history since, as noted by Tullock (Autocracy, 1987, p.175), "In current usage 'democracy' is normally confined to systems where all adults are permitted to vote. Historically, this situation was almost unknown before the 20th century." Moreover, "Most governments today are dictatorships of one sort or another" (*ibid.*, p. 1) and "Further, more of the world is now ruled by such autocratic governments than, let us say, twenty-five or thirty years ago. (...) since 1914 democracy on the whole has become a less significant form of government and dictatorships more important." (*ibid.*, p.1)

1. Exact quote : « Des Grecs, jadis, demandaient au sage Solon : « Quelle est la meilleure Constitution ? » Il répondait : « Dites-moi, d'abord, pour quel peuple et à quelle époque ? » Aujourd'hui, c'est du peuple français et des peuples de l'Union française qu'il s'agit, et à une époque bien dure et bien dangereuse ! Prenons-nous tels que nous sommes. Prenons le siècle comme il est. Nous avons à mener à bien, malgré d'immenses difficultés, une rénovation profonde qui conduise chaque homme et chaque femme de chez nous à plus d'aisance, de sécurité, de joie, et qui nous fasse plus nombreux, plus puissants, plus fraternels. Nous avons à conserver la liberté sauvée avec tant et tant de peine. »

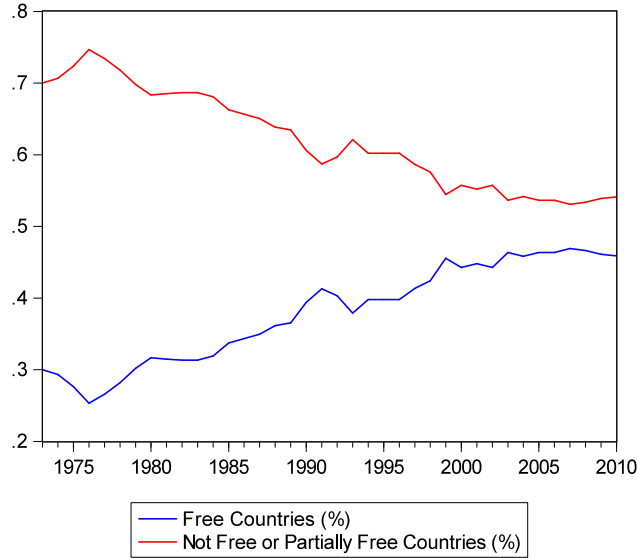
2. Tullock (1987, p. 175) notes that most regimes since the beginning of organized societies have been autocracies or feudal regimes.

A low point in the number of democracies and market economies in the world was reached in the years before WWII. Among the small number of nations that adopted a democratic constitution in the modern era (starting with the Enlightenment and the Industrial Revolution of the late 18th century) political and economic freedoms regressed even earlier than 1914, from the start of the second Industrial Revolution in the last quarter of the 19th century. A period of low ebb of freedoms thus lasted until the last quarter of the 20th century, succeeding to the first wave of liberalization that began in the early 19th century?³ What are the determinants of the general waves of freedom, then of ‘unfreedom’, and then of freedom again since the 1970s?

Figure 1, which is based on data from FreedomHouse.org, provides insights into the contemporary freedom expansion around the world corresponding to the “Information Revolution”:

Figure 1
The contemporary freedom wave

3. See Huntington’s analysis of the three “waves.” Imperialism and totalitarianism dominated the middle years of this period, until the defeat of the Third Reich and the Axis countries in 1945, and later of the Soviet empire in 1991. On the eve of WWII only a handful of democracies and market economies survived in the whole world. In his book “The Third Wave,” Huntington claims that there have been five contrasted periods of democracy and autocracy since the first Industrial Revolution: the first wave of democratization (1828-1926), the first “reverse wave” (1922-1942), the second short wave of democratization (1943-1962), the second reverse wave (1958-1975), and the third wave of democratization (1974- .). For fundamental reasons (explained in Rosa, 2006) we prefer a periodization in three eras: the first Industrial Revolution democratization (1750-1875), a reverse wave following the second Industrial Revolution (1875-1975), and the Second wave of democratization following the Information Revolution (1974- present), also characterized by the development of markets and decentralization of production, as well as political fractionalization (see also Bolton and Roland, 1997; Alesina, Spolaore and Wacziarg, 2000).



Not only modern history appears to contradict the alleged double superiority of democratic systems (both in providing direct satisfaction to individuals, and by their positive effect on growth and wealth) thus presenting a challenge for classical liberals that extol its virtues, but also by analyzing separately determinants of democracy and determinants of economic freedoms these authors run contrary to the trend towards an unification of economic analysis and other fields in the social sciences: In the Public Choice tradition (The Calculus of Consent, Buchanan and Tullock, 1962) as well as in the Chicago school of political economy (Stigler, Becker’s “Competition and Democracy” (1958), and then in his 1983 paper), there is only one model of man.⁴ The “homo economicus” maximizes his utility whether in economic or in political pursuits, and this view has gained acceptance by all economists and, beyond the

4. “Voters and customers are essentially the same people. Mr. Smith buys and votes; he is the same man in the supermarket and in the voting booth. There is no strong reason to believe his behaviour is radically different in the two environments. We assume that in both he will choose the product or candidate he thinks is the best bargain for him. Although it seems very modest, this indeed is a very radical – even if obvious – assumption. For decades, the bulk of political science has been based on the assumption that government aims at higher goals than individuals aim at in the market. The voter is sometimes assumed to be aiming at achieving ‘the public interest’, the man in the shop his ‘private interest’. Is this true? Is he Jekyll and Hyde?”

“In addition to being a US government employee as a university professor at a state institution, I am also on the board of directors of a small company in Iowa. As far as I can see introspectively, there is no difference in my character when sitting with my fellow directors and when carrying out my duties as a university professor. The conditions under which I operate are, of course, somewhat different, and hence my behaviour is not identical; but basically I am the same man.” Tullock, 1976, 2006, p. 37.

traditional field of economics, among many in political science also. Hence it is rather strange that the two strands of the literature, the one that explains democracy and political freedoms, and the one that explains economic freedoms, are quite separate and refer to completely different determinants.

Moreover, none of these theories has been built on the basis of the economic theory of rights pioneered by Demsetz (1967), despite the fact that these various forms of freedom are all basically individual rights (see below section 3).

Our solution to these problems is to focus the analysis on *general* trends of various types of freedom in the modern (post 1750) era, when freedoms first became a significant phenomenon in western societies, whereas other scholars have been concentrating on *specific* factors explaining *inter-country* differences. The theory relies on a general definition of freedoms as rights, whether economic or political (the fact being that they are rather highly correlated, Rosa and de Vanssay, 2010). Thus the problem is best understood as one pertaining to the economics of rights.

We start with a basic definition of freedoms as rights, and proceed by the use of the economic theory of rights first developed as a theory of property rights. As demonstrated by Demsetz, rights are defined and enforced when socially productive: when the wealth they help to produce exceeds the establishment and enforcement costs. We claim that individual rights are productive when production processes are decentralized, thus linking the development of rights to the organization of production.

We go on investigating the conditions leading to the decentralization of production. Coase (1937) provided the basic framework by modelling the choice between production through market exchanges and that by (hierarchical) firms, or in other terms, the choice between production through the decentralized price system and production by the internal command system. As shown earlier (Rosa, 2000, 2006), the choice is determined by the cost of information, or by the abundance of all goods and services relative to available information. The information economy thus determines an increased recourse to decentralization and the price mechanism, and as a consequence an increased scope for individual decisions. And individual decisions require rights, that is, freedoms.

Accordingly, we argue that political and economic freedoms are derived from, because complementary to, the downsizing of many hierarchical organizations, “economic” (corporations) as well as “political” (public administrations and States). On the contrary the second industrial revolution has developed production flows much more rapidly than information technologies (Chandler, 1977), thus leading to more centralization, huge hierarchies, and less rights and freedoms.

Such an analysis has important consequences for political activism: ours is not a Panglossian view, because the past institutions and the various pressure groups that control them, can slow down or forbid adaptation to the optimal organizational structures. Thus individual efforts and a process of “tâtonnement” towards the equilibrium solution are necessary, such that, at each point in time, organizations are not strictly optimal and activism plays a role in the search for optimization.

But our approach presents the major advantage of not basing the evolution of freedoms on the weak foundation of unstable individual preferences that are supposed to evolve solely as a result of persuasion, imitation, ideology, and the battle of normative ideas. As in economics generally, we explain individual and collective choices, and their evolution, by the conditions of the environment, notably prices and costs, rather than by changes in preferences.

We present a model explaining not only the simultaneous evolution of various kinds of freedoms but also the new diffusion of freedoms at the end of the twentieth century, contrasting with their relative abandonment during the period spanning 1900 to 1975. The fact that, during recent times, this movement has been both broadly based and simultaneous throughout the world comforts our belief that there is an underlying common factor at work, since the probability of having several independent factors all moving in the same direction during the same time period across most of the countries of the world is remote.

We argue that, if individuals and their governments act rationally, then increases in freedom must arise from changing economic and social conditions rather than from an autonomous shift in preferences.⁵ We thus adopt the fundamental approach of political economy

5. Indeed, we set aside, from the start, the idealistic or “Platonic” position which advances that freedoms find their ultimate source in individual conviction, which itself results from the free debate and moral persuasion. According to this view, it would only be the intensity of the fight for freedom, as well as the accuracy of the socio-political analyses, or even of the ideologies, which would determine the political regimes. Such an

as a science of choice under prices and costs constraints. Economists have successfully explained a growing number of social phenomena in terms of cost and demand with a given set of preferences. They even have shown that apparent shifts in individual preferences can be explained by inter-temporal changes in relative prices, as explained by Becker and Stigler (1977). An economic theory of freedoms and democracy, if we take Becker-Stigler seriously, means a theory of freedoms and democracy based on individual choices constrained by scarcity, relying on price theory – not on ad-hoc variations in individual, collective, or ideological preferences.

The remainder of the paper is organized as follows. Section 2 introduces and evaluates the various explanations for democracy, civil liberties and economic freedom. Section 3 discusses our analysis of freedom as rights, based on the role of information and organization, and how it complements the country-specific effects of the analyses surveyed in section 2. Section 4 concludes.

2. The search for determinants of freedoms: history, geography, climate.

As noted above, the existing explanations fall in two categories, one for explaining the extent of democracy, and the other analyzing implicitly the extent of economic freedoms as restricted by the scope of the State and of its interventions in the economy.

Regarding political freedoms, authors focus on permanent liberty differentials between countries and consequently rely mostly on structural factors, constant through time or trend-like. It follows that they cannot easily explain the decline in democracy and freedom up to 1975 and the global freedom boom after that year.⁶ They cannot explain either why both civil liberties and economic liberties followed a parallel, self-reverting, sinusoidal evolution. Lastly, while liberties generally, political as well as economic, are undoubtedly rights, existing explanations do not rely on or refer to the general theory of rights pioneered by Demsetz. The underlying problem is thus one of arbitrarily fragmented theorization (missing factors in the explanation respectively of

assumption would simply push back the need for an explanation by one level. It would then be necessary to explain the dynamics of ideologies and the combat of ideas, and the moral strength or weakness of people, as the ultimate determinants of economic and political regimes.

6. Where exogenous variables follow a trend, obviously a reversal of the endogenous variable needs both that some exogenous ones have a positive influence and others a negative one, and moreover, that the relative magnitudes of the former and the latter are inverted at the precise moment of the trend reversal of the endogenous variable.

political and economic freedoms), missing common factors capable of explaining the trend reversal, and accordingly, as we suggest, a missing (unified) theoretical framework.

A. Political freedoms

The explanations of the differential diffusion of political freedoms among countries fall into two main categories: explanations based on national income levels, and distributional, resource-based explanations based on the allocation of wealth and on the coercive power of government.

A.1. The income-freedom hypothesis

The simultaneous experiences of the Enlightenment and of the Industrial revolution lead naturally to conceive a link between increases in income and freedoms. The most famous theory is Lipset's⁷ income-democracy relationship – the “modernization” hypothesis – according to which the level of income determines, in the main, the level of democracy and freedom,⁸ the last two being considered equivalent in his view.

In a recent empirical test of the hypothesis, Barro (1999) adds to the list of explanatory variables by introducing population size, human capital, education and income inequality, a dummy variable for cultural, linguistic and religious traits, and whether the country is an oil-producing State or a former colony. These additions, purported to reflect the Lipset concept of “modernization,” account for a significant portion of the changes in both political rights (PR) and civil liberties (CL) indices.

But the Lipset hypothesis has been seriously challenged on several grounds.

The first difficulty is conceptual. The hypothesis doesn't explain why democracy would be a superior good rather than an inferior one, and, more fundamentally, why it would enter as a positive argument into the utility function at all. Furthermore, Lipset does not explain the

7. Lipset (1959) attributed this idea to Aristotle. Lipset's thesis should not be interpreted too narrowly: his concept of modernization, the key to the development of democracy in his analysis, includes the growth of income, the diffusion of human capital, and urbanization. But the last two variables are correlated with income and generally it is only the income variable that is emphasized in the literature.

8. Marks and Diamond (1992). This relationship constitutes, according to Acemoglu *et al.* (2008, 808), “one of the most notable empirical regularities in political economy.”

mechanism by which higher income leads to more freedom. Instead he states (1959, 75) that “... only in a wealthy society in which relatively few citizens lived in real poverty could a situation exist in which the mass of the population could intelligently participate in politics and could develop the self-restraint necessary to avoid succumbing to the appeals of irresponsible demagogues.”

Such an assertion obviously relies on a complex relationship between income and individual and social rational behaviour (“modernization”), which is at best unproven.⁹

The second challenge for the Lipset hypothesis is empirical. During the last three decades preceding the reversal, countries in the Third World and Central Europe, which later democratized, showed no sign of a revolutionary turnaround in economic growth generally sufficient to reverse the preceding downward trend of democracy. On the contrary, growth typically slowed down steadily in communist countries, as well as in many newly independent former European colonies in the Third World. Thus, while the hypothesis could still explain cross-country differences in income and freedom, it cannot account for the overall boom.

The third challenge comes from econometric testing. Recent work by Acemoglu *et al.* (hereafter AJRY, 2008, 836) shows that “although income and democracy are positively correlated, there is no evidence of a causal effect,” and that the correlation between income and democracy disappears once you introduce country-fixed effects – country specific information – into the model. From this we must conclude that there are indeed country-specific explanatory variables, or country levels of the same variables, other than income, which must better account for the common rise in freedom across countries.

A.2. Distributional hypotheses

A.2.1. Internal political equilibrium and the competition for influence

One of the oldest political explanations of how rights become established is based on the dispersion of ownership of scarce resources and the ability to use these resources to wrest influence from the government or Ruler.¹⁰ This resource-based approach to political power serves

9. Barro (1999, S182) writes “Given the strength of the Lipset/Aristotle hypothesis as an empirical regularity, it is surprising that convincing theoretical models of the relation do not exist.”

10. This analysis finds its origin in the works of Rousseau, Jefferson and de Tocqueville (and many others) and in the political history of western countries such as the United States, France, but especially England.

to explain not only the distribution of rights, but also the structure of taxation and the pattern of political redistribution.

A country will adopt an egalitarian constitution if the owners of scarce resources are more or less equally endowed, whether small farmers with an equal distribution of land plots (Jefferson) or individual gold diggers in the western gold rush (Umbeck, 1981), mainly due in this latter case to the general availability of the “the great equalizer” in the conquest of the West, the Colt revolver.

Such a model can be extended to groups. Becker (1983) finds a competitive equilibrium will result regarding the distribution of taxes and transfers among special interest groups, based on the supply and demand for influence. The same approach can be applied to the distribution of rights as well. For example, the extent of suffrage in a particular country could depend on the diffusion of resources – countries that have an uneven distribution of resources may also have an uneven distribution of political rights.

Vanhanen (2003) shows, with a large sample of countries, that a comprehensive measure of democracy is dependent on the degree of concentration of resources (broadly conceived and measured) within each country.

While the explanation of rights being tied to resource distribution may account for long run and country specific patterns, it does not fit the stylized facts of the last thirty-year wave that we want to explain. We know that the distribution of resources does not vary much over time and could not have varied, either significantly or in the same required way, in all countries over the period concerned. We do know that the dispersion of wages and incomes, while tending to narrow over the twentieth century, widened again during the last few decades. But the recent increase in wage or income dispersion should, according to the theory, lead to a reduction in democracy and a restriction of freedoms not, as we have witnessed, a “freedom boom” (Rosa and de Vanssay, 2010).

A.2.2. Geography and the long run, path-dependent version of the distributional hypothesis

Another argument relying on the historical distribution of resources sheds further doubt on the income-freedom hypothesis. Countries move towards democracy and greater freedom at their own different pace. When showing that the link between income and democracy disappears

once country-fixed effects are introduced into regressions, AJRY conclude that the income variable actually expresses the influence of historical, cultural and institutional country-specific, factors on democracy – that is, path dependence.¹¹

Country-fixed effects, they argue, are the result of earlier political equilibria, which determined any later – and possibly much later – change or path of change in economic, civil, and political freedom. There will not be any institution supporting economic growth in countries where power has been concentrated in the hands of a small elite who used it to maintain its rents and position, and will keep doing so in the future even at a high aggregate economic opportunity cost, no matter how worthwhile more economic growth could be.¹²

This would be the case of countries colonized by Europeans where the local disease environment (Malaria and Yellow Fever) determined a high mortality for the colonizers who created “extractive” institutions instead of colonies of settlement. Their number remained low and they tried to maximize short run profits (e.g. the Congo and other African possessions).

On the contrary “where Europeans faced low mortality risk because the climate was drier and cooler, they set up “settler” institutions designed to create a political and economic environment that resembled Western Europe.” (Haber and Menaldo, 2010). These initial colonial institutions and the size of European colonizers’ population relative to local populations, and thus the degree of wealth inequality conditioned the distribution of rights and the ulterior path of political and economic development. Where small European elites dominated vast populations of African slaves or Native Americans for instance, they easily crafted political institutions that gave them power beyond their numbers and easily captured the State, even after independence.

Engerman and Solokoff (1997) focus on the effect of the climate and geography on the profitability of various cultures rather than mortality: where conditions were conducive to large scale plantation agriculture (sugar, cotton, and other tropical crops) a small minority of European

11. “Overall, the inclusion of fixed effects proxying for time-invariant country specific characteristics removes the cross-country correlation between income and democracy. These results shed considerable doubt on the conventional wisdom that income has a strong causal effect on democracy.” (AJRY, 2008, 820).

12. In countries colonized by Europeans, they argue, and where their ratio to the indigenous population was low, they adopted authoritarian forms of government which influenced all future political, economic and civil institutions, even after these countries attained independence. The stunting of economic freedom slowed economic development, hence the correlation observed between income and freedom. Comparing former colonies in the Americas, they argue that long term path dependence can result from these initial differences. This analysis can be summarized as a European colonization and path dependence theory.

landowners could mobilize large amounts of capital and employ large numbers of local populations and/or African slaves. They rigged the political institutions for their own advantage and that oriented the later political and economic path of development towards authoritarian and concentrated political and economic power, thus severely limiting freedoms. They also argue that the natural environment of Canada and the United States had none of the “factorial advantages” of Latin America: it was too cool and dry to grow sugar, there was no significant mineral wealth, and the indigenous population was sparse. “The resulting societies were therefore composed of immigrant small farmers who were evenly matched in terms of educational attainment and political sophistication.” (Haber and Menaldo, *op. cit.*).

There are problems, however, with this path dependence argument. First, there are several examples of autocratic governments implementing very successful economic development policies, while not allowing freedoms that would likely undermine the power of their established elite (Giavazzi and Tabellini, 2005). Second, its validity is geographically limited: how do we account for countries which were not colonized or where democracy was a colonial legacy (Przeworski *et al.*, 2000, p.83), but nevertheless are poor and/or autocratic today? Moreover Engerman and Sokoloff (1997) focus solely on the Americas, while Acemoglu, Johnson and Robinson (2001) limit their analysis to Western European colonies. Places that were so inhospitable that European powers were not interested (the Arabian Peninsula) or were part of non-European empires (Turkistan, a part of Russia) or could resist colonization (Japan), lie outside this framework. And that is the case of course of European countries themselves, whether colonizers or not, that are not included in these studies.

In order to overcome these limitations Haber and Menaldo (2010) suggest a more general explanation. In their view, the climate, and specifically an adequate level of rainfall uniquely found in temperate zones, determines the development of settled and diversified agriculture conducive to rather small properties instead of the large plantation complexes of high rainfall areas. The surplus they are able to produce gives incentives for the growth of markets and of States. States replace tribalism and create impersonal laws, thus rights. And moreover, the growth and resulting competition of larger States determines financing needs that lead to a granting of rights of control of their management to taxpayers, in order to obtain a higher level of consent

and consequently of more tax incomes. In this framework, moderate rainfall and the correlated development of States, are the main determinants of democratic rights and freedoms.

A same limitation however applies to this analysis as to that of Acemoglu *et al.* and of Engerman and Sokoloff: it explains the differences of democracy across nations, but as a permanent factor, and as such cannot account for major temporal variations of the spread of democracy during the modern era. A second limitation comes from its focus on political freedoms (democracy) and a neglect of economic freedoms. This second aspect however, has been less developed than the study of the determinants of democracy.

B. Economic freedoms

We have so far discussed positive theories of aggregate political and civil liberties, or democracy. Surprisingly, similar positive theories are conspicuously missing in the case of aggregate economic liberties, or exceedingly poor when formulated. But they are implicit, in a negative way, in theories of the growth of the State. Classical liberals see the State, through its regulations, taxes, legislations and downright nationalization, as the main agent of economic freedoms destruction.

B.1. The State as a source of economic freedoms reduction

We suggest that this emphasis is a result of the 20th century substantial development of the State as producer and supplier of transfers. The growth of the State has been spectacular, especially in the post WWII period, but already also in the 1930s and 1940s. The State has come to be seen exclusively as an enemy of freedoms, because of the competition with private investors for ownership of private goods production (including various insurance products typically supplied by the “welfare state”), and because of the development of extensive regulations of private enterprises as another form of taxation (Posner, 1971).

Many authors are bent on showing that these economic freedoms, which, according to most, are always conducive to more growth and wealth, are repressed because of faulty understanding of their positive effects by short sighted or uninformed governments, which do not understand, or underestimate, long term effects of freedom-reducing regulations, State ownership

and taxes. This implies that either most governments have been consistently wrong for more than 70 years of the twentieth century (the ‘inefficiency of politics’ thesis) and have suddenly benefited from a clear understanding of economics basics after 1975 (the ‘miracle of ideas’ thesis), or that the efficiency gains from economic freedom have been consistently dominated during this period by other factors leading to the persistent growth of the State; a more likely hypothesis.

Indeed, even if economic liberties always favour growth, Public Choice considerations can explain that they could be rationally repelled, given the process of collective decision making, either because the interests of the Ruler do not coincide with those of other productive agents, or because the interests of various groups of agents do not coincide with each other, nor with the maximization of growth and aggregate income level.

Thus political factors could explain the amount and level of economic freedoms, positively or negatively (de Vanssay *et al.*, 2005). Some authors have considered that democracy in itself is inimical to economic freedom in that it leads to increased State intervention, regulation, and redistribution. But this is difficult to reconcile with the fact of the positive correlation observed between political and economic liberties.

Since the development of the State beyond and above the size that allows the production of the basic goods of security, law and order (undoubtedly the case in modern countries) implies, as many liberals would have it, a reduction in the scope for individual economic activities and freedoms.¹³ Thus, a “negative” theory of economic freedom could be derived from theories of the growth of the State, in this perspective.

But first, these theories are still unsatisfactory (Holsey and Borchering, 1997)¹⁴ and Tullock (2002), and second, again, the recent evolution has been characterized by a relatively stable share of public expenditure in GDP while the economic freedom index (EFI) was booming, making it likely that another variable is required to explain the trend in economic freedoms. This can be due to the composition of the EFI which includes not only g/y (the share of public expenditure in GDP) but also other variables such as regulations, legal structure of business,

13. Milton Friedman, *Capitalism and Freedom* (1962), and see also the variables included in the Economic Freedom Index (EFI) published by the Fraser Institute.

14. They conclude (1997, 573) that: “Unfortunately, why government’s share of the transaction sector rose relative to the private sector’s is not well explained.”

international trade taxes and tariffs and other import barriers, as well as policies regarding monetary stability, inflation, and government deficits. The increase of EFI, while g/y is rather stable (Tanzi and Schuknecht, 2000), thus would imply that the regulatory and policy elements of the index were liberalized all the more strongly, determining a strong rise of EFI.

As far as we consider the EFI as a reasonable, encompassing, measure of economic freedom, we are justified in not retaining the theories trying to explain the scope of the State as an implicit, and negative, measure of economic freedom, because the scope of the State is only a part of the EFI index.

Basically we are left without an articulated theory of aggregate economic freedom as well as in need of a theory of political and civil liberties.

B.2. Mobility, openness, and the decline of State control

The progressive opening of national economies since World War II and the recent decline in State power usually linked to globalization has increasingly allowed citizens to escape their respective governments' coercion and their taxing powers. This has led some to formulate a 'decline of State power' hypothesis – the idea that more open economies weaken a State's control of its citizenry and territory and, by extension, limit its ability to finance itself, leading the Ruler to give more guarantees (rights) to the citizens, tying his own hands in the process.¹⁵ Mobility makes freedoms.¹⁶

However, the alleged loss of power of the States is not obvious: as shown by Tanzi and Schuknecht (2000), even though individual mobility did increase, as did macroeconomic openness, the government's share of GDP has not decreased significantly, and certainly not before 1975. Nevertheless, international openness as a structural fact – smaller countries must be more open than larger ones – can validly appear as an explanatory variable of cross country differential freedom, and possibly also with regard to its temporal evolution.

15. McKenzie and Lee (1991), Tanzi (2001).

16. Tiebout (1956) pioneered that approach of individual mobility as a factor affecting a municipal government's taxing power. He shows that a municipality's ability to tax will be constrained by the level of taxation in other municipalities. In a seminal article David Friedman (1977) shows that Tiebout's result can be expanded to the national level as well.

C The missing factors

What is left of the plausible determinants of freedoms at the end of our survey? The main casualty is the income effect, which is at the same time unconvincing theoretically, contradictory in its assumed consequences with regard to political and economic freedoms evolution, and econometrically questionable.

Contrary to Barro (1999, S168),¹⁷ we do not believe that trend-like variables that were purported to explain democracy and freedom, besides income (mostly education), in periods preceding the global boom, are at the same time able to explain the great reversal of recent years, because there is no adequate balance in the equations between variables with a positive influence and variables with a negative influence on freedoms, and because there is no radical enough change in the values of either that could generate a reversal in the dependent variable within the framework of these same equations.

Given all the difficulties of existing models, we believe the missing factors question reflects a missing theory problem. What is required is a direct theory of the demand for freedoms that should build upon the existing theory of rights. Such a theory of demand for rights – and thus for freedom – that is grounded in microeconomic theory, already exists. The theory of property rights, as outlined by Demsetz, reminds us that rights will be adopted and developed when the costs of defining and enforcing them are lower than the expected profits from their implementation.

In the next section we develop, using Demsetz's framework and a Coasian theory of the choice of organization, a model of organizational change and its consequent requirements of individual freedoms.

17. Who, after noting that "... world democracy declined in the early 1970s and then rose in the early 1980s and again in the early 1990s." writes: "Note that these results apply for given values of the explanatory variables, which can also generate patterns in world democracy. For example, positive trends in per capita GDP and schooling would imply an upward trend in democracy." But the question is: why did these positive trends not determine a democratic wave before? Were these variables weak enough, or were the other variables in the equation with a negative influence on democracy so much stronger to compensate this positive influence? It does not seem to fit the facts.

3. Information, organization, and the value of rights

Why is organization important for our problem? Because the overall organization of production, in all societies, reflects a mix, in variable proportions, of two basic inter-individual principles of interaction or cooperation: exchange through markets and the price system, or submission through hierarchical rule (for instance in the labor contract, but obviously also in the harsher institutions of serfdom or slavery). Where hierarchical organizations grow, markets contract, and many more individuals are submitting to the decisions of a few. They do not decide by themselves but obey orders from others. In that position they do not need freedom to act, to do or not to do. The numbers of independent individuals thus evolves inversely with the development of hierarchies, private as well as public. Large-scale corporate or state bureaucracies accordingly reduce the need for individual freedoms. On the contrary, smaller hierarchical organizations contribute to an increase in the number of decision-makers, and these need freedoms in order to decide and act. And the rights in production also impact political rights as noted by Milton Friedman: economic freedoms are a condition for political freedoms. Moreover, in the political field also, smaller, more competitive States (political markets that are “contestable” in the sense of Baumol) are led to grant more political freedoms to the taxpayers they control, as their rivals could attract them and their resources more.

The optimal structure of production (“economic” and “political”) thus determines the diffusion of freedoms among the population as explained by Rosa (2000, 2006). A bird’s eye view of the argument is as follows:

Individual freedoms are rights, and individual rights are socially valued because necessary for individual decision-making. The more efficient decentralized decisions are, relative to centralized ones, the more individual rights are required. When information is scarce relative to production, hierarchies develop since they are an information-saving device, while on the contrary when information is abundant relative to production, markets develop, because the transaction costs are mainly information costs, and these are reduced where there is more information. Therefore one can expect freedom levels to increase where information becomes abundant (the “Coase-Rybczynski theorem”).

The relative amount of information -- or information/output ratio -- has been variable in modern times: high in the Enlightenment / Industrial Revolution context, but then lower during the second industrial revolution (1875-1974) because of the massive increase in productive capacities and the speed of production flows described by Chandler (The Visible Hand), increasing the denominator more than the numerator. And it went up again with the recent Information and Communication Revolution since the mid-1970s.

That's what explains the succession of waves: the first freedom wave of 1750-1875, followed by the reverse wave of centralization, imperialism, and totalitarianism, of 1875-1975, and then the present wave of decentralization and democracy (1974-) in a sinusoidal sequence of organization and freedoms.

Let's develop the successive steps of the argument.

1. *The nature of freedom(s).*

An economic theory of freedom must be based on a definition of freedom as an economic object, in order to determine under what conditions this object will be more or less abundant in a particular country and specific period. An economic explanation must indicate how the quantity of freedom would vary according to the supply and demand of individual rational economic actors.

In our analysis individual freedoms are rights to act or not to act. Some examples of these freedoms are rights to acquire, use or destroy physical or intellectual assets, rights to use or not use various words or means of expression, rights to take self-employed work or work for an employer, rights to leave or remain in a certain country, rights to vote or not vote for political candidates and government.

These rights are "officially" recognized ("de jure", by legitimate authorities or the Ruler), or alternatively, where there is no legitimate Ruler, they are "de facto" rights, such as land claims during the Gold Rush (when, as noted by Umbeck, 'might made rights').

They are more or less defined and defended from country to country. Indeed, as Barzel (1989, 2) notes, it is clear that:

The rights people have over assets (including themselves and other people) are not constant; they are a function of their own direct efforts at protection, of other people's capture attempts, and of government protection. Squatters' rights to the land they occupy are less secure than those of legal owners not because they lack deeds but because less police protection is expected for such holdings. As defined here, property rights are not absolute and can be changed by individuals' actions; such a definition, then, is useful in the analysis of resource allocation. Economists' past failure to exploit the property rights notion in the analysis of behaviour probably stems from their tendency to consider rights as absolute.

And furthermore: "The distinction sometimes made between property rights and human rights is spurious. Human rights are simply part of people's property rights." (*ibid.*, 1989, 2).

If economic and political freedoms are property rights, then there is only one category of phenomena to be explained, property rights. This makes it easier to develop a coherent theory that fits with Demsetz's economic analysis of the evolution of property rights.

2. Rights are socially valued when productive.

According to Demsetz, property rights will be produced, defined and enforced according to their intrinsic characteristics and the social environment in which they are created.¹⁸ Rights will be readily defined and defended when their value is high and/or their definition and enforcement cost is low. Individuals will be granted freedoms when their actions and decisions are valuable in production processes, and denied rights and freedoms when their capacities for decisions are not required or even counter productive (for instance in the military).

We thus find that the relative effectiveness of decentralization to centralization in the organization of production provides the answer. When the decentralization of production is more effective, individual decision-making is necessary, and the cost of coercion in terms of wasted resources for society increases appreciably. On the contrary, during times when centralized production is economically more effective, governments, whether democratic or not, and

18. Demsetz (1967) explores the case of the Montagnais Indians in Quebec who developed property rights on hunting grounds previously open to all, in response to increased demand for fur by European trappers. The gross social value of the land increased, exceeding the cost of establishing and defending rights to it.

corporations, do not have a lot to lose in terms of economic growth when using authoritative constraints on individual employees.

Thus, human rights and freedoms are produced and, as such, are variable. Personal freedoms will vary across countries according to the advantages they bring – their value – and their costs of definition and implementation.

3. *Economic and social value of freedom.*

The exchange value of an asset is a function of the gross income which it can generate and of the costs of measuring and policing its exchange. (Barzel, 1989, 8).

These revenues and costs also define the exchange value of individual rights as assets, property rights, potential rights, or options on human activity. The net social value is not maximized by the maximization of rights, but by their optimization, taking into account their production cost.

Economists concerned with property rights often consider any restriction on those rights, called “attenuation of rights”, to be undesirable. A person’s ability to realize the potential value of her or his property depends on the extent of her or his property rights, which consist of the ability to use (and to exclude), to alienate, and to derive income from the property. The ability, or power, to exclude prevents the property from becoming common property, and the ability to alienate and to derive income permits the realization of gains from exchange. Since restrictions in general reduce freedom of action, restrictions on a person’s (property) (our brackets, JJR-XdV) rights reduce the value (of the property) (idem) to its owner, making such restrictions appear to be harmful. (Barzel, 1989, 85).

But when individuals do not have to decide, individual freedoms are not productive and on the contrary hamper the centralized production process. Freedoms may have residual consumption value in themselves, but have then lost their major determinant.

4. *Individual decisions are especially productive when well informed.*

Note that the theory of pure and perfect competition (or ‘perfect decentralization’ as Demsetz put it) assumes that this condition is realized : information is assumed complete and costless. Thus when information is abundant, decentralized decision is more efficient, and rights

are required. When information is scarce relative to production capacity, the requirements of pure and perfect competition are not met. Complete decentralization is not optimal and some centralization results. A complete set of rights is not optimal either.

Economists often estimate that more personal freedom is always better in terms of economic growth; however this result is dependent on a model of perfect competition and perfect markets in which all decisions are implicitly individual and information is perfect, complete and costless. If we consider the possibility of markets with imperfect information and thus with positive transaction costs, the marginal productivity of additional personal freedom can vary appreciably.

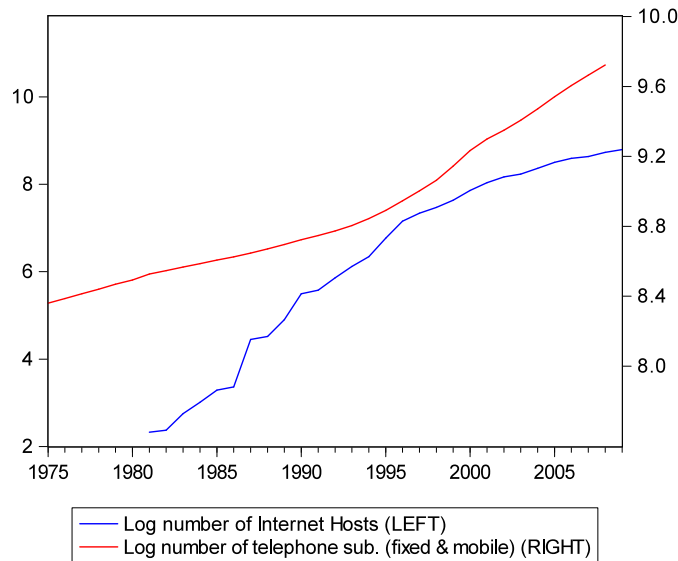
As shown by Coase (1937), in an economy with positive transaction costs, productive hierarchies for private businesses and bureaucracies emerge because they reduce these transaction costs in the production process. The essential difference between pure market production and production within a hierarchy is the degree of decentralization in the decision making process.¹⁹ In a strict hierarchy (a polar case, of course), all decisions are made by the leader, which all other participants obey. On the contrary, in decentralized production or pure markets each participant makes their own decisions. In the first case, people who need freedom to decide are relatively very few, while in the second, general freedom is essential to the production process.

5. The information/output ratio is variable across nations and through time.

In the modern era, the *ratio* of available information to output significantly increased during the Enlightenment/Industrial-Revolution era, and remained high until the second industrial revolution (1875). Thereafter it was lowered by the extraordinary increase in productive capacity and accelerated production flows (Chandler, 1977) that largely outpaced the development of information technologies. Then again, since the beginning of the IT revolution in the 1970s, captured by our Figure 2, the availability of information increased much more rapidly, leading to a general decentralization of production, both economic and political.

19. See Rosa, (2000, 2006), and in particular the “Coase-Rybczynski theorem,” (2006, 240-5).

Figure 2
The “Information Revolution”



Source: Internet Systems Consortium, Inc. (ISC), <http://www.isc.org/solutions/survey/history> and ITU World Telecommunication/ICT Indicator Database.

These alternate phases of the information/output ratio explain the succession of waves: the first freedom wave because of both high information level (the rise of science and techniques, as reflected for instance in the French “Encyclopédie”) *and* production level (the steam engine and other innovations) leading to decentralization.

Then, we have a reverse wave of centralization, imperialism, and totalitarianism, resulting from productive capacities outpacing the progress of information technologies during the second industrial revolution, 1875-1975. Centralization of production was manifest in the rising importance of trusts and giant enterprises, as well as of growing States and empires worldwide.

And then, the present era 1974- , in which information and communication technologies outpace the progress of production. Decentralization and many rights again prevail.

It is an A – B – A sinusoidal sequence of organization and freedoms.

Better-informed decision makers improve on average the quality of decision. Thus more information tends to increase the number of decision makers, and therefore the number of rights holders, or freedoms holders. Personal freedoms are a strict complement to the decentralization of

decisions. It follows that the social value of freedoms increases and decreases with the degree of production centralization, which in turn depends on the information abundance or scarcity. Freedoms are a factor of production complementary to the decentralized mode of production.

When the social value (in terms of additional production) of freedom increases, it tends to exceed the social costs of freedom (anarchy, delinquencies, even terrorism). Democratic freedom, in particular, is said by some to entail a high cost in terms of resources invested in complex political coordination problems, and also in terms of increased redistributions that determine social losses (rent-seeking).

Under conditions of information abundance, however, freedoms will be more intensively demanded because decentralization is optimal, while less demanded in a world where information is scarce and expensive and where centralization (public or private) is more effective.

Political factors regarding redistribution will also play a role. In particular, the existence of an authority having a monopoly on the use of force, is essential in defining and implementing freedoms. Governments do define and legitimize freedoms in society. Furthermore, governments are in a position to use their monopoly on organized violence in order to defend these freedoms.

Let us assume that, in fact, governments do produce personal freedoms to answer individuals' demands, allowing the latter then to use these rights to increase their production. These governments, even if they are of the 'Leviathan' type, will find it beneficial to concede more freedoms to individuals when the optimal production mode is more decentralized, that is when information is particularly abundant and where its more intensive use is more productive (because a decentralized production process is more information-intensive than a centralized one). The government's interest here is in the tax revenue it will extract from the additional production resulting from additional freedom and more decentralized productions processes.

We will find again higher supply and demand for personal freedoms in periods and places where information is abundant. In sum, the development of a free society must follow the development of the information society.

We thus have a common, universal factor, information, which can explain waves of increase or decrease in freedom and thus of democracy in all countries whatever their past institutional history. But it is clear that countries that inherited a democratic organization will go

farther towards new freedoms in riding the information wave than those nations that inherited an autocratic structure.

There are, however, other factors specific to individuals and to countries that can explain observed differences in levels of freedom and differences in the types of freedom available.

6. *Differential demands for freedom.*

For individuals, the demand for freedoms will depend, like all demands for other goods or services, on their marginal utility derived from freedoms, which depends on income and relative price or relative cost.

Not all individuals will grant, however, the same value to the ability to decide for themselves. They will be constrained by their differential access to information and level of their human capital. Individuals with high human capital (for example specialists, professionals) will value the decision-making power more because their high human capital allows them to make a more efficient use of the expensive information needed to decide. They will, demand more freedom than low human capital individuals. On the other hand, those with limited human capital, acting as subordinates, will demand less information, decision rights, and freedoms.

It follows that the distribution of human capital in a given population must affect the demand for freedom and thus the average freedom level as well as its distribution (indeed, certain tests, including Barro's, show that the demand for freedom is contingent and relative, but do not provide theoretical reasons for these conditional effects). Therefore, the demand for freedom, which is a function of its productivity and thus of the level of human capital, will vary within the population and between societies according to the distribution of resources ('Tocqueville Effect'²⁰) including human capital: where the distribution of resources is more concentrated, the demand for freedoms will be limited to a smaller fraction of the population because large masses

20. de Tocqueville (1840, Chapter 5) writes on the multiplication of small social groups ('associations') and how this supports democracy. His idea is understood as follows: when (hierarchical) organizations are small, they are consequently more numerous in society, and, in corollary, markets are more developed. This corresponds to a greater abundance of information, and also to an increased demand for personal freedom. Democracy itself is only an organization in which a large number of agents take part in public decisions. It is a decentralized mode of control of public decisions, as opposed to the extreme centralized mode of autocracy. It is also a system in which the political market plays an increased role. It is based on abundant citizens' information and on freedom that make it possible for them to decide indeed, at least in the political market.

deprived of human capital will be in a position to make decisions and thus will not demand much freedom.

Of course, the level of freedoms also depends on the Rulers' capacity to concede freedoms to the people – their supply of freedom. This is often emphasized in the literature: fiscal extraction can determine greater discretionary revenue by increasing tax rates on a given income, at least up to a point. If the controlled taxpayers demand more freedom, it is not always necessary, nor desirable, for the Ruler to grant them, unless the additional productivity which results from greater freedoms can produce additional tax revenues. But this depends again on the relative prices of output and information. Where information is abundant (cheap) relative to output, the optimal structure of production is more decentralized because decentralized production (production through markets) is more intensive in information than hierarchical, centralized production (Rosa and Hanoteau, 2010 provide a detailed explanation). Thus the optimal degree of decentralization of production depends on the abundance of information. And since the decentralization of production means that production decisions are decentralized, many more individuals will be in a position to decide and thus will require more freedoms.

Obviously, the tax extraction capacity of a government also depends on other, structural, conditions, such as the dimension of the country, the relative importance of its extractive industry (oil and raw materials, see Ross, 2001), its homogeneity, the language used, its commercial openness, all factors which support or handicap the mobility of the controlled factors of production. If mobility is high, as in 'Tiebout-Friedman-Hirschman' types of models, Rulers are led, by rational self-interest, to yield many freedoms to avoid an emigration that would deprive them of tax revenues. Taxpayers will obtain, by the simple fact of their potential mobility, the freedoms that they claim. But these structural factors are not likely to fluctuate through time simultaneously in very different countries, and thus cannot explain the "waves" of freedom and unfreedom observed since the 18th century.

4. Conclusion

We have presented a theoretically founded model for the demand and supply of rights and freedom, thus providing an answer to Barro's demand for an explanation of freedom more solidly

grounded in theory. Our model does not call upon the income-freedom effect whose theoretical weakness and empirical contradictions have been underlined in the literature, but instead focuses on the abundance of information and its effects on the decentralization of production, and thus of decisions.

For a given level of income, freedom is greater when the optimal organization of production is decentralized. The main determinant of economic decentralization – and we specifically suggest the abundance and low cost of information – contributes to explain some of the cross-country differences in freedom levels. But more importantly, it accounts for the alternate waves of freedom and unfreedom, the variations in the number and sizes of nations, and the changing intensity of their territorial competition, so characteristic of the modern era.

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