



## **Seasteading: Institutional Innovation on the Open Ocean**

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# Seasteading: Institutional Innovation on the Open Ocean

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## Abstract:

We develop a dynamic theory of the industrial organization of government which combines the insights of public choice theory and a dynamic understanding of competition. We argue that efforts to improve policy should be focused at the root of the problem – the uncompetitive governance industry and the technological environment out of which it emerges – and suggest that the most promising way to robustly improve policy is to develop the technology to settle the ocean.

## 1. Introduction

While most political analysis focuses on policy, public choice theorists have correctly recognized that policy emerges from the constitutional level and shifted their focus accordingly. This has not only led to new insights, but also helps focus the efforts of political activists more effectively. Constitutional political economists have argued that the only way to robustly improve policy is to improve the constitutional rules which form the incentive structure of everyday politics.

While the public choice approach is a significant improvement over standard forms of political analysis and activism which focus on the policy level, it ignores the question of why we do not have better constitutions. Constitutions are not made in a political vacuum, but public choice theorists have had little to say about the incentives which influence choice at the constitutional level of choice. As a result, public choice theory has not been able to offer advice about how to encourage the formation of better constitutions.

We here attempt to extend the insights of public choice theory in order to offer such advice. We develop a dynamic theory of the industrial organization of government which combines the insights of public choice theory and evolutionary economics. This theory suggests that the most effective and robust way of improving policy is to intervene at the environmental level by developing new technologies. Our proposed intervention is to develop the technology to settle the ocean.

In section 2, we develop our general theory of the industrial organization of the governance industry by pointing out the limitations of the two-level public choice view of politics and developing our own three-level view based on an evolutionary theory of competitive government. Section 3 outlines our proposed solution, citing historical precedents and identifying key challenges. Section 4 concludes by describing the enormous possibilities opened in a world of competitive governance on the ocean.

## 2. The Industrial Organization of Government

Politics is a spontaneous order, with lower level outcomes determined by higher-level incentives. Public choice theorists have recognized that the policy level is influenced by the constitutional level, but have largely ignored the higher-level incentives which shape constitutional choice. In this section we attempt to analyze these higher-level incentives using the tools of industrial organization, as well as Austrian and evolutionary theories of competition.

### 2.1. Rules matter

In recent years, there has been a growing consensus among economists that institutions are the major determinant of economic performance. Douglass North (1990, p. 3) defines institutions as “the humanly devised constraints that shape human interaction.” In North’s sense, institutions can be either informal

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norms, such as taboos and customs, or formal rules, such as laws. While informal institutions have an effect on economic outcomes (Williamson, 2009; Williamson & Mathers, 2010), we here focus on formal institutions.

The empirical evidence is unequivocal that formal institutions matter to growth (Acemoglu et al, 2002, 2005; Barro, 1997; Djankov et al, 2002; Easterly & Levine, 2003; Gwartney et al, 1999; Hall & C. Jones, 1999; Rodrik et al, 2004; Sala-i-Martin, 1997). As Hall and Jones (1999, p. 84) put it, differences in prosperity “are fundamentally related to differences in *social infrastructure* across countries.” In particular, economic freedom – secure property rights, the rule of law, and low barriers to contracting – seems to robustly promote growth and prosperity (Berggren, 2008).

The difference between North and South Korea is perhaps the starkest example of the power of formal institutions. Korea was split in two to exogenous political manoeuvring between the United States and the Soviet Union following the Second World War, and what had previously been a single country with similar culture, resources, and rules was now two countries with radically different rule-sets. This natural experiment produced very clear results: since the two Koreas’ paths diverged, the South has become almost fifteen times richer than the North (Acemoglu et al., 2005). Other examples of the power of borders in terms of altering rule-sets are not difficult to find: the stories of East versus West Germany, Hong Kong versus mainland China, Singapore versus Malaysia, and Zimbabwe versus Botswana all attest to the power of formal rules.

These facts make getting better rules of the utmost importance. A first world quality rule-set be hugely beneficial to third world countries, and further improvements to the rules of first-world countries would increase prosperity even further. This leads political activists to agitate for changes to rules. Numerous individuals and think tanks advocate changes to particular policies. While enacting such changes might be extremely worthwhile, simply insisting that we need better rules ignores the central lesson of public choice theory: political outcomes depend on the incentives of the political system.

Policy-focused economists rightly see economic outcomes as emerging from the interaction of many individuals acting under certain constraints. This imposes limits on the extent to which policy-makers can intervene to alter outcomes. Thus, economists will tend to see price controls as foolish: prices emerge from supply and demand and any attempt to centrally direct this emergent process is doomed to failure.

What policy advocates are forgetting is that the same problems which prevent certain policies from working as intended also prevent worthwhile reforms from happening. The political system comes with its own incentives which stymie the efforts of well-meaning reformers. Just as a failure to appreciate the lessons of economics leads some to think that prices can be changed at will, a failure to understand public choice theory leads some to think that policies can be changed at will. Thus, an understanding of public choice theory makes economics “a discipline which both conceptualises improvements in politics but simultaneously shows why such improvements must remain unrealised” (Wegner, 2004, pp. 339-340).

To attempt to improve policy, it is not enough to come up with good policy ideas. We need to think carefully about the incentives which structure political decision-making and consider ways we might improve them. This is what public choice theory does at an academic level, and what constitutionalists advocate in the political realm.

## **2.2. Meta-rules matter**

### **2.2.1. Two levels of analysis**

Public choice theorists stress the need to distinguish between two levels of politics (Brennan & Buchanan, 1980; Buchanan & Tullock, 1962). At the first level is the workaday politics in which rules for governing human behavior are created, altered, and repealed. Shaping this level, though, are the meta-rules which exist at the constitutional level. Democracies and autocracies each provide different incentives for the creation of rules. Within the broad classification of democracy, various specific metarules on how representatives are elected, how power is distributed among them, and how different branches of government interact all have a significant impact on the rules which are eventually created.

The fact that structural rules influence policy outcomes has been thoroughly demonstrated by political economists (De Vanssay et al, 2005; Haggard & McCubbins, 2001; Persson & Tabellini, 2004). Democracies in which rulers are chosen through a simple first-past-the-post system tend to have lower government spending than systems democracies with proportional representation. This is because majoritarian democracies tend to be two-party systems with less need to satisfy diverse interests. In proportional systems, which produce multiple parties, the coalition of interests required to form a government will be larger. This leads to log-rolling and compromise and ultimately to more special interests being bought off through policy.

Perhaps the most powerful mechanism through which systemic factors influence political outcomes lies in the incentive structure of democracy. Downs (1957) points out that since the expected value of a single vote is vanishingly small, voters have no incentive to become informed about politics and will rationally remain ignorant. This prediction seems to hold up very well in reality: voters know very little about politics (Somin, 1998). This raises a paradox, however: if the expected value of a vote is so small, why do people bother voting at all? Brennan and Lomasky (1993) resolve this paradox by pointing out that people vote to express themselves, and Caplan (Caplan, 2001a, 2001b, 2002, 2003, 2007) shows that people have systematically biased beliefs which they indulge in the low-cost environment of the voting booth. People are not simply rationally ignorant, but rationally irrational. Obviously enough, the tendency to vote on gut reactions and evolved biases has significant consequences in terms of policy.

Public choice theorists rightly see efforts to influence policy directly as being aimed at the wrong level. It is possible to attempt to influence policy by lobbying representatives, campaigning for a political candidate, or influencing voter preferences. A more robust and effective way of changing policy outcomes for the better, though, will be to change the meta-rules which give rise to ordinary rules (Brennan & Buchanan, 1999; Buchanan, 1975). If we are worried about the civil liberties of minorities, giving minority views a greater weight in collective decision-making is likely to be a more effective way of protecting them than engaging in activism despite a majoritarian electoral system.

### **2.2.2. Politics with 50% less romance**

Buchanan (1984) captures the spirit of public choice theory best when he calls it “politics without romance.” However, Buchanan and many constitutionally-inclined public choice theorists have not rid their political analysis of romance completely: they imagine that at the level of constitution-making, everything works out for the best. Constitutionalists are correct in their assertion that altering constitutions would provide more leverage than influencing everyday politics. Where they go wrong is in imagining the constitutional level as above the problems of politics. As Bryan Caplan (2009) puts it, “it's policy all the way down.”

The most obvious problem with constitutionalism is enforcement. While some procedural meta-rules might be self-enforcing, constitutionalists generally also favor substantive rules which put certain areas beyond the reach of politics, as in the American *Bill of Rights*. For such substantive rules to be effective, however, they need to be enforced. Enforcement of constitutional promises is usually left to governments themselves, leaving them relatively free to break these rules, either explicitly or through liberal interpretation (Higgs, 1988; de Jasay, 1989; Taylor, 2010b; Tullock, 1987; Voigt, 1999). Whereas constitutionalists take incentives seriously at the level of ordinary politics, they effectively assume benevolence in rulers' level of constitutional observance (Farrant, 2004; Farrant & Paganelli, 2005).

Further, constitutionalists are overly optimistic about the degree to which we can expect efficient constitutional arrangements to be agreed upon. Constitutional political economists argue that the constitutional level of choice provides incentives for potential social contractors to agree to rules which increase the general welfare. They posit a "veil of uncertainty" similar to Rawls's veil of ignorance but with the big advantage of being real: since constitutional rules are general and long-lasting, individuals will not know which rules will suit them best. The position of would-be constitution-makers is similar to that of players in a card game. Before the game starts, nobody knows what particular rules will advantage them, and so they'll agree to rules which maximize fairness and fun. The generality of the constitutional

level does not align interests perfectly, but goes a long way towards doing so (Brennan & Buchanan, 1999, chap. 2; Buchanan & Tullock, 1962, pp. 77-80).

The most obvious problem with the veil of uncertainty is that constitutional politics is subject to the same Olsonian logic of collective action as in-period politics (Olson, 1971). It seems that delegates at the United States constitutional convention of 1787 voted in line with their constituents' economic self-interest (McGuire, 1988; McGuire & Ohsfeldt, 1986, 1989), and there is good reason to think special interests will extend their lobbying efforts to the constitutional level of choice (Parham, 2010). Even if the veil of uncertainty leads most to prefer welfare-maximizing constitutional rules, it seems certain that some interest groups will find a way of stacking the constitutional deck in their favour. Constitutional politics is still politics, and interests will always creep in. We are in a double bind: We know that we need to get special interests out of government to improve the system, but those same special interests are making it impossible to do so (Olson, 1982).

An even more serious problem with the veil of ignorance, though, is that it does not deal with the problems of expressive voting and rational irrationality. Indeed, as Brennan and Hamlin (2002) point out, when the role of individual interests in choice are reduced, expressive concerns are even more likely to dominate than is the case in workaday politics. An obvious solution to this is to randomly select constitutional committees which give each citizen a greater stake in outcomes, but, as Crampton and Farrant (2004) show, we remove rational irrationality only by introducing principal-agent problems which will allow the committee to pursue their own interests at the expense of the public.

Public choice theory makes the reason that we have bad rules clear: we have bad meta-rules which are resistant to change. That merely shifts the question one level higher, however: why do we have bad meta-rules? This is a question almost completely ignored by public choice theory.<sup>1</sup>

Government, whether we are thinking in terms of rules or meta-rules, is not some unitary social actor but rather a spontaneous order emergent from the interaction of various political actors constrained by their environment and each other (Wagner, 1988, 1993a, 1993b). Focusing analysis and activism at the constitutional level is a big improvement over policy analysis and activism, but it still misses the more fundamental incentives driving outcomes. Constitutional reformers are asking the same decision-making rules which they have just argued tend to produce bad policy to produce good meta-policy (Wegner, 2004; Witt, 1992). There have been attempts, such as the veil of uncertainty, to show that constitutional bargains are likely to be welfare-maximizing, but none is entirely convincing. Further, the persistence of bad constitutional rules despite the advice of public choice theorists is a strong indication that all is not well at the constitutional level of choice. Rather than being at the very top, guided by enlightened self-interest, the constitutional rules emerge from the environment in which they are embedded.

### **2.3. The governance industry matters**

#### **2.3.1. Neoclassical analysis of the governance industry**

There has been much work in public choice and public finance on competition among governments (Mueller, 2003, chap. 9). The classic work in the industrial organization of the market for governance is Tiebout (1956). Tiebout's paper was a response to the concerns of Musgrave (1939) and Samuelson (1954) that without price signals there is no way for bureaucrats to know what level of public goods to produce. The mechanisms of democracy provided some indication of what people wanted, but the adjustment of government taxation and expenditure to individual preferences was of a very crude nature when compared to the market.

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<sup>1</sup> A notable exception is the work of Lowenberg and Yu (1990, 1992; Lowenberg, 1992), who consider the environment in which constitutions are made and conclude that exit is crucial in ensuring that good meta-rules are chosen. Competition acts as a substitute for the insufficiently-thick veil of uncertainty. Perroni and Scharf (2001) argue that tax competition restrains the taxing power of the median voter and thus encourages peripheral voters to remain within larger jurisdictions. This increases the equilibrium size of jurisdictions.

Tiebout turned the conventional approach on its head. It is true that central planners lacked the information to adjust fiscal policy to anything close to efficiency, but many government decisions are made by local, rather than central, governments. While central governments were destined to search for efficiency with only the very unreliable compass of public opinion, the relationship between individuals and local government was very different. Rather than adapting policy to voter preferences, local governments can keep policy constant and allow consumer-citizens to adopt whichever bundle of services best matches their preferences. If consumers can vote with their feet, local government planners do not face the same information deficit as central government planners. In the limiting case with an infinite number of jurisdictions and completely costless movement among them, everyone would get exactly the bundle of policies and public services they most preferred.

In the real world, of course, there can only be a finite number of jurisdictions and there will remain some cost of switching. As the number of jurisdictions rises and the cost of switching falls, though, we come ever closer to the unattainable ideal of complete economic efficiency in governance. All markets have friction caused by distance,<sup>2</sup> imperfect information, and other factors. Still, compared to the central planner groping in the dark, Tiebout sorting is likely to produce something much closer to the optimum.

The Tiebout model is focused mainly on the *sorting* of individuals into communities which best suit their needs. Competition comes into the picture only when it comes to price: city managers will be constrained by competitive pressures not to levy taxes above the going rate, which will require that the government run efficiently. In this simplified model, governments do not attempt to change the bundle of services they offer in order to attract customers and certainly don't attempt to innovate.

Since Tiebout's paper was published, a number of public choice theorists have used its central insight in other areas including competition among states in a federal system and competition among countries (Brennan & Buchanan, 1980; Buchanan & Wagner, 1970; Oates, 1972; Sinn, 1992).

There have been many empirical tests of the idea that jurisdictional competition prompts people to vote with their feet and increases efficiency. There is very strong evidence that people vote with their feet. Other things equal, people will flee from high taxes and flock towards high-quality public services. There is also evidence, though not quite as unambiguous as that for fiscally-motivated migration, that a greater geographical concentration of local jurisdictions increases citizen satisfaction with public services (Dowding, John, & Biggs, 1994).

The general disposition of individuals and firms to make location and investment decisions in part based on government policies is not restricted to local governments. In recent years, technology and policy changes have lowered the cost of moving capital around the world, giving investors greater choice of jurisdiction (O'Hara & Ribstein, 2009). There is strong evidence that tax rates affect where firms set up business and where investors send their money (Feld & Heckemeyer, 2009). The evidence that governments respond to this fact by lowering corporate taxes to attract investment is somewhat mixed but generally support modest tax competition (Devereux et al, 2008; Griffith & Klemm, 2004; Klemm & Parys, 2009; Simmons, 2006; Winner, 2005).<sup>3</sup>

There is even a case to be made that our current levels of prosperity may be due to jurisdictional competition. In the long run, the engine of economic growth is technological innovation (Mokyr, 1992). Unfortunately, there are good theoretical reasons to think that no single society is likely to stay technologically creative for long. Eventually, entrenched interests will be threatened by new technologies and respond by taking steps to halt technological progress (Cardwell, 1972, p. 210; Mokyr, 1994).

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<sup>2</sup> Tiebout (1956, p. 422) suggests that the need to make shopping trips constrains the perfect satisfaction of consumer preferences in the same way costs of moving jurisdiction constrains the satisfaction of political preferences.

<sup>3</sup> A weak relationship between competitive pressures and government response would not be surprising from a theoretical point of view, since democracies do not make decisions based on the profit motive. As we will argue below, a more competitive market for governance would allow new types of governments to emerge which would be more responsive to competitive pressures.

“Cardwell’s law,” as this empirical regularity has been termed, holds in any single European country during the industrial revolution, but not for the continent as a whole. The existence of many jurisdictions with relatively similar cultures increased the possibility of exit and encouraged economic and cultural innovation and prevented any ruler from harming the overall dynamism of the continent. As one country became stagnant, the torch of technological leadership was passed to another and we saw sustained technological progress. Compare this to China, where centralization of power caused innovation to come to a halt around 1600, despite a highly innovative culture in earlier periods (Cardwell, 1972; E. Jones, 1981; Mokyr, 1994; North, 1981; Rosenberg & Birdzell, 1986).

While the existing literature on competitive government is extremely valuable insofar as it reveals the static advantages of competition, much as the perfect competition model does in ordinary markets, there are limits to the neoclassical approach which have led to a misunderstanding of the real benefits of competitive government.

### 2.3.2. Evolutionary analysis of the governance industry

The neoclassical understanding of competition is static. Textbook definitions of perfectly competitive markets require many producers selling homogeneous products to perfectly informed consumers. This ensures that each firm is a price taker and will be unable to earn positive economic profits, driving price down to marginal cost (Mankiw, 2008, chap. 14).

Needless to say, that is not all there is to competition. Most obviously, firms compete not only on price but also on product differentiation. As Schumpeter (1942) points out, competition encourages firms to bring new products to market: competition does not optimize the allocation of a given set of goods, but produces new goods. Hayek (1948) makes the complementary argument that competition is a discovery procedure. It is not simply that firms need to be prodded into providing better services by the threat of losing money, but that competition allows firms to *find out* what consumers want by organizing dispersed knowledge (Hayek, 1945). Competition is a test of hypotheses – an “economic experiment” (Rosenberg, 1992, 1994) – which generates new knowledge and improves the productive capacity of the economy over time.

These ideas have been developed by economists in the Austrian tradition (Kirzner, 1997, 1973; Lachmann, 1976; Littlechild & Owen, 1980) and by economic historians describing the path of technological development (Mokyr, 1992; Rosenberg, 1992, 1994). The idea that competition is a knowledge-generating process has also formed the basis of the new discipline of evolutionary economics, which sees the market process as driven by the Darwinian algorithm of variation-selection-retention. An initial population of ideas, routines, or firms is subjected to market competition and the most successful, as judged by human choice, proliferate. Over time, producers become better at satisfying consumer needs through a process of trial-and-error learning in which conjectures are tested against the realities of consumer preference and technological feasibility (Loasby, 1999; Metcalfe, 2002; Nelson, 1990; Nelson & Winter, 1982; Potts, 2001; Witt, 1993).

Some thinking about competitive government has taken this dynamic view of competition seriously. Breton (1987, 1996) recognizes that “entrepreneurial competition” is crucial to a system of competitive federalism, but does not go into much depth about how this process operates. DiLorenzo (1988) analyzes jurisdictional competition using the Austrian theory of entrepreneurship but assumes that all political entrepreneurship is value-destroying. Vihanto (1992) argues from an Austrian perspective that institutional competition can act as a discovery procedure. Stansel (2010) makes a similar argument, suggesting that competition among jurisdictions would increase the diversity of tax/policy bundles among which citizens could choose.

The first rigorous treatment of competitive government from an evolutionary perspective comes from Vanberg and Kerber (1994). As in the neoclassical understanding of Tiebout competition, governments have an incentive to attract mobile resources. To achieve this, they will engage in rule innovation and successful conjectures will be imitated, leading to an improvement in rules over time. Variation is generated by existing jurisdictions coming up with new rules, and the selection process is consumer

choice.<sup>4</sup> Wohlgemuth (1995, 2008) considers institutional competition as an evolutionary learning process and argues that the number of parallel experiments and the strength of the selection mechanism (that is, the ease of citizen exit) are crucial to the rate of institutional evolution.

Our approach extends the work of these theorists by looking more closely at both the selection mechanism (exit) and the source of variation in the population on which selection takes place (entrepreneurial conjectures) and asking how they may be improved. To do this, we consider the governance market as an ordinary market and use the tools of industrial organization to assess its level of competition. We can think of rules as products, governments (as defined by their constitutions) as firms, citizens as consumers, and the totality of all governments in interaction with one another and with citizens as an industry.

It may seem strange to think of governance as a product, citizens as consumers, and governments as producers. Good rules clearly have economic value, however, and there is always some choice in government, at least for those with the resources to emigrate. Governments, like firms, have revenues (taxes) and expenditures (military spending, the wages of bureaucrats, etc) and provide a service (governance) to consumers (citizens). The governance industry certainly has some unusual qualities, but those qualities do not exclude it from conventional economic analysis. Just as traditional public choice uses economics to study individual choice in an unusual arena, we can use the tools of industrial organization to analyze the strategic situation faced by governments as firms.

There are two features of the governance market which currently make it less competitive than other markets: high barriers to entry and high switching costs. Switching costs have been the focus of other evolutionary accounts of competitive government and we will not discuss them at any length here, though we will return to them in the next section. In general, high switching costs weaken the selection pressure of competitive choice and slow institutional innovation.

Evolution requires not only an effective selection mechanism, but also a source of variation in the population, just as biological evolution requires mutation before natural selection can work. The evolutionary accounts of competitive government cited above have recognized that variation comes from entrepreneurial conjectures, but have neglected to important role of entry. The barriers to entry for governance ideas are extremely high in democracies. There can be only one idea tested at any time and so there is much costly political competition to have policies implemented: winning an election or convincing a government of the merits of your idea is a costly thing (Wohlgemuth, 1999, 2000). The barriers to setting up your own governance provider to compete with incumbents, as an entrepreneur would create a start-up when they see a market opportunity, are even higher. In fact, they are practically infinite.

Standard neoclassical theory does not see entry barriers as important given sufficiently many existing competitors: it doesn't matter whether a firm is old or new, it will have the incentive to act competitively in a competitive market. Prior evolutionary analyses of competitive government seem to extend this approach to innovation by assuming that variety at the level of rules can be produced within a fixed population of governments. While some variety surely comes through competition among pre-existing firms, there are good reasons to think that entry barriers are independently important.

First, it is not simply product or policy ideas which are tested by competition, but also organizational forms and governance mechanisms. Just as certain forms of corporate control are better than others in securing shareholder value, certain constitutional features are better than others in producing wise policy. In both cases, reforming the fundamental governance mechanisms of an organization can be difficult. After a corporation has been founded, reassigning rights and obligations will involve high bargaining costs, and history shows us that radical organizational change in business tends to come from new entrants (Hannan & Freeman, 1977, 1984, 1993). When the internet changed the retail book business by

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<sup>4</sup> Vanberg and Kerber argue that there are many possible selection mechanisms operating on jurisdictions, not all of them beneficial. Military competition, for example, is a powerful selection mechanism but is undesirable from a human point of view.



removing the scarcity of retail display space, entirely new organizational structures were required. It was the entry of Amazon, rather than the reorganization of Barnes & Noble, which led to organizational innovation. The problem of reorganization will be even more significant in the market for governance. Constitutions are designed to be enduring. This is desirable given the current structure of the governance industry, but it also means that simply lowering switching costs will not do much to enable organizational experiments.

More generally, existing firms find it hard to reorient themselves strategically and will often be less innovative than new entrants. Firms will develop organizational routines suited to their environment (Nelson & Winter, 1982) and will have trouble breaking out of them when the environment changes (Christensen, 1997; C. Hill & Rothaermel, 2003). The point is not that new firms are more innovative than incumbents, but that new firms and incumbents innovate *differently*, responding to different incentives and behaving differently depending on the technological environment (Acs & Audretsch, 1990, 1987; Winter, 1984). Large incumbents can devote large R&D budgets to routine research on well-defined problems, but will be less effective at producing breakthrough ideas which open new markets. This suggests that low barriers to entry will be important in generating the novelty required for institutional evolution to work, and there is good evidence that high rates of entry are correlated with innovation and increases in productive efficiency (Caves, 1998, pp. 1971-1975; Geroski, 1995, p. 431). In the governance market we see anecdotal evidence for this relationship between entry and policy innovation. Radical policy experiments are rare in stable countries and we see more new ideas being tested in new states formed by the breakup of empires. The policy innovations of the Baltic countries, including the introduction of a flat tax and other market-friendly reforms, after they gained independence from the Soviet Union are a good example.

Of course, barriers to entry have benefits as well as costs. Schumpeter (1942) argues that the assumptions of perfect competition would be harmful to innovation. Firms will only attempt to innovate if they can capture the benefits of that innovation in the form of above-normal economic profits. In markets with no barriers to entry, other firms will copy the innovation and rents will be instantly competed away. When it can expect monopoly power for some time following innovation, it has incentive to innovate. Thus, highly competitive markets are statically more efficient than uncompetitive markets but dynamically less efficient.

If it were impossible for new firms to enter, however, the creative destruction of innovation would not happen at all, since there would be few economic experiments. This creates an offsetting benefit of competition, or more specifically low barriers to entry, in terms of innovation. This suggests that there will be a sweet spot between too much and too little competition when it comes to encouraging innovation. With no barriers to entry, there is no incentive to innovate; with infinite entry barriers, there is no ability to innovate. While the empirical record on industry structure and firm size is somewhat ambiguous, there seems to be an inverted-U relationship between competition and innovation, with industries of moderate competitiveness being more innovative than those at either extreme, supporting this view (Gilbert, 2006).

The rents accruing to an innovating firm can in some cases be protected without high barriers to entry, however. If barriers to imitation are significant, innovation can give a firm a sustained competitive advantage even when new entrants can enter the market costlessly (Porter, 1985). Tacit knowledge and local learning effects present natural barriers to imitation of complex organizational technologies (Barney, 2000; Maskell & Malmberg, 1999; Porter, 1985; Reed & DeFillippi, 1990; Rivkin, 2000), and therefore naturally protect the rents accruing to entrepreneurs, at least in the short run. Since governance is a complex organizational technology, barriers to imitation are likely to be high.

We suspect, but will not attempt to establish here, that most industries would be more innovative given lower barriers to entry. What seems quite clear, however, is that the governance industry is far less competitive than the "sweet spot", and so lower barriers would result in greater static and dynamic efficiency. High barriers to imitation in this industry decrease the benefit of barriers to entry relative to other industries, but they are orders of magnitude higher than that of any other industry.

While it may seem that government can never have low barriers to entry – starting your own country seems like a crazy idea – the governance market has not always been so uncompetitive. In customary systems of law, people were much freer to defect from the dominant system of rules and start their own, leading to institutional evolution (Bell, 1991; Benson, 1990, 1991; Notten, 2005; Taylor, 2010a, pp. 7-9). As we will describe below, our current situation is relatively recent.

A more competitive market for governance would improve outcomes in a number of ways. First, it would give rulers the incentive to provide good policy at the lowest possible price (in terms of taxes). Second, it would allow citizens to sort themselves into polities better catering to their own policy preferences. Third, it would allow small-scale experimentation and innovation which would improve the quality of governance over time.

### **2.3.3. Industry activism and industrial change**

What we really care about in any market is the range, quality, and price of products. In the market for governance, products are policy bundles. Range is largely determined by the ease of setting up a new jurisdiction; quality by the incentives policymakers face to fulfil citizen preferences and the information at their disposal; and price by the degree to which governments are forced to operate efficiently and charge only marginal cost. At any point in time, range, quality, and price of any good is determined by the degree to which producers are constrained to serve consumers. Considered dynamically, innovation becomes crucial. In the long run, it is innovation which determines the range, quality, and price of any product.

Both static and dynamic efficiency depend crucially on market structure. Competition forces firms to constantly strive to produce better products at a lower cost, while the degree of product differentiation results from preference heterogeneity in interaction with barriers to entry and economies of scale in production. The same is true of government.

If we want more, better, and cheaper policy bundles, how do we go about getting them? We would think it rather unhelpful if someone suggested that we could get better customer service in an industry if firm representatives were friendlier and more informed. Surely the firms know this, and their customer service is constrained by other factors - the wages they are able to offer representatives, the marginal value to customers of better service, the competitiveness of the industry, the length of the customer relationship and ease of switching, and so forth.

Yet when an economist advocates for a better policy, they are essentially doing the same thing - ignoring the true constraints that produce existing policies. Constitutional reformers such as Buchanan give a better answer - in our metaphor, they are suggesting changes to the organization of the firm that should lead to better customer service. While this reflects a deeper level of understanding, it is still missing the bigger picture: what competitive pressures exist to encourage firms in this industry to optimize their organization? To what degree can organization be changed “in-place”? By thinking of governance as a product, we can see the limitations of constitutional analysis - namely the lack of incentives the industry has to innovate.

Competitive industries have good products because they have good firms. They have good firms because of the discipline imposed, and the knowledge-accumulation enabled, by competition, which is the root cause of the end result of product quality. The same logic suggests the opposite outcome for government, as it is an industry characterized by a series of geographical monopolies with high barriers to entry for producers and high switching costs for consumers. The lack of competition leads to little pressure to evolve good meta-rules, and the flawed meta-rules lead to flawed policies.

Many have seen the potential of competitive government and advocated reforms to increase the relative power of local governments (Osterfeld, 1993; Tullock, 1994), privatize some or all government functions (D. Friedman, 1989; MacCallum, 1970; R. H Nelson, 2005; Rothbard, 1973), or unbundle governance services to allow greater choice and competition (Frey & Eichenberger, 1996; Kling, 2009, chap. 3; V. Ostrom et al, 1961). The problem with these proposals is that they run into the double-bind of reform discussed above: the incentives are currently bad, and any effort at reform is forced to fight against these incentives. Advocates of competitive government, whether motivated by neoclassical theories of static

efficiency or evolutionary theories of dynamic innovation, want more competition in government, but have apparently not thought about what determines the level of competition.

Governments do sometimes devolve power to more local governments, and those in favour of competitive government may be able to make marginal contributions in such cases. Many third world governments, for example, create or allow entrepreneurs to create “free zones” with rules different from those of the broader polity (Strong & Himber, 2009). Paul Romer has recently advocated “charter cities” in third world countries based on the rules of developed countries (Romer, 2010).

While we commend these efforts, we believe there is more traction to be gained by looking at the environment which determines the competitiveness of the governance market rather than simply attempting to create new competitors one by one. If we can determine what factors determine the number of governance providers, perhaps work on these factors – the environment - can drastically increase the rate of firm creation in this industry. Market structure depends on barriers to entry and costs of switching. These factors are not determined by politics, but by the social, technological, and geographical environment in which the governance market is embedded.<sup>5</sup>

While activism has so far done little to change the competitiveness of the governance market, there have been unplanned changes which attest to the power of the environment. Prior to the rise of the modern state, political power was much more decentralized, with tribal or feudal organization being much more common than centralized rule. Since the late medieval period, this has changed. Large nation-states have become the industry standard, and are able to exert much more power over their subjects than could Chiefs, Kings, and Emperors in earlier periods (Berman, 1983; Poggi, 1978, 1990; Tilly, 1990).

Some have argued that the rise of the modern state was due to changes in technology creating economies of scale in organized violence and centralized administration, allowing states to control larger areas of land (Mokyr, 2002, p. 19; Scott, 2009, pp. 44-45; Tilly, 1985, 1990). Others have suggested that geographically larger states were the result of expanded social communication due to decreases in the cost of transport and communication. As common mass cultures and languages spread across wider tracts of land, it became easier for political entrepreneurs to plausibly claim sovereignty over larger areas (B. Anderson, 1983; Deutsch, 1953). In both theories, changing technology is the key to the expansion of political organization.

The effect of technology on institutions is mediated by geography. James C. Scott (2009) argues that certain geographical factors make some areas conducive to the emergence of states and others ungovernable. Before the industrial revolution, "state-spaces" generally had a concentrated population tied to a particular piece of land. An organization wishing to take a cut of food production was bound by the costs of transporting the spoils. Without smooth, all-weather roads and motorized transport, the cost of transporting goods long distances would often be greater than the value of the goods themselves. The friction of distance tightly constrained the reach of the state. The need for rulers to be close to population centers also meant that states could, for the most part, only exist along with sedentary agriculture. If people were not tied to their land, there was little to stop them from moving out of the reach of the state. In a world of small states with an abundance of unclaimed territory, the costs of exit were low.

Of course, it was not simply distance which affected the reach of states. Hills, marshlands, and thick vegetation increase the cost of transportation and have the same state-repelling effect as simple geographical distance. Locations near navigable waterways, however, tended to reduce the costs of transportation and increase the reach of states. Throughout the preindustrial world, therefore, we saw states arise in flat, easily-navigable, arable areas close to oceans or navigable waterways. The state of technology until the industrial revolution meant the rest of the world remained immune to large states. With the rise of distance-destroying technologies such as roads and steam-powered trains, states could reach over larger areas. Many areas, however, remained ungovernable. Scott argues that a large highland region of Southeast Asia he calls the Zomia remained ungovernable until as recently as the Second World

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<sup>5</sup> Industry structure does feed back on barriers to entry and switching costs, however: switching costs are partly determined by the geographic size of governance providers, and an uncompetitive industry will facilitate anticompetitive behaviour on the part of incumbents which makes entry more costly.

War. The Zomia's rough terrain amplified distance and its unsuitability for sedentary farming prevented states from taking root there. More recent distance-destroying technological advances in transportation and communication, however, have transformed the Zomia from a nonstate to a state space. Technological change has largely destroyed the friction of distance and terrain as a barrier to state-building and led to the large states we see today.

We thus have fewer governance providers today than we had in the past. While the breakup of empires and large states such as the Soviet Union produces new jurisdictions, the overall trend in recent centuries has clearly been towards fewer independent countries (Tilly, 1990, pp. 45-47). As we argued above, though, the number of competitors is not a particularly good indication of competition. Rather, the market for governance has recently become less competitive due to increasing barriers to entry. In the past, frontiers and non-state spaces, even those under the de jure control of some state, have acted as outlets for those wishing to live under different rules.

People generally settle frontiers, such as the new world and later its Western regions, to exploit economic opportunities. The absence of pre-existing political arrangements, though, creates the need and opportunity for institutional innovation. Throughout history, we have seen new frontiers, with their abundant space and lack of entrenched interests, giving rise to new forms of political organization.

The English (and later British) settlement of North America shows this dynamic at work. Early colonies were granted a high degree of autonomy by the English Crown, with many being governed by chartered companies or proprietors with freedom to set their own rules. Moreover, the abundant space in early America allowed those dissatisfied to leave and set up their own colony, as those sick of religious persecution in Massachusetts Bay colony left to found Rhode Island in 1636. Some, like the founders of Rhode Island, sought a royal charter to protect their autonomy against possible annexation by neighbours. Others took their chances on the abundant space in early America. The result was a wide diversity of governance forms relatively responsive to the needs of settlers (Greene, 1988; James, 1975; Wakelyn, 2006).

As the space on the East coast became scarce, the frontier shifted west. Those settling the Old West became institutional entrepreneurs and devised a number of ingenious ways of solving collective action problems. Some new institutions were entirely voluntary and decentralized, while other began to resemble states (T. Anderson & P. Hill, 2004). As the American frontier closed and power slowly centralized, the eventual forms of government would be a significant improvement over their European predecessors. The compound republic of the United States was a unique combination of features from other past and contemporary political systems, and its constitution has served as a model for new and reforming nations since that time (Blaustein, 1987).

Today, every square inch of land is claimed by some existing state or another, and the grip of states is fairly tight. We have run out of frontier, and as a result, entering the governance market through the normal economic mechanism is virtually impossible. Secession does sometimes happen and there are good reasons to think this a good thing (Buchanan & Faith, 1987; Gordon, 1998), but the coordination costs alone of having everyone within some region of an existing state agree to secede are enormous. If we also consider the desire of the current state to retain its geographical integrity, it is not surprising that secession is relatively rare.

Several other factors are at work, of course. As the barriers to entry have been increasing, switching costs have arguably been decreasing. Technological changes in transportation and communication have reduced the cost to individuals of moving country, and the cost of moving capital has decreased even more rapidly. We have thus seen policy shifting in a capital-friendly direction. Corporate tax rates, for example, have been declining over recent decades as countries compete to attract mobile investors.

Increased competition also increases the benefits of cartelization, and cartels are apt to form when there are a few major players and high barriers to entry. This describes the governance industry fairly well, and supranational organizations such as the United Nations and World Trade Organization can act as coordination mechanisms to enforce cartel agreements. While cartelization might be kept in check to

some extent by voter preferences, recent moves towards “tax harmonization” are essentially a price-fixing arrangement (Edwards & Mitchell, 2008).

We remain agnostic on which of these factors dominates and thus on whether the governance industry has become more or less competitive. One thing seems very clear, though: the governance industry is extremely uncompetitive compared to other industries. Switching costs are high and barriers to entry are practically infinite. While there is a strong argument that technological advances in transport and telecommunications are continually reducing the cost of exit from one’s state of birth (MacCallum, 2003), there is no obvious current trend towards lower barriers to entry into the governance market. We think such technological innovation to alter the market for governance is possible, though, and see an opportunity for those who care about freedom and prosperity to advance its development.

### **3. How to improve government**

We have argued that political activism, whether directed at the policy or the constitutional level, is largely ineffective. Rather than attempting to change rules directly or once-removed through changing constitutional meta-rules, we believe the most effective means is to improve rules is to change the environment which determines the industrial organization of governance. This sort of “environmental activism” strikes at the root of bad governance and has the potential to robustly produce better policy.

#### **3.1. Towards environmental activism**

Given that this environment is cultural, physical, and technological, it would seem that environmental activists have three broad options. First, they could attempt to change culture in ways that would produce better policy. For economists, this would involve publicly pointing out economic fallacies and hoping that voters will come to prefer better policy bundles. Attempts to influence voter preferences run up against a major problem, however. Humans have evolved a set of dispositions suited to an environment very different from our own (Rubin, 2002) and it is hard to convince people to give up their folk conceptions of economics when there is nothing at stake from an individual point of view (Caplan, 2007). While attempting to change voter preferences might make some difference on certain margins – and would therefore be worthwhile in the absence of other options - the fact that so much effort has been devoted to this with so much bad policy remaining suggests that further such efforts are unlikely to fundamentally transform the political ecosystem.

This leaves us with geography and technology. While we can’t (yet) realistically shape the physical environment, we may be able to find locations which are conducive to a more competitive governance industry, in the way that Scott found some spaces conducive to decentralized government. If the benefits of better government outweigh the costs of relocating, then like those in the Zomia, it may be beneficial to relocate to a physically inferior location in order to have a better political environment.

We prefer to think of our proposal as a form of technological activism. The ocean is a wide open space with potential value in (among other things) its flexible regulatory environment and potential as a blank canvas for sociopolitical experiments, but this value is currently not exploited at any significant scale. There are a few examples of people taking to the sea to secure greater freedom – pirate radio stations, HavenCo’s data haven business on Sealand, and gambling ships off the US coast – but the total population of the sea has remained low. The ocean is not yet a frontier for most purposes.

A useful way of thinking about the frontier is as the point at which the net economic value of some resource becomes positive (I. Anderson & P. Hill, 2004, pp. 10-11). New technology, such as railroads, gave land in the American west positive value to non-Indians, bringing it within the frontier. Likewise, we think developing the knowledge of how best to live permanently on the ocean will make the net economic value of the ocean’s freedom positive, thus opening a new frontier.

There are, of course, some collective action problems associated with environmental activism, but these are much less serious than with policy or constitutional activism. The knowledge of how to settle the ocean is a public good. While research funded by charity is likely to be underprovided relative to the situation in which individuals could capture all the benefits of their research effort, the fact that so much

effort is currently expended on low-return policy activism makes it clear that efforts at social change can be provided quite effectively on a voluntary basis. The difference between environmental and in-system activism is that environmental activists do not need to convince a large proportion of the population of the merits of their vision. Further, at the implementation stage, seasteading allows profit-seeking entrepreneurs to capture the rents from creating better societies. We imagine the first seasteads will be run as for-profit real estate enterprises, with developers creating marine real estate and either selling or leasing lots to residents.

Perhaps the biggest advantage of technological activism over policy and constitutional activism is the relative ability of humans in each area. Humans have shown themselves to be extremely capable of solving very difficult technological problems, and technological progress has been extremely rapid in recent centuries. We are much less capable of solving large-scale social problems. While people in small, continually-interacting groups are able to creatively overcome collective action problems (E. Ostrom, 1990), the problems endemic to large governments are testament to our incompetence in large-scale social organization. By reducing the political problem of how to improve rules to the technological problem of how to live comfortably at sea, we have shifted the problem into the realm of human capability.

### 3.2. Seasteading

It may seem strange to argue that the way to improve policy is to settle the oceans, but the above analysis suggests that this may be the only medium-term strategy with much chance of success. We know that existing systems are robust against substantial reform, and that lowering barriers to entry allows potentially disruptive competitors to enter an industry. Some of these competitors will find new forms of organization at the constitutional level which will increase innovation and efficiency at the policy level. To do this, we need a new frontier – a blank canvas on which social or constitutional entrepreneurs can create their products and test them in reality by seeing if they can attract customers (citizens). In the long term, space might provide such a frontier, but right now it is far too expensive. In the shorter term, we have the ocean.

The biggest advantage of the ocean is its lower barriers to entry in the governance market. Since existing states claim sovereignty over every piece of land and are reluctant to sell, the barriers to entry are extremely high. Under international law, even a small rock extends resource rights in a 200nm circle, and hence states vigorously defend their ownership. While the cost of creating marine real estate will not be insignificant, it is only moderate by first-world real estate standards – early estimates are USD 3100/m<sup>2</sup> (Roddier & Aubault, 2010). Seasteading makes starting a new government difficult but possible.

Being able to start new communities on the ocean would not only inject more competition into the governance industry, it would also allow low-stakes experimentation in governance. Conservatives such as Oakeshott (1947, 1962) are justifiably sceptical about the desirability of reforming large polities: taking a gamble on improving policy is a dangerous thing. While the American experiment turned out for the best, the communist experiment did not. Communism was an idea which appealed very strongly to many people but ended up killing tens of millions. With the small-stakes experimentation enabled by seasteading, the communist experiment could have been conducted at a smaller scale with voluntary participants and abandoned as soon as failure became apparent.

Insofar as it opens a new frontier on which to experiment, seasteading makes the ocean a substitute for land. Unclaimed land would be preferable, but there is none available. The ocean may be physically inferior, but it is the only political blank slate we have.

The ocean, though, has a further political advantage over land. The physical properties of water make it cheap to move large objects, which is how cargo ships enabled worldwide trade. In terms of seasteading, this would mean that buildings are not tied to a particular patch of ocean surface, but could move around. This sort of dynamic geography (P. Friedman, 2004) has three principle political advantages.

First, it lowers the costs of switching government. If a family owns its own floating structure and becomes dissatisfied with the government it belongs to, it can simply sail away to another jurisdiction: with dynamic geography, people can vote with their houses. This lowers the cost of switching and thereby

makes the market for governance more competitive. Of course, people are tied in place by more than the difficulty of moving their possessions from one home to another. Mobility is surely limited far more by work and social obligations than by the physical costs of relocation (Lee, 2010). The possibility of voting with one's house will therefore have only a minor effect on competition. The ease of relocation will be much more beneficial to businesses. Some businesses will remain tied in place by specialized staff tied in place by family and friends, but others will be more footloose. Since competitive governments will respond to marginal consumers, this will increase governance quality.

Second, dynamic geography addresses the concern of Caplan (2001) that Tiebout competition is undermined by the fact that governance quality is capitalized into real estate values. When land is tied to a particular jurisdiction, reductions in the quality of governance will immediately lower land prices. This means that landowners have no incentive to exit bad jurisdictions, since they have the choice between putting up with low-quality governance or taking a capital loss when they try to sell. Fascinatingly, however, this is not the case on the ocean. Since floating real estate can be moved between jurisdictions, the value of floating real estate is not permanently reduced by a property tax increase, because there is the alternate use of moving the real estate to a new jurisdiction. This restores the property of a well-functioning market, where goods go to their highest-valued use. Floating real-estate will move to the jurisdiction where it is the most valuable whenever the value difference is greater than the transaction cost of moving it. This cost will be substantial, yet based on the cost of moving oil platforms, is likely to be a small fraction of the value of the real estate. Thus, on the ocean, exit remains as a check on local government.

Third, dynamic geography allows jurisdictions to fail more gracefully. Olson (1982) argues that politically stable societies gradually accumulate and entrench powerful interest groups able to harvest social resources through rent-seeking. This impedes economic growth and makes the vast majority of the population worse off. When the prevailing political system is overthrown, the special interests are thrown out and we are likely to see better policy. Olson argues that the post-war performance of Germany and Japan, as well as a host of other countries, confirm this hypothesis. Unfortunately, political instability tends to be accompanied by bloodshed, producing a tradeoff between peaceful stability with high levels of rent-seeking and violent instability with low levels of rent-seeking. Seasteading allows us to have political instability without bloodshed (Chamberlain, 2009). If rent-seeking becomes too harmful in an ocean polity, people will gradually float away. This allows the polity to die without being overthrown violently, producing a bloodless reset. Dysfunctional governments would no longer take up valuable land, but would wither and die based on the preferences of citizen-consumers.

### **3.2.1. Historical Precedents**

While seasteading in its fullest sense has not yet occurred, there have been a number of near hits, where enterprising individuals used the freedom of the ocean to do things they cannot do on land. Some have been motivated by profit; others by principled opposition to prevailing laws. Where they differ from seasteading is in their narrow focus on a specific problem.

Prior to the Second World War, a number of ships off the U.S. coast operated as floating casinos. Existing just outside territorial waters, these ships could legitimately provide gambling services. The U.S. government, though, did not appreciate its citizens having a place to gamble and exceeded their territorial limits by shutting down some casinos. After the Second World War, it became a crime to own or transport people to a gambling ship (Strauss, 1984, p. 140).

In the 1960s, a number of "pirate radio" operators used the freedom of the seas to provide commercial radio to the countries of Europe (and also New Zealand). This gave consumers what they wanted and also imposed competitive pressure on existing states, which eventually liberalised broadcasting laws. Before this liberalisation, though, the government harassed pirate broadcasters in a number of ways. The British government dealt a devastating blow to pirate radio by making it illegal for British businesses to advertise on these stations (Strauss, 1984, pp. 141-145).

Early this century, the Dutch non-profit group Women on Waves set out to provide "safe and legal abortion outside territorial waters in countries where abortion is illegal." The group developed a mobile

gynaecological unit which can be easily loaded on a ship which can then sail to wherever it is needed.<sup>6</sup> There have been a number of other proposals to use ships anchored just outside territorial water to provide services which are illegal or heavily-regulated on land. These range from brothels to floating euthanasia clinics.

Perhaps the greatest proto-seasteaders, though, are the “sea gypsies” of Southeast Asia (Sather, 1995, 1997, 2002; Sopher, 1977). There have been a variety of peoples around Thailand, Myanmar, Malaysia, the Philippines, and Indonesia who have lived a nomadic life hunting and gathering in and around the ocean. The most nomadic lived entirely on their boats and came ashore only to trade, repair their boats, and gather from seaside jungles what the ocean could not provide. While the numbers have dwindled due to resource pressures, economic opportunities on land, and government intervention which made their way of life less feasible, a number of sea gypsies still remain.

The social organization of the sea gypsies is of particular interest, since mobility seems to have led to a number of political advantages. While there was some diversity, all Sea Gypsies historically had a great deal of autonomy and organized their social life in roughly comparable ways.

Sather (1997, 2002) describes the social, economic, and political life of the Bajau Laut. Until the 1950s, they lived entirely on their boats. Each boat normally contained a single family of around five people. These families would form moorage communities of between five and fifty families. Within these communities, closely related families - most commonly married siblings - would form tighter units of cooperation - *pagmunda'* - sharing a single mooring post and often fishing together. The organization of these communities was very egalitarian, with no formal authority providing governance. As in many customary systems of law (Benson, 1990), there were influential elders who would help settle disputes and deal with authorities on land, but they held their positions only by maintaining the respect of everyone else.

Being nomadic boat people, the cost of exit from these communities was low. As such, a *pagmunda'* would sometimes break off to form its own moorage community or join a neighbouring one. Moorage communities were thus subject to jurisdictional competition. These communities also took advantage of regulatory competition among land-based feudal lords. Bajau Laut moorage communities were vulnerable to outside attack when moored, particularly by slave raiders. This prompted them to enter into a type of feudal relationship with land-based political powers. A moorage community would ally with a coastal lord. The lord would offer protection and the Sea Gypsies would trade primarily with him, though they also maintained economic relationships with other coastal communities. This led to an interesting form of jurisdictional arbitrage. The Bajau Laut were mobile: there was little tying them to a particular mooring site. All they needed was a safe place to anchor during monsoon season and to collect fresh water and firewood, and someone with whom to trade. Since there was certain to be another lord a little further up the coast willing to provide that, lords were forced to compete to provide protection for Bajau Laut communities. This ensured decent protection, reasonable trading terms, and no interference in the internal organization of Bajau Laut communities (Sather, 2002, pp. 28-30)

### **3.2.2. Challenges and Strategy**

When viewed as an industry, governance is the largest in the world, representing approximately 30% of global GDP, or USD 18T/year. Thus the potential gains to entrepreneurs creating startup countries that may outcompete existing governments are enormous. While the challenges are significant, they are not insurmountable, and there is clearly incentive to attempt to solve them. The main organization doing this presently is The Seasteading Institute,<sup>7</sup> founded by one of the authors (Friedman), which is focused on three main areas of research.

The first is engineering, where many of the challenges have been fully or partially solved by the cruise ship and offshore oil industries (Lamas Pardo, 2010). These industries have proved that, given enough economic incentive, people can live safely and comfortably at sea for long periods of time. The

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<sup>6</sup> <http://www.womenonwaves.org>

<sup>7</sup> <http://seasteading.org>



engineering challenge facing seasteading is to reduce the costs to enable a wider variety of economic activity, most likely by removing features of ships and platforms unneeded by seasteaders, such as the high speed of cruise ships and the individualized design of oil platforms (Hoogendoorn, 2010).

To live on the ocean, seasteaders need to be able to make a living, which brings us to the second research area: business models. Past floating city projects have neglected the business case, assuming that escaping government is a sufficient reason to head to the ocean (Strauss, 1984). This is naïve, as investors want to see concrete business plans. While seasteading can someday be, like current governments, a real estate business offering jurisdictional space to a wide variety of economic activity, it is difficult to become a general platform without first having a specific application. The move from application to platform only happens once there are enough applications to create economies of scale in serving them. Thus successful seasteading will require sound business plans which leverage the comparative advantages of the ocean. Certain businesses such as aquaculture can only be done at sea, while other industries are so heavily regulated on land that it will be worthwhile putting up with the inconveniences of the ocean to provide them – just as gambling ships and pirate radio operators did. Medical tourism is a particularly promising business opportunity, as it is a rapidly growing, multibillion dollar industry. Beginning with low-cost procedures enabled by cheap labour, and progressing to promising new treatments still working their way through the labyrinthine FDA approval process might be a very lucrative enterprise. Seasteaders are far more likely to succeed if they initially focus on broader and more profitable markets than just ideology, with its track record of failure.

Perhaps the most serious challenges lie in the third area: international law, governance, and practical diplomacy. If the governments of the world decide they do not like competition, seasteads will have little chance of survival. The actions taken against gambling ships and pirate radio stations demonstrate that this is a real danger. This makes it paramount that seasteads respect both *de jure* and *de facto* international and local national law, and desist from engaging in business practices which enrage coastal states. The slightest suggestion that a seastead is being used to export drugs or enable the financing of terrorism will threaten its existence. This rules out certain economically viable business plans, such as anonymous digital banking, as it inherently enables money laundering. Fortunately, since almost every business benefits from more effective governance, seastead entrepreneurs can aggressively filter for those business models for which there is no proven history of intervention.

The strategy of The Seasteading Institute is to focus on research in these three areas to reduce uncertainty and lower expected seastead costs, as well as building a community of interested seasteaders and entrepreneurs. Together, these will create an environment that will give rise to the first seastead ventures, and the majority of Institute resources are focused on removing the barriers to these first attempts, with a minority devoted to long term work such as research on large floating structures and sovereignty.

#### **4. Conclusion**

A world of truly competitive governance – in which barriers to entry and switching costs are both low – would be an enormous boon to human wellbeing. Not only would competition constrain the power of government – thus fulfilling the promise of constitutionalism – it would also induce innovation and foster diversity in rules.

Rules are a social technology in the sense that they allow us to cooperate to achieve our goals (Vanberg & Kerber, 1994, p. 196). Like any technology, rules can be improved. We cannot predict precisely how the technology of governance will evolve given decentralized experimentation guided by individual choice – just as Alexander Graham Bell could not have foreseen the modern smartphone - but we can be confident that it will improve. Rules are a particularly crucial technology because they form the environment in which other technologies develop, and thus have a strong influence on the speed and variety of all other forms of innovation (Baumol, 2002). We tend to overlook the enormous potential of ongoing technological change, but the progress we have seen since the industrial revolution may be only the beginning. Human ingenuity will continue to make our lives better, and will do so more rapidly with better rules. All the greatest problems of the world – poverty, disease, and existential risks like global warming – are deeply and directly affected by the quality of our rules. Poverty happens where rule sets are bad; medical progress has been enormously slowed by regulation like the 1962 Kefauver-Harris

amendments in the US (Klein & Tabarrok, 2002; Peltzman, 1973, 1974); and the mitigation of existential risks are global public goods, thus underprovided given the lack of good international coordination mechanisms (Kaul, Grunberg, & Stern, 1999).

Diversity would not only lead to faster innovation by increasing the number of parallel governance experiments; it would also allow for the satisfaction of diverse citizen preferences. With low switching costs, political preferences within a given polity would be endogenously determined by individual choice. This would mitigate the tyranny of the majority and in the limiting case produce Nozick's (1974) "framework for utopia." Diversity also produces robustness. A more decentralized political ecosystem would not be so strongly affected by the institutional failures of any single jurisdiction, reducing the system's fragility to systemic shocks like the 2008 financial crisis (Taleb, 2010).

Seasteading offers the potential to dramatically lower both barriers of entry and switching costs in the governance industry, influencing the rate of innovation at a deep level, and producing more, better, and cheaper rules. In essence, a little technological innovation could unlock an unprecedented level of political innovation, giving rise to a Cambrian Explosion in government.

While the challenges in making seasteading a reality are not trivial, we have argued that seasteading, unlike most activism, improves the true determinants of governance quality. Thus the expected value of this unusual form of activism – technology to affect the environment in which governments appear and compete – is far higher than the dominant approach of proposing and advocating for specific policies or even constitutional rules. Unlike other solutions, seasteading is not subject to the double bind of reform, as it sidesteps the public choice criticisms (like rational ignorance and concentrated interests) that make most economic work paradoxically irrelevant to creating good policy. By extending traditional public choice models to incorporate the industry level and considering dynamic effects, we believe that we've found a lever – the frontier – and a fulcrum – the ocean – from which we can move the world.

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