The Global Freedom Boom: An Economic Analysis

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Abstract. We account for the worldwide advance of political freedom and economic liberalization which has reversed the dominant trend of the twentieth century's first seventy years, away from markets and democracy. The ubiquitous nature of this turnaround means that no special, national, or sectoral circumstance can explain the phenomenon. We suggest, in a Coase-Demsetz perspective, that increases in freedom are due to a recent increase in the social demand for individual rights – whether civil, political or economic – derived from, and complementary to, the downsizing of all hierarchical organizations. We argue that this decentralization process itself is the result of the information revolution.

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1. Introduction

The recent world-wide trend from autocracy toward civil and economic freedom, the so-called "democratic tsunami" (Drake, 1998), has led to substantial research into the determinants of various freedoms and has pointed to the need for a general explanation, a theory.

Many explanations in the literature address political and economic freedoms separately. They also fail to account for the dramatic trend reversal that began in the 1970s and which gained strength and speed in the 1980s and 1990s. Moreover, none of these competing theories has been built on the economic theory of rights as pioneered by Demsetz (1967), despite the fact that these various forms of freedom are basically individual (human) rights.

We address these theoretical shortcomings in accounting for the worldwide advance of freedom, democracy, and economic liberalization that has occurred over the last few decades. The ubiquitous nature of this turnaround leads us to believe that no special national or sectoral circumstance can explain this phenomenon. We argue instead, using a Coasian framework, that this trend is due to a recent increase in the social demand for individual rights – whether civil, political or economic – derived from and complementary to the downsizing of many hierarchical

organizations. We believe that this decentralization process is itself the result of the information revolution (Rosa, 2005). An empirical test using panel data provides the support for our theory.

1.1 The great reversal

The "Third Wave" of democracy (Huntington, 1991 and Fukuyama, 1992)[2] began in the 1970s, was amplified by the collapse of Communism in the 1990s and, combined with widespread acceptance of the economic policies of the "Washington consensus", led to a general revolution of freedom. This freedom boom reversed the earlier trend toward State intervention and socialism, which began to take hold at the beginning of the twentieth century.

This, in turn, has increased the number of fields where individuals can decide for themselves – without intervention from government, groups, or institutions – and has led to increasing deregulation, privatization, and a quasi-universal movement toward decentralization of public decisions, (Bardhan, 2002). This evolution has not been without its costs however. For as the large hierarchies have disintegrated, law and order has been challenged and a general weakening of the State has led, in some cases, to civil war, terrorism and anarchy, (Kaplan, 2000).

The freedom boom has not been limited to political democracy and freedom: it has been accompanied by a movement, equally broad based and significant, towards competitive markets, liberalization, and the globalization of previously closed economies.[3]

This worldwide trend is now well documented. For example, according to *Freedom House,*[4] over the last 15 years, the proportion of countries in the world that are electoral democracies has risen from 69 out of 167 countries (41%) to 119 out of 192 (62%). Table 1 shows the similar progression of the Civil Liberties (CL), Political Rights (PR),[5] and the Economic Freedom (EF)[6] indices from 1975 to 2003.

As shown in Barro (1999), 1975 was a low point for democracy in the world. Despite the return to democracy of several European countries after World War II, what Huntington described as the "second, short wave of democratization," many newly independent countries, former colonies of European empires, adopted autocratic regimes throughout the 1950's and 1960's. This trend contributed to a continuing fall in the share of democracies among the world's independent countries.

Table 1 does not, however, do justice to the emergence of new democracies during the 1990's and underestimates the progress of political freedom. Indeed, the number of countries studied by *Freedom House* (for CL and PR indices) grew from 158 in 1975 to 192 in 2003; while the number of countries studied by the *Fraser Institute* (for the EF Index) grew from 71 to 124. Ukraine, for example, appears in the *Freedom House* and the *Fraser Institute* rankings only in 1995. As a result, its transformation from a vassal State of the USSR into an independent free State is not reflected in the dataset. Despite these complications, the overall trend is clear. There

has been a rapid and simultaneous growth of civil liberties, democracy and economic freedom.

Table 1: CL, PR, and EF in the world

Year	CL Average	PR Average	EF Average
1975	4.5	3.9	5.17
1980	4.5	4.4	5.14
1985	4.5	4.7	5.17
1990	5.4	5.2	5.45
1995	5.4	5.8	5.91
2000	5.8	5.9	6.34
2003	6.2	6.1	6.44

1.2 The theoretical challenge

The almost universal movement away from autocracy and back to markets constitutes a theoretical challenge. How do we explain this great reversal?

There are few convincing arguments in the literature. Many authors consider the new trend in *a normative* way, as an end in and of itself: freedom is conceived as an economic good whose adoption results simply from the well intentioned quest, by political decision makers, for greater individual welfare.

But if freedom is, always and everywhere, welfare improving, why has its adoption come so late? And why did nations move backwards during the first two thirds to three quarters of the last century, putting an end to the first wave of liberalization which began in the 19th century?

We need a model explaining not only the simultaneous evolution of various kinds of freedoms but also the new general diffusion of freedoms at the end of the twentieth century, after their relative abandonment during the period spanning 1913 to 1975.The fact that, during recent times, this movement has been both broadly based and simultaneous throughout the world leads us to believe that there may be an underlying common factor at work. 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.

The research on economic freedom has, to date, been as limited as that on political freedom, having been concerned mainly with the links between economic and political freedoms in as much as they have an effect on economic growth, (Doucouliagos and Ulubasoglu, 2006). But these analyses do not answer the question of why and when a country will adopt one economic or political system rather than another.

We argue that if individuals and their governments act rationally, then freedoms that are enacted arbitrarily or by fiat will be ineffective. Increases in freedom must instead rise from economic and social conditions of supply and demand.[7] We thus adopt the fundamental approach of political economy as a science

of choice. Economists have successfully explained a growing number of social phenomena and human (or animal) behaviors in the field of politics in terms of cost and demand with a given set of preferences (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.

This implies that freedoms are adopted, implemented, or even "produced" by various political regimes according to objectively observable determinants. We believe this approach can shed light where current explanations fall short because an underlying theory is missing.

2. The underlying problem: Missing factors, missing theory

Current work on the determinants of liberties treats economic and political freedoms separately. The authors focus on 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.[8] They cannot explain either why both civil liberties and economic liberties followed a parallel, self-reverting, 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 political and economic freedoms), missing common factors capable of explaining the trend reversal, and accordingly, as we suggest, a missing (unified) theoretical framework.

2.1 Explanations for democracy and civil liberties

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

2.1.1 The income-freedom hypothesis

The most famous theory is Lipset's[9] income-democracy relationship according to which the level of income determines the level of democracy and freedom,[10] 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 account for a significant portion of the changes in both PR and CL indices.

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 mechanism by which increasing income leads to increasing 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 rationality ("modernization"), which is at best unproven.[11]

The second challenge for the Lipset hypothesis is empirical. During the last three decades preceding the fall of Communism, countries in the Third World and Central Europe, which later democratized, show no sign of rising income levels, or at least no sign that it was rising sufficiently to satisfy the hypothesis and revert the preceding downward trend of democracy. On the contrary, growth typically slowed down in communist countries, as well as in many newly independent former European colonies in the Third World. Before the 1975 turnaround, at the beginning of the global freedom boom, there are no signs of a new trend or revolutionary turnaround in economic growth generally. While the hypothesis could still explain cross-country differences in income and freedom, it cannot account for the overall freedom 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 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.

2.1.2 Distributional hypotheses

2.1.2.1 Internal political equilibrium and the competition for influence

One of the oldest political explanations of how rights become established is based on differential ownership of scarce resources and the ability to use these resources to wrest influence from the government or Ruler.[12] This resource-based approach to political power serves to explain not only the distribution of rights, but also the structure of taxation and the pattern of political redistribution through public expenditure on public goods and subsidies.

A country will adopt an egalitarian constitution if the owners of scarce resources are on equal footing, 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 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.

2.1.2.2 Mobility, openness, and the decline of State control

The progressive opening of national economies since World War II and the recent decline of 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, thus tying his own hands.[13] Mobility makes freedoms.[14]

However, the alleged loss of power of the States is not obvious: even though individual mobility did increase, as did macroeconomic openness, the government's share of GDP has not decreased significantly, at least not before 1975, (Tanzi and Schuknecht, 2000). 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, but less so with regard to its temporal evolution.

2.1.2.3 Historical, 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.[15]

Country-fixed effects, they argue, are the result of earlier political equilibria, which determined any 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 use it to maintain its rents and position, and will keep doing so in the future, no matter how worthwhile growth could be.[16]

There are problems, however, with this path dependence argument. First, there are several examples of autocratic governments implementing very successful economic development policies, not allowing freedoms which would appear to undermine the power of the established elite (Giavazzi and Tabellini, 2005). Second, its validity is 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? Lastly, the argument that countries have adopted democracy at different times and in different ways because of "history" relies on an extreme determinism, which makes the present reality totally dependent on some initial conditions, apparently with no opportunity to change course at any time. This hypothesis is extremely difficult to reconcile with the democratic tsunami.

2.2 Explanations for economic freedom (or lack of)

We have so far discussed positive theories of aggregate political and civil liberties, or democracy.

Surprisingly, such positive theories are conspicuously missing in the case of aggregate economic liberties, or exceedingly poor when formulated. Most authors are bent on showing that these 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 reducing economic freedom through 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 difficulties 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 growth and aggregate income level.

Thus political factors could explain the amount and level of economic freedoms, positively or negatively. 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 in the recent boom.

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,[17] a "negative" theory of economic freedom could be derived from theories of the growth of the State, for these authors. But first, these theories are still unsatisfactory (Holsey and Borcherding, 1997)[18] and second, again, the recent evolution has been characterized by a relatively stable share of public expenditure in GDP while the economic freedom index was booming. This can be due to the composition of the EFI which includes g/y (the share of public expenditure in GDP) but also other variables such as regulations, legal structure of business, 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) implies 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, theory of economic freedom, because the scope of the State is only 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.

2.3 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),[19] 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 builds 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.

Using Demsetz's framework and a Coasian theory of the impact of information availability on the hierarchical organization of production, we will show that we can explain the freedom boom.

3. Information and the value of rights

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

Our analysis consists in recalling that *freedoms are rights*. To be precise, all freedoms that are "officially" recognized (by legitimate authorities or the Ruler) are rights. But, if there is no legitimate Ruler, then there are "de facto" rights in the sense of Umbeck's 'might makes rights.' As Barzel (1989, 2) notes "The distinction sometimes made between property rights and human rights is spurious. Human rights are simply part of people's property rights." 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 theory and other theories of political and economic freedom discussed previously.

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. Freedoms will be readily defined and defended when their value is high and/or their definition and enforcement cost is low. That is, when their net utility, their net social value, is positive. In order to determine this net utility, we need to determine the variables which will increase the value of freedom and those which will reduce its production cost.

We 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, the cost of coercion in terms wasted resources for society increases appreciably. On the contrary, during times when centralized production is economically more effective, governments, whether democratic or not,

do not have a lot to lose in terms of economic growth when practicing authoritative extortion.

3.1 The nature of freedom(s)

Individual freedoms are rights to act or not to act. Some examples of these freedoms are rights to acquire, use or demolish 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 can be legally defined and guaranteed, or simply emerge from custom or historical accident. They are more or less defined and defended from country to country. Indeed, returning to Barzel (1989, 2), 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.

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

3.2 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).

Under what conditions will the gross social value of any additional rights be greater than their definition, measurement and implementation cost?

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.

In our analysis, it is a freedom's net social utility which must determine its adoption. Social utility is measured by its contribution to increased productivity of factors of production. The fact that 'the (economic) productivity of political freedom' is a rather fuzzy concept can limit the range of our argumentation, according to which it is the productivity of freedom which determines its adoption by a given country. But it is not so difficult to define: the economic productivity of political freedom is its impact on economic growth. It is the relationship between democracy and growth.

Economists often estimate that more personal freedom is always better in terms of economic growth; however this result is often dependent on a model of perfect competition and perfect markets in which all decisions are implicitly individual. 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. We believe that if several authors arrived at ambiguous conclusions on this point it is because conditions of optimality of decentralized decision (the relative abundance of information) changed over time: from relative scarcity of information before the information revolution of the Seventies, to a relative abundance afterwards. So that regressions which cover the two periods at the same time record a weak or ambiguous effect. Whereas we should have: marginal negative effect of freedoms on economic growth in the Forties or Fifties and a marginal positive one in the Eighties and Nineties.

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.[20] In a strict hierarchy, 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 decision. In the first case, people who need freedom to decide are relatively very few, while in the second, general freedom is essential to the process.

The multiplication of decision makers will tend to improve the average decision quality because each decision maker is closer to the problem. In order for the average decision quality to improve however, each decision maker must not only be close to the problem, they must also possess the necessary information to deal

with it. Transaction costs essentially become information costs (Coase). Therefore, when information is expensive, it is advantageous to reduce the number of decision makers. This can explain the development of large companies, which have the advantage of reducing transactions and the transaction costs of information in the production process.

In a centralized production mode, based on a small number of decision makers, personal freedoms for all are not very productive, while in a decentralized production mode they are essential.

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 the resources invested in complex decision making, and also in terms of increased redistributions which determine a social deadweight loss (rent-seeking).

Under these conditions, competition among countries or simply the sum of individual requests regarding legal conditions of production, will lead countries to adopt more personal freedoms. They will be more intensively demanded in a world where information is abundant and decentralization optimal and less demanded in a world where information is scarce and expensive and where centralization (public or private) is more effective.

This positive approach to freedom does not imply a particular preference for or against economic or political freedom. It just describes how wealth maximization conditions and economic efficiency lead societies and governments to adopt more or less freedom.

It should be noted that under these conditions the utility and demand for freedom does not depend on income. For a given level of income, freedom will be more developed when the optimal organization of production is relatively decentralized. Determinants of decentralization, and not income, will explain the cross-country differences in freedom levels.

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 freedom. Governments do define and legitimatize 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, who then will use them in 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, i.e. when information is particularly abundant. The government's

interest here is in the tax revenue it will extract from the additional production resulting from additional freedom.

We will have higher supply and demand for personal freedoms in periods and places where information is abundant. The development of a free society must follow the development of the information society. Information-poor societies tend to be strongly centralized societies which restrict freedoms or eliminate them in totalitarian regimes.

We thus have a common, universal factor, information, which can explain waves of increase or decrease in freedom and thus of democracy around the world.

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

3.3 Differential demands for freedom

For individuals, the demand for freedom will depend, like all demands for goods or services, on their marginal utility, which depends on income and relative price or relative cost. Also, the inverse of relative cost, the value of relative marginal productivity, will be important.

An individual will be marginally more productive as a decision-maker than as a subordinate in a world where information is abundant. Conversely, he may find it beneficial to be a subordinate in a world where information is scarcer, expensive, and less valuable. This is especially the case if he does not have sufficient human capital.

Not all individuals will grant the same value to the ability to decide for themselves but instead will be constrained by their access to information and their level of their human capital. Individuals with high human capital (for example specialists, professionals) will value the decision-making power because their high human capital can make an efficient use of this expensive information. They will, demand more freedom. 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 the average freedom level or its distribution. We find that in certain tests, including Barro's, the demand for freedom is contingent and relative. 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'[21]) including human capital.

The differentiation does not stop there. The demand for freedom also depends on the Ruler's capacity to concede freedoms to the people – their supply of freedom. Fiscal extraction can determine greater discretionary revenue by increasing tax rates on a given income, at least up to a certain 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 it can produce additional tax revenues.

But the tax extraction capacity of a government also depends on structural conditions, such as the dimension of the country, the relative importance of its extractive industry (oil and raw materials), 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 - D. Friedman – Hirschman' types of model, Rulers are led, by rational self-interest, to yield many freedoms to avoid an emigration which would deprive them of tax revenues. Taxpayers will have already, by the simple fact of their potential mobility, been granted the freedoms that they claim by right.

It follows that, in the net demand for freedom in a given society, it is necessary to utilize standardization variables which affect the value of freedom, for the people and their governments.

4. Empirical evidence

We have theoretically derived an equation for the demand for freedom at the individual and the social level by taking into account the different demands of various individuals, of the various groups which they compose, and of their leaders.

The result is a social demand for aggregate freedom which does not depend on income, but instead depends on the cost of information and thus on market imperfection as well as on the distribution of resources and human capital and on the dimension of the country and its openness.

Market imperfection can be approximated by the degree of urbanization, which gives an indication of the ease of exchange and amount of transaction costs. The dimension of a country can be measured by the dimension of its population or by measurement of its geographical surface.

In this section, we find the principal variables used by several authors in various tests of determinants of freedom useful, and we test them again here within the theoretical framework of rational behaviour of consumers and producers.

We test the main empirical implications of our model using the same regressors against our three types of freedom. Indeed, our demand for freedom is equally applicable to civil liberties (CL), political rights (PR) and economic freedom (EF).

Freedom is more demanded when its value increases and/or when its cost decreases. From this point of view, freedoms are explained by the level of human capital (and its diffusion) and by the level of the variable 'information.' These two variables are complements in production. Although, it is not justified to choose 'income' as an explanatory variable, for reasons explained earlier, it would, on the other hand, be necessary to include 'human capital.' But since 'human capital' is strongly positively correlated with our variable 'information' this is neither possible,

nor necessary. This is why neither 'income' nor 'human capital' appears in our final equation.

4.1 The model and the data

We use time-series cross-sectional data and cover up to 112 countries and the years 1975, 1980, 1985, 1990, 1995, 2000 and 2003.

4.1.1 The equation
We use the following general equation:

$$\boldsymbol{Freedom_{it} = \alpha_{0t} + \alpha_1 Freedom_{it-5} + \alpha_2 Freedom_{it-10} + \alpha_3 Z_{it} + \mu_{it}} \qquad \textbf{(1)}$$

4.1.2 The dependent variables
$\boldsymbol{Freedom_{it}}$ represents either **CL**, **PR** or **EFI** for country **i** measured at period **t**where **t** is the time period (1985, 1990, 1995, 2000 and 2003), **i** is the country ($\forall$ i: 1 → 112, data permitting.)[22]

$\boldsymbol{Freedom_{it-5}}$ represents either **CL**, **PR** or **EFI** lagged 5 years (3 years for 2003 data), $\boldsymbol{Freedom_{it-10}}$ represents either **CL**, **PR** or **EFI** lagged 10 years (8 years for 2003 data).

We choose the Freedom House Indices: ***CL*** (Civil Liberties) and ***PR*** (Political Rights). While not perfect (Munk and Verkuilen, 2002), these indices are widely used in current economic research as a proxy for democracy (e.g. Barro (1999), Persson and Tabellini (2004), AJRY (2008)). Initially, these data ranged, for each country, from 1 (free) to 7 (not free). We have transformed them so that they now range from 0 (not free) to 10 (free.)

Similarly, there are at least three available data sets on economic freedom (Hanke and Walters, 1997.) We choose the Fraser Institute's Economic Freedom Index, ***EFI***. It is the most widely used in the economic freedom literature, (Berggren, 2003). The data go from 0 (no economic freedom) to 10 (total economic freedom.) Thus, our three dependent variables have the *same range*.

4.1.3 The independent variables
Z is our vector of independent variables.

From the existing theories surveyed above, we retain as explanatory factors a 'transaction costs' effect (measured by an urbanization variable), a 'State power and individual mobility' effect (population and geographical size of countries), and we add our own information effect (measured by the density of telephone equipment, a necessary infrastructure for modern communication flows, either by voice or for computers). But it is also a well known fact that oil (Ross, 2001) and other mineral resources exert a significant influence on the differential degree of freedom, and we want to incorporate that relation too.

We expect the demand for freedom to be a positive function of the degree of urbanization (***urb:*** urban population as a % of total, data retrieved from the World Development Indicators database.) One way to look at this is to consider that the greater the percentage of the population living in cities is, the lower the cost of transacting and the easier it is to decentralize the process of production, and therefore the more efficient freedom is.

We expect the level of freedom to be negatively related to the power of the Ruler in a 'Tiebout-Friedman' approach, that is, to the size of a country (***lsize,*** log of country area in sq.km., data retrieved from www.geohive.com) and to the level of its population (***pop,*** in millions, data retrieved from the World Development Indicators database.) A vast country is less open to the rest of the world than a smaller country and citizens are less geographically mobile than in a smaller country. Freedom is more productive for individuals and for society when more people are interacting with the rest of the world, presumably through markets, and consequently when competition is more intense and production more decentralized.

We expect the demand for freedoms to be a positive function of the rate of penetration of the telephone (***tel*** total telephone subscribers per 100 inhabitants, data retrieved from the World Telecommunication Indicators 2004) amongst the population.

The variable ***tel*** captures the depth of a country's overall quantity and decentralization of information. Ideally, we would have liked to use a variable for the internet. However, this is still a recent phenomenon, for which too few panel data exist, and anyway internet exchange is strongly correlated to the use of telephone.

Alternatively, we also expect the demand for freedom to be a positive function of the ratio **tel/lnGDPcap** (our variable ***tellgdp,*** total telephone subscribers per 100 inhabitants divided by the log of GDP per capita, data retrieved from the World Development Indicators database.) The greater this ratio is, the greater the amount of information is used per $ of GDP. An economy that uses information intensively will demand more freedom.

Note that Lipset (1959) too uses a telephone variable, but as a measure of "modernization." We view it, in a much more theoretically specified way, as a general measure of the costs of information.

As explained above, we consider education to be a strong complement to the use of information. But a study of the correlation matrix (available upon request) indicates a high positive correlation between ***edu*** (education, Barro and Lee, 2000) and ***urb*** (.72) and ***edu*** and ***tel*** (.73) and between ***edu*** and ***tellgdp*** (.74). We have therefore dropped the variable ***edu*** and kept the variables ***tel***, ***tellgdp*** and ***urb***. The correlation between ***tel*** and ***urb*** is only .56.

On the negative side, we expect the demand for freedom to be negatively related to the availability of ***oil***. Indeed, a country in which a large portion of the GDP – or exports – comes from natural resources does not have the same depth of diversification of production in industry and services, and its income comes from rents more than from specialization and exchange. It follows that the decentralization

of its economy is less than the one of other countries (*ceteris paribus*) and that "oil does hurt democracy" as empirically noted by Ross (2001, 356).

Oil takes the value of one for countries for which it plays a dominant role and zero for the others. The list includes the OPEC countries: Algeria, Gabon (even though it left the organization in 1996), Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates and Venezuela. We also include Angola, Azerbaijan, Bahrain, Brunei, Equatorial Guinea, Oman, Russia, and Yemen.

Finally, for each model, we also add, as independent variables, the lagged values of the dependent variable. This is done to capture the persistence of democracy over time and the existence of lags in adjustments to optimal freedom levels. We expect the equations to converge over time, yielding a steady state solution for each country (varying only as a function of the values of the Z variables.)[23]

4.2 Results

In order to pay close attention to the role played by information and communication we ran separate regressions with ***tel*** or ***tellgdp*** (Models A and B respectively).

Accordingly, we present the results of six regressions in Table 2. In order to make the comparison across models as meaningful as possible, we have kept the sample size identical across these six models. We thus have 428 observations spanning up to 112 countries. The results are broadly consistent with our theory.[24]

The coefficient for ***urb*** is positive and statistically significant in our six models. This was predicted by our transaction cost approach and is contrary to Barro's 1999 conclusion (p. S167). For instance, in model A1, it is equal to .011. Therefore, the long-run level of Civil liberties will go up by .042 for every one percent increase in the urban population.[25] Similar results are found in our other models.

The demand for freedom (**CL** and **PR**) is negatively related to ***pop*** (population, but our coefficients are not statistically significant.) This result, while coherent with our approach, is closer to the 'Tiebout-Friedman' analysis. It differs from the one obtained by Barro. The impact of population on economic freedom (**EFI**) is negative too, but not significant.

Similarly, the coefficients for ***lsize*** (logarithm of the country size) are negative, as expected, but not statistically significant. Overall the mobility versus State power hypothesis is not clearly vindicated.

Regarding our information hypothesis we have tried separately ***tel*** and ***tellgdp***. In both cases coefficients are positive, as predicted, although only statistically significant in Models A1 and A2. The long term impact, ceteris paribus, on CL of a one percent increase of the population using a phone is 0.015.

Table 2: Regression results with robust standard errors (428 observations for each model, up to 112 countries)

Dependent Variable: CL			Dependent Variable: PR			Dependent Variable: EF		
Ind. Var.	Eq. A1	Eq. B1	Ind. Var.	Eq. A2	Eq. B2	Ind. Var.	Eq. A3	Eq. B3
cll1	**0.602*** **	**0.602*** **	***prl1***	**0.621*** **	**0.621*** **	***efil1***	**0.87*** **	**0.869*** **
	[12.12]	[12.13]		[11.1]	[11.1]		[19.56]	[19.53]
cll2	**0.139** **	**0.139** **	***prl2***	**0.127***	**0.127***	***efil2***	**-0.129***	**-0.128***
	[2.86]	[2.87]		[2.46]	[2.46]		[-2.54]	[-2.53]
Lsize	**-0.02**	**-0.021**	***Lsize***	**-0.007**	**-0.008**	***Lsize***	**-0.019**	**-0.019**
	[-.68]	[-.66]		[-.2]	[-.22]		[-1.63]	[-1.62]
Urb	**0.011** **	**0.011** **	***Urb***	**0.015** **	**0.015** **	***Urb***	**0.007*** **	**0.007*** **
	[2.69]	[2.66]		[2.92]	[2.9]		[4.17]	[4.15]
Oil	**-1.1*** **	**-1.09*** **	***Oil***	**-1.292** **	**-1.29** **	***Oil***	**-0.184**	**-0.184**
	[-3.41]	[-3.4]		[-3.04]	[-3.04]		[-1.79]	[-1.79]
Pop	**-0.00057**	**-0.00041**	***Pop***	**-0.00065**	**-0.00065**	***Pop***	**0.00011**	**0.00011**
	[-1.41]	[-1.42]		[-1.13]	[-1.13]		[.72]	[.71]
Tel	**0.004***	--	***Tel***	**0.004**	--	***Tel***	**0.001**	--
	[2.54]			[1.9]			[1.57]	
Tellgdp	--	**0.0418***	***Tellgdp***	**--**	**0.037**	***Tellgdp***	**--**	**0.012**
		[2.51]			[1.9]			[1.53]
Cons	**1.53*** **	**1.52*** **	***Cons***	**0.949**	**0.94**	***Cons***	**1.588*** **	**1.581*** **
	[3.51]	[3.49]		[1.81]	[1.8]		[7.05]	[7.09]
R2	0.8	0.8	R2	0.74	0.74	R2	0.808	0.808

legend: * p<0.05; ** p<0.01; *** p<0.001; t-values in brackets

Lastly, the coefficient for the ***oil*** country dummy is negative as expected from the effect of the decentralization of production and from the complementarities of human capital and information. A raw material or oil producer does not really rely on much human capital, and the one it relies on is not widely shared in the population at large.

5. Conclusion

We have presented a theoretically founded model which explains the international contemporary wave of democratization and liberalization, thus answering in part the puzzle underscored by Barro: why hasn't Lipset's well known empirical relation been more solidly grounded in theory? Our model does not call upon the income-freedom effect whose theoretical weakness and empirical contradictions have been underlined. We have also shown that we were not alone in questioning that link. (AJRY, 2008) introduced country-fixed effects and showed that this led to a rejection of the Lipset hypothesis, while Barro (1999, conclusion) was puzzled by its lack of theoretical justification.

Our model is based on the demand for freedom. For a given level of income, freedom is greater when the optimal organization of production is relatively decentralized. Determinants of economic decentralization – specifically, we suggest the abundance and low cost of information – and not income, explain the cross-country differences in freedom levels, together with urban concentration, the structure of production, and (possibly) the size of countries.

In the empirical part of the paper, we have shown how our model could apply in the same way to all types of freedom. The signs of our coefficients are in accordance with our theory – the transaction-information-decentralization hypothesis – and contradict earlier findings.

Finally, our results may shed some light on the future development of democracy. It seems likely that oil-exporting countries will continue to be characterized by a democratic deficit. Indeed, as far as, in these countries, the organization of production is and will remain highly centralized, the number of decision makers should remain limited, leading to a low demand for (and supply of) individual economic and political freedoms. On the other hand, countries embracing the e-economy and the internet revolution will keep increasing the value of personal, economic and political freedom. We therefore expect these countries to be even more democratic in the future so long as the information revolution continues unabated.

Notes

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2. Huntington (1991) identifies a first democratic wave spanning from 1826 to 1926, a second, shorter, wave spanning from 1943 to 1962. This second wave is followed by a "reverse wave" from 1958 to 1975. 1974 heralds the beginning of the Third Wave.
3. Maddison (2001) mentions the "post 1973 neoliberal era." See also Giavazzi and Tabellini (2005), Wacziarg and Welch (2008), and the various issues of "Economic Freedom of the World" (Gwartney, 2005). Rajan and Zingales (2003) also mention "great reversals" in financial matters.
4. FreedomHouse.org December 20, 2004
5. The original data retrieved from www.freedomhouse.org ranged from 1 (free) to 7 (not free). We transformed them so as to range from 0 (not free) to 10 (free). The same scale also applies to the EF data.
6. Data retrieved from www.freetheworld.com, (Chain-Linked Index methodology).
7. 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 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.
8. 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.
9. 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 in his view 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.
10. Marks and Diamond (1992). This relationship constitutes, according to AJRY (2008, p. 808), "one of the most notable empirical regularities in political economy."
11. Barro (1999, p. 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."

12. This analysis finds its origin in the works of Rousseau, Jefferson and de Tocqueville (and many others) and the political history of western countries such as the United States, France but most especially England.
13. McKenzie and Lee (1991), Tanzi (2001).
14. 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.
15. "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, p.820).
16. 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.
17. Milton Friedman, Capitalism and Freedom (1962), and see also the variables included in the Economic Freedom Index (EFI) published by Freedom House.
18. They conclude (p. 573) that: "Unfortunately, why government's share of the transaction sector rose relative to the private sector's is not well explained."
19. 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 (that is waves, JJR - XdV) 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.
20. See Rosa, (2000), 2006, and in particular the "Coase-Rybczynski theorem", pp. 240-245.
21. de Tocqueville (De la démocratie en Amérique, Vol. II, Section 2, 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 which is the 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 which make it possible for them to decide indeed, at least in the political market.

22. Our 112 countries are (data permitting): Albania, Algeria, Argentina, Australia, Austria, Bahamas, Bahrain, Bangladesh, Barbados, Belgium, Belize, Benin, Bolivia, Botswana, Brazil, Bulgaria, Burundi, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Congo (Brazza), Congo (Kinshasa), Costa Rica, Cote d'Ivoire, Cyprus (Greek), Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Fiji, Finland, France, Gabon, Germany, Ghana, Greece, Guatemala, Guinea-Bissau, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kenya, (South) Korea, Kuwait, Latvia, Luxembourg, Madagascar, Malawi, Malaysia, Mali, Malta, Mauritius, Mexico, Morocco, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Rwanda, Senegal, Sierra Leone, Singapore, Slovakia, Slovenia, South Africa, Sri Lanka, Sweden, Switzerland, Syria, Tajikistan, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, United Kingdom, United States, Uruguay, Venezuela, Zambia and Zimbabwe.
23. We expect, in Eq. I, $\boldsymbol{\alpha_1} > 0$, $\boldsymbol{\alpha_2} > 0$ and $0 < \boldsymbol{\alpha_1} + \boldsymbol{\alpha_2} < 1$.
24. It should be noted that, although the *range* of our three dependent variables is identical (from 0 to 10), these three dependent variables are not identical. Therefore, inter-model comparison should proceed with great care.
25. .042 = 1/(1- .602 - .139) * .011 (based on the steady state solution for Model A1).

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