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THE ILLOGICAL FEAR OF AUTOMATION, FALLING WAGES, AND FALLING PRICES

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ABSTRACT

There is a hoary tradition in economics to the effect that automation will to unemployment. Ned Ludd might have started this, but in the modern era there are numerous supporters of this fallacy (Frank, 2012; Karphal, 2017; Ford, 2016). The present paper is an attempt to allay the fears of many that breakthroughs in technology will promote joblessness. Our method is to consider both historical and modern-day examples of innovation that have led to this fear. Ned Ludd dreaded the knitting loom. At present, self-driving automobiles, taxis, trucks, have driven to despair people who, realizing that jobs in these industries will be lost, over-generalize and think that all employment will cease. Our overall message is that we need not fear robots or automation or innovation. Rather, they will enhance our economic wealth.

KEYWORDS

Automation, deflation, unemployment

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3 We thank two very helpful referees of This Journal for many important suggestions. The usual caveats of course apply: the present authors are responsible for all remaining errors and infelicities.

1. INTRODUCTION

Legend has it there was a man by the name of Ned Ludd who lived in England in the 18th century (Palmer 1998). While it is disputed whether Mr. Ludd ever actually existed — perhaps under the name of Edward Ludlam — a group of individuals emerged in the 1810s with the name "Luddites." What was the story of Ned Ludd? The tale usually goes as follows. Ned Ludd was a weaver in England around 1779 (Hammond 1919). The invention of the loom was disastrous in his opinion. The work of many weavers could now be done by just a few of them, and unemployment was the result. Thus, in an attempt to fix the economy, Ned Ludd took it upon himself to destroy the looms, lest the town fall victim to unemployment and poverty. Similarly, a group of frame-breakers became known at Luddites in 1812, attributing Ned Ludd as their namesake (Alsen 2000).

This is a rather extreme tale, but nonetheless one that still gets told today, just in different ways. Fear of automation stems from the same logic. It is believed by many that, while technology can be very beneficial, eventually we will innovate ourselves out of employment and into poverty. Falling wages are viewed in the same light — something deleterious to the economy. This fear arises in the immigration debate. This paper seeks to explain why these things are not only nothing to fear, but something to wish for whole-heartedly. Automation, falling wages, and falling prices — deflation — are not the Boogiemen they are made out to be.

In section II we discuss automation. The focus of section III is on falling wages and of section IV on deflation, yet another irrational fear. The burden of section V is to deal with the objection that only people who own capital will gain and all others will lose. We conclude in section VI.

2. AUTOMATION

On October 26, 2016, we gained word of the first successful commercial trip of a self-driving truck. On that day, a Budweiser semi-truck made a 120-mile beer-run to Colorado (Cava 2016). What should have been received as a momentous advancement in human history was quickly coupled with a sense of fear. Such an improvement can only mean disaster for the estimated 3.5 million professional truck drivers in the United States (All Trucking 2016). This innovation, assuming it becomes widespread in the country, is sure to shake up the trucking industry in the United States. That being said, this advancement should not be dreaded in the slightest.

As humans, we feel trepidation when it comes to change. We wish things would remain the same. Most of us, at least those who "have it made," long for a static world that we can prepare for, but alas, our world is most certainly dynamic. This is the indisputable reality in which we live. Thus, technological advances that threaten anyone's livelihood are seldom met with total applause. However, we must not ignore the tremendous possibilities and progress that innovation offers. Let us take the automobile for example. We could not live today without the amazing, life-changing occurrences that have come into existence because of and as a result of the car. But this invention made serious waves in the transportation industry. Those who worked in the horse-drawn carriage industry were not all too pleased, more than likely, but the positive effects of the automobile far outweighed the negative effects. Yes, it is true, those who drove carriages probably had to change professions.

Were there indeed any negative effects? It depends. If we look at this from the point of view of the horse trainers, bridle makers, blacksmiths, and saddle manufacturers, then yes, of course there were, and serious ones. However, there is an entirely reasonable alternative perspective from which to view this technological advance, from the viewpoint of this aphorism: The market benefits *all* participants. Why is this true? It is because the market consists of all, and nothing but, voluntary trades: buying, selling, renting, lending, borrowing, etc. And yet in each and every such case, all participants necessarily gain, at least in the *ex ante* sense. But what of the labor force in the horse and buggy industry? Simple: With the advent of the horseless carriage, they were no longer market participants. They could no longer make commercial offers to others that were acceptable to them. To wit, the authors of the present paper herein now make an "offer" to all readers: We are each willing to sell you a pencil for $1 million. Are we market participants in this regard? Of course not: No one will take up our offer. Ditto for those put in the shade by the advent of the automobile.[4]

At any given moment, we as a society are only capable of producing enough to satisfy a certain small amount of our unlimited wants and desires. Technological advances allow us to move further down our "wish list," if you will. The same occurred with the invention of the car. Our transportation needs were now capable of being met in a different way. Our options were either keep the current amount of transportation, or increase it. Since the amount of transportation provided via horse and buggy could be provided with fewer people via automobiles, choosing this route meant the loss of employment for carriage drivers if we wanted to keep the same amount of transportation. But this would not mean they would be unemployed forever. Rather, they could shift their occupation to other parts of the economy where transportation was more heavily needed since the necessary amount of laborers in that field had dropped significantly. Since our desired amount of transportation could be provided at a lower cost than before, labor would be reallocated as we moved down our "wish list." While there could be some pain in the transitional stage, society would advance further. Keeping people in jobs that were no longer needed would be a drain on the economy and a waste of resources. Nor would this transition by any means be confined to transportation. The ex-horse trainers, whip and bridle makers, blacksmiths, etc., might find employment in any number of industries.

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4 What happened to those in the horse and buggy industry after the advent of the horseless carriage? It is difficult to say. The easy answer is that they took up other occupations. For more on this, see Motavalli, 2015; Chiu, 2008. At one time, early in the history of the U.S., most of the labor force was in agriculture. Nowadays, that figure has fallen to a miniscule proportion. Where did all the farmers go? This, too, is difficult to answer. Presumably, into engineering, teaching, psychology, medicine, literature, music – all the things that make life very different, and far more pleasurable, in the modern era.

A common counter-argument is that the invention of the car did not completely render human-provided transportation obsolete — in essence, the horse and buggy industry simply turned into that which manufactures the automobile. However, *complete* automation would make these people unemployed without offering them any alternative industry to enter. This argument ignores the fact that these people are now freed up to enter the labor market in other industries where they would now be needed more than the transportation industry. Moreover, even for those who are made worse off by automation, their wages will have increased via enhanced purchasing power. The automation of something, including transportation, means that the costs of production for that product has fallen. Budweiser can now deliver their product to consumers at a lower cost, allowing that firm to do one of several things. They can offer their alcohol at a lower price, they can increase the quality of their product, or they can funnel the money into research and development. All of those would mean that the consumers' relative wage as it pertained to Budweiser would have gone up. What should not happen, however, is for this technology to remain idle and the economy static.

We live in a world of scarcity. We as a people have unlimited wants and desires, but the world is one of limited resources. These two things are incompatible, so sacrifices and decisions have to be made. Increases in technology allow us to make fewer sacrifices. Refusing to utilize new technology when it is available would make all of us poorer, and would be a waste of resources. Cars driven by people commercially 100 years from now will more than likely be viewed in the same way that we view the horse and buggy industry — a quaint relic from the past that we outgrew. If something can be produced at a lower cost, then these technologies ought to be adopted lest we fall victim to Frederic Bastiat's "Candlestick Makers' Petition."[5] If the Sun is providing light for free, it would be a waste of resources to ask the French people to board up their windows during the day and use only candles for light. Refusal to accept automation embodies the identical line of illogic.

But if everything is automated, will not widespread poverty and unemployment result? If everything is automated, there will not be any jobs left for people! But the wants and desires of each and every single person on Earth are unlimited.[6] There will always be something in demand, for we are not capable of being static. In *Nicomachean Ethics*, Aristotle argues that we as humans do not wish merely to live, but to live well (Aristotle and Ross (translator) 1999). We are not content with mere existence. Thus, we are called upon by our desires to act in a way that we perceive will improve our conditions — that would move us out of the realm of living, and into the realm of living well. Austrian Economist Ludwig von Mises wrote about this in his magnum opus, *Human Action*. "His mind imagines conditions which

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5 Frederic Bastiat wrote a satirical petition to the French government asking for special privileges for candlestick makers since they had befallen grotesque competition from a competitor dumping its product onto the French people for free. It is revealed at the end of the essay that the competitor to the candlestick makers was... the Sun. You can read the petition at: http://bastiat.org/en/petition.html

6 Multiply this by some 7 billion people, and the goals of our entire species are truly gargantuan.

uit him better, and his action aims at bringing about this desired state. The incentive that impels a person to act is always some uneasiness (von Mises 2008 [1949])." Since we are naturally inclined to act, we will all find things to do. What greater automation would mean is that we could focus on tasks that we actually want to get up and do every day. If we do not need anyone to drive trucks cross-country, if we do not need anyone to make our food anymore, then people can focus on jobs other than truck driving and food preparation. If the production process of the majority of our needs were automated, then people would be free to focus on music or art or sports. We would have more free time, not only to do those activities, but we'd have more time to *frequent* them. We'd be able to go to more concerts, more musicals, visit more museums, and attend more NASCAR races.[7]

Consider, *arguendo*, that machines in some far distant future can do *all* the jobs we need done. They can cure all disease, enable us to live forever, ferry us to distant solar systems, etc. Would not this be a curse, not a blessing? For there would then, under this heroic assumption, not be the need for any more employment. We would all be unemployed! No, this would not be the disaster feared by many. For we do not really want jobs. Rather, the *desiderata* are the goods and services that work produces (Hazlitt, 1946). However, per assumption, we already have those to our heart's desire. Thus, there would be no more *need* for labor; we could all play, e.g., have fun, instead.[8]

3. FALLING WAGES

That leads us to another idea that strikes fear into the hearts of most: falling wages. That fear is misplaced, however, since it ignores the economic distinction made betwixt real and nominal wages. The common response to a drop in wages is enmity. That is coupled with the questioning of one's financial security. Responding to the dollar amount on your paycheck is reacting to your nominal wage, not your real wage. The distinction here is extremely important.[9]

Assume that due to union activity, wages exceed productivity levels. Typically, the best way to cut costs is to decrease the cost of labor.[10] Employers will try to reduce the salaries of their laborers as close to their marginal value product as possible. (In other words, as

7 Or whatever pastime you fancy. NASCAR is the number one spectator sport in the United States, QED.

8 Even now, at the beginning of this 21st century, there are numerous people who play, and get paid for it, rather than work, which is defined as something we only do for the money and do not intrinsically enjoy. For example, professional athletes, singers, dancers, actors, etc. In this science fiction-ish future we depict in the text, everyone would be in this position.

9 For more on this concept of money illusion, see Boes, Lipp, and Winkelmann, 2007; Fair, 1971; Fehr and Tyran, 2001, 2007; Schmeling and Schrimpf, 2011; Shafir, Diamond, and Tversky, 1997.

10 This is because labor accounts for over 60% of the GDP; https://fred.stlouisfed.org/series/LABSHPUSA156NRUG

close to the worker's productivity as possible — the amount of added value they add to the company per hour.) The obvious criticism of that statement in the text is that no, the firm wishes to pay the employee as little as possible. The rejoinder to that objection is that if it does so, it will tend to lose its labor force to other companies who set wages closer to productivity levels. (Of course, if an employer pays above that level, it will lose profits and tend to become bankrupt.) If one company is able to lower its prices by reducing input costs this way, they will become more competitive. That will incentivize their competitors to follow suit, sending ripples throughout the economy. Therefore, while workers may have taken a reduction in pay, goods will become less expensive. While their nominal wage may have fallen, their real wage may have stayed the same, or perhaps even increased. (This, of course, it not to deny that the real wages of some laborers might have fallen. But, if productivity rises, the presumption is that on average we are all better off, economically speaking.) That also has positive benefits, saliently, for those people in the economy not in the industry under consideration. Perhaps not the laborers who specifically took the wage cut, but virtually everyone else in the economy registered an increase in real wages because prices had fallen. With everyone's income increasing, this would allow them to increase both spending and saving in the economy. The rise in expenditure would boost the economy in the short run, while a similar movement in saving would do so in the long run. Both of those would cause further economic progress, which would repeat this entire cycle again. What matters is *real* wages, not nominal wages. (All this, of course, is with a running assumption of a genuinely free market economy, which we do not have in the United States. In the "mixed" economy, those improvements would be greatly attenuated.[11])

The same reasoning applies to immigration.[12] There is the very popular narrative that immigrants are taking jobs away from Americans, and if we allow too many of them into the country, then the market will become over-saturated with laborers, driving down their wages. The notion that jobs are being stolen relies on the fallacy that the amount of jobs available is fixed.[13] To think that the job market is fixed ignores economic logic as well as history. The number of jobs available today is not the same as 2,000 years ago. A statistic

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11 For critiques of the mixed economy, see Mises, 2008; Rothbard, 2004.

12 There is a gigantic literature as to the effects of immigration on various cohorts in the labor force, particularly the unskilled, of which this is only a very small sample: Abowd and Freeman, 1991; Bhagwati, 1991; Blackburn, Bloom, and Freeman,1990; Borjas, 1990, 2003, 2006; Borjas, Freeman, and Katz, 1997; Borjas, Grogger, and Hanson, 2008; Butcher and Card, 1991; Card, 1990, 2001, 2007; Card and Lewis, 2007; Cortes, 2008; D'Amuri, Ottaviano, and Peri, 2010; Dustamnn, Frattini, and Preston, 2008; Friedberg and Hunt, 1995; Friedberg, 2001; Jaeger, 1996; Longhi, Nijkamp, and Poot, 2005; Markusen, 1983; Mundell, 1957; Murphy and Welch, 1992; National Research Council, 1997; Ottaviano and Peri, 2006, 2008; Peri and Sparber, 2009; Samuelson, 1948. Our point is totally separate from this. We are not at all interested, at least not in the present paper, in how immigration impacts the economic welfare of the poor. We only maintain that as long as irrelevancies such as crime, welfare, voting, etc., can be ignored, and as long as the marginal revenue product of the average immigrant is above what is necessary to feed, house, and clothe him, etc., that necessarily GDP per capita will rise.

13 For an antidote to this basic economic fallacy, see Hazlitt, 1946.

beloved of all politicians is job creation. Those who stress that issue are blind to their self-contradiction when they then turn around and claim immigrants are stealing our jobs. To believe that the job market is fixed is to believe that the economy and the world are static, which cannot be further from the truth. In a free market, there is room for everyone thanks to scarcity and the division of labor. There is always something that someone is comparatively better at than everyone else, thus inclining them to undertake that task. There is always something that someone wants but does not have, "thanks" to scarcity. It is therefore baseless to fear immigrants on the grounds that they will steal our jobs.

Basic supply and demand analysis tell us that an increase in supply will necessarily lower price. When it comes to the labor market, this price is the wage paid for labor. An influx of immigrants is no exception. Costs of production per labor would fall, causing prices to decrease, which would in turn lift average real wages.[14]

4. DEFLATION

Then there is the Boogieman of deflation. There are a couple of different arguments that people such as Paul Krugman make against deflation.15 The first is that when people expect prices to fall, they tend to spend and borrow less. Why buy something today when it's going to be cheaper tomorrow? Second, falling prices necessitate either falling wages or unemployment by workers refusing to take a pay cut.

Let us first deal with the first criticism. Consumption will fall, sending the economy into a depression. According to Spendmatters.com, computer prices are continuing to fall (Contributor 2015). Not only computers, but technological products in general, have continued to decline dramatically over the last 20 years.16 This is the deflation Krugman speaks of. Yet, in spite of this deflation, as of June 30, 2016, roughly 89% of the American population used the internet and about 50% of the world population can say the same (Internet World Stats 2016). The reason is simple: We cannot postpone consumption *ad infinitum*. Yes, it is very true that we would prefer to pay less as opposed to more, but eventually the cost of not owning the product outweighs the gain of forgoing consumption. We purchase the laptop, the cell phone, etc., knowing full well they are going to drop in price in a couple of months. The value obtained by using those items, whether it be because of the pleasure it gives or the necessity of having it to function in our modern world, outweighs the gain we

14 Obviously, we are assuming a free market economy in making this claim. If there are regulations preventing such market activity, then all bets are off.

15 http://krugman.blogs.nytimes.com/2010/08/02/why-is-deflation-bad/?_r=0

16 See also Byrne, et. al, 2017; Schreyer, 2002. And long before that as well. For example, the automobile, the air conditioner, the television set, etc., were all far more expensive in real terms when they were first introduced to consumers than at present.

would receive if we waited. It is specious to believe that deflation would have the effect Paul Krugman says it would.

It is also believed that deflation is bad for businesses in that firms will make less profit, which will send ripples throughout the economy. This is not true either. Just because the price may have fallen does not mean that the ratio between the cost of production and revenue changes. If the difference betwixt revenues and costs hasn't changed, nothing has happened to profits, so businesses are in the same boat they were in as before.[17]

5. MICROECONOMICS VERSUS MACROECONOMICS

A referee of This Journal makes the following remark regarding an earlier version of this paper: "The argument is clear regarding efficiency or aggregate impact but less so regarding distribution. If all labor is replaced by capital and we are all unemployed – well, it is certainly nice to have all that leisure time – but only the capital-owners will have any income. The proletariat will be in trouble, wouldn't it?"

We respond that the "proletariat" would not be in trouble at all under these assumptions. If we are all "unemployed," this means that our marginal revenue product is zero, or below. If this is true, we have banished scarcity: We are no longer unemployed, but, rather, have no need of our own labor services. In this post-scarcity world, there will be riches for everyone. No one's desires will go unmet. Of course, this is highly problematic from an economic point of view. Even when we think of science fiction-ish super-robots, we cannot imagine they will fulfill our *every* desire. We will not be able to live infinitely long lives.[18] We may all wish to bed the same heart-throb of the day.[19] Robots may be as good as, or even better than, real people in this regard. But if we all wish to involve ourselves with an actual person, automation, necessarily, will fail.

States Newman (2017) on this matter:

> "The robophobic are also worried about income inequality – all the greedy capitalists will take advantage of the increased productivity of the automated techniques and fire all of their employees. Unemployment will rise as we run out of jobs for humans to do, they say.

17 If deflation is unexpected, it transfers wealth in much the same way as inflation, just in the opposite direction. We owe this point to a referee of This Journal.

18 We are tempted to also assert that "We will never be able to be in two places at the same time. No one will ever be able to draw for us a square circle" but will resist this temptation. These are merely philosophical fallacies, similar to asking if God can create a stone so big that He will not be able to carry it.

19 The future Marylin Monroe? Lady Gaga?

> "This fear is unreasonable for three reasons. First of all, how could these greedy capitalists make all their money without a large mass of consumers to purchase their products? If the majority of people are without incomes because of automation, then the majority of people won't be able to help line the pockets of the greedy capitalists.
>
> "Second, there will always be jobs because there will always be scarcity. Human wants are unlimited, diverse, and ever-changing, yet the resources we need to satisfy our desires are limited. The production of any good requires labor and entrepreneurship, so humans will never become unnecessary.
>
> "Finally, Say's Law implies that the profitability of producing all other goods will increase after a technological advancement in the production of one good. Real wages can increase because the greedy robot-using capitalists now have increased demands for all other goods. I hope the following scenario makes this clear."

Let us look back in history to gain some more perspective on this issue. Before the advent of the automobile, the rich man had a carriage and six horses, and the poor man had the use of his two feet. Afterward, the former can drive a Rolls Royce, the latter a Smart Car. Both gain. But who benefits more relatively? Although as a matter of technical economics we of course cannot say, a common-sense approach will see, clearly, that it is not the wealthy whose well-being is more greatly improved. Similarly, before the light bulb, the well-to-do had chandeliers filled with candles. The poverty-stricken went to bed in the dark. Afterward, both had light, albeit that of the former was more ornate and luxurious than that of the latter. But who benefitted more relatively? It does not strain the imagination too much to claim that the poor gained more. If the future resembles the past in this manner, the spaceships of the affluent will be better than those of their impecunious fellows, but we will all be able to dash off to Mars, or wherever.

6. CONCLUSION

The world is full of economic fallacies and alas, they tend to be widespread and their purveyors elected into office. Those beliefs are superficially plausible, but a shallow dive into the field of economics and logic dispel them rather quickly. Among those myths are the fears of automation, declining wages, immigrants,[20] and falling prices. There is nothing logical in fearing them. Automation merely frees up labor to shift to areas in the economy

20 On purely economic grounds. For the libertarian case in favor of immigration as a matter of rights, see Berg, 2010; Block, 1983A, 1983B, 1988, 1990, 1998, 2004, 2011A, 2011B, 2013, 2015, 2016, Forthcoming; Block and Callahan, 2003; Ebeling, 2015A, 2015B; Esplugas and Lora, 2010; Friedman, 1973, 2006; Gregory and Block, 2007; Hornberger, 2016; Hudson, 1986; Krepelka, 2010; Rothbard, 1962; Rozeff, 2005; Salin, 2000, ch. 11; Schoolland, 2001; Todea, 2010.

where it is more greatly needed and allows us to move further down our “wish list.” A fall in nominal wages is nothing to dread, for it is real wages that matter, not nominal ones. Immigration is just an extension of the groundless fear of falling wages. Deflation, lastly, is something to be cheered, not denigrated. Goods and services becoming less expensive is invariably good for society.

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SUBJECTIVE POLITICAL ECONOMY

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ABSTRACT

We extend the Institutional Possibility Frontier (IPF) – a theoretical framework depicting the institutional trade-offs between the dual costs of dictatorship and disorder (Djankov et al. 2003) – by incorporating the notion of subjective costs. The costs of institutional choice are not objectively determined or chosen by a society; rather, they are subjective to the political actor that perceives them. Our methodologically individualist approach provides a new, highly adaptable extension of the IPF enabling examination of the political bargaining process between dispersed actors, the bounds and evolution of institutional innovation and discovery, and follower-leader dynamics in long-run institutional changes. Our new Subjective Institutional Possibility Frontier (SIPF) helps to integrate ideas into the economics of political systems, creating the foundations for a more subjective political economy.

KEYWORDS

Institutional Possibility Frontier, Political Economy, Subjective Costs, Austrian Economics, New Comparative Economics

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1. INTRODUCTION

Choices have costs and those costs are subjective to the individual making the choice (Buchanan 1969). Furthermore, given that the economic and political spheres of activity are entangled, individuals must make choices both about the goods and services they consume and the institutional framework in which those exchanges occur (Smith et al. 2011; Wagner 2014; Wagner 2016). While economists have had much to say about the factors that determine the set of choices available, they have had comparatively less to say about what influences the final preference among that set.[3] This paper integrates preference formation into a new framework of political economy that, through the lens of Austrian subjective costs, enables analysis of political choice over institutional constraints.

An individual's institutional preferences are underpinned by their ideas and beliefs about the material, physiological, and emotional costs of institutions to themselves and to social groups (e.g. families, ethnic blocs, fellow citizens) that they believe have a just stake in their institutional choice. Yet institutional analyses of politics lean heavily on the construct of rational utility maximising agents (McCloskey 2010; McCloskey 2016; Smith 2012). While "ideology" has been part of positive political economy at least since Downs (1957), and ideas–'shared mental models' of norms and custom–have been a part of institutional economics since its conception (Denzau and North 1994; North 1993), their integration into analysis is tentative at best. Indeed, most institutional analyses rely on explanations for political action grounded in the material interests of the relevant agents, rather than seeking to uncover the underlying ideological contests.

McCloskey (2016) writes that economists ought to pay more attention to the "ideas, rhetoric, ideology, ceremonies, metaphors, stories, and the like" that influence and direct human behavior within a given institutional framework. For Rodrik (2014), "context, honor, glory, reputation, respect, income, power, durability in office, and 'good of the country'" all drive agent preferences. López and Leighton (2012) argued that ideas shape the institutions in which political action occurs, while Tarko (2015) recently outlined that the direction in which institutions change depends on the ideas, beliefs, and values of those who change them.

Our framework is based on the new comparative economics of the institutions of capitalism developed by Djankov et al. (2003) (see also Shleifer 2005; Shleifer and Vishny 2002). In the Institutional Possibility Frontier (IPF) framework, institutional choices are depicted as a trade-off between dictatorship costs and disorder costs. Given that institutions comparatively economize on those costs, and that they do so in imperfect ways, the entire suite of institutional possibilities can be arrayed graphically along a convex function, the IPF. The IPF represents institutional trade-offs, and thus choices, in a world of imperfect

3 Hausman (2011), for instance, identifies four sources of preferences: a) means-ends reasoning, b) attribute-based reasoning, c) emotional influence, which directs and motivates information acquisition at the individual level, and d) physiological needs.

property rights. The IPF has variously been applied to policy settlements around productivity and red tape (Berg forthcoming; Davidson 2013), the environment (Davidson 2014), media regulation (Berg and Davidson 2015), freedom of speech (Berg and Davidson 2016), innovation (Davidson and Potts 2015; Davidson and Potts 2016), education (Lane 2017), democracy (Allen et al. 2017), and tobacco control (Davidson 2016).

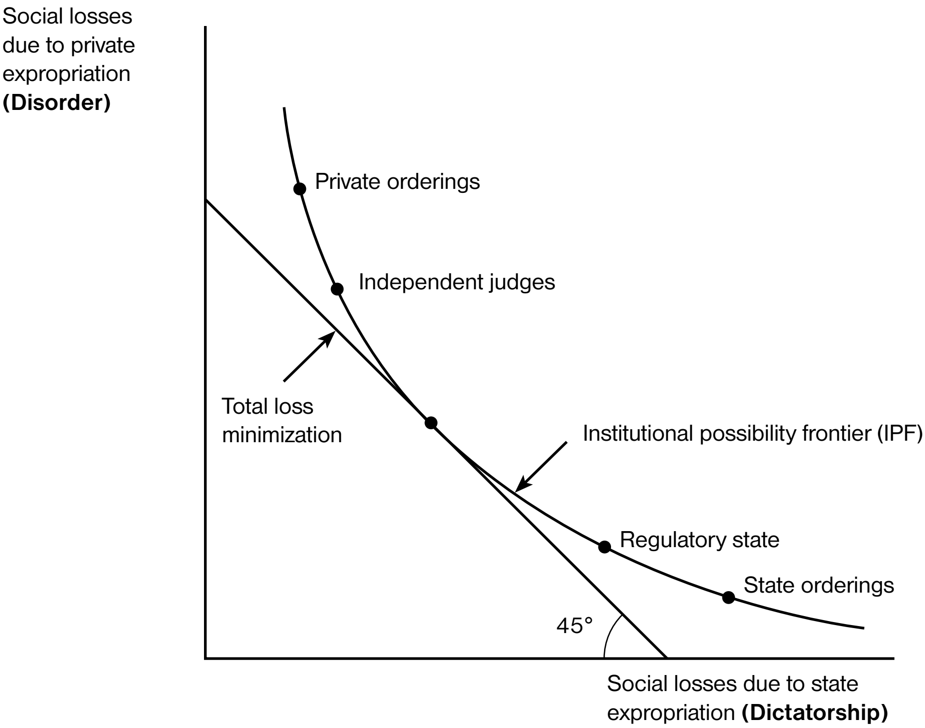
In this paper we extend the IPF framework in two ways. First, we acknowledge and incorporate the reality that institutional dictatorship costs and disorder costs are *subjective* to the actors which impose them and to the societies which endure them. Characterizing the costs underpinning the IPF as subjective helps avoid the hand-waving and often tautological reasoning about norms and customs characterizing much contemporary comparative political economy. But introducing subjective costs must be coupled with a second extension—*disaggregating* institutional choices down from the level of society to groups, factions, parties, and ultimately individuals. Given that costs are subjective, societies do not make institutional choices, individuals do. The dynamics of individual disagreement and bargaining over institutional costs ought to be front and center of any institutional analysis.

The resulting subjective and disaggregated framework – which we call the Subjective Institutional Possibility Frontier (SIPF) – can be applied to a large range of political and economic phenomena. It is sufficiently flexible, nuanced, and adaptable to describe and explain institutional changes over time, the function of ideas on policy settlements, political bargaining, and the effect of institutional knowledge. By allowing the ideas and knowledge production of intellectuals to be explicitly included in an analysis of institutional choice we have developed an "Austrian" approach to new comparative economics based on institutional processes, methodological individualism, and knowledge coordination. This paper is not meant as a critique of the IPF framework in the same line as other critiques (e.g. Rosser and Rosser 2008; Dallago 2004; Van de Klundert 2010), but to resolve some of their critiques and extend the explanatory power of the framework.

2. THE INSTITUTIONAL POSSIBILITY FRONTIER

The IPF was first offered by Djankov et al. (2003) as the analytic framework of an institutional theory of regulatory choice. The authors begin by assuming that "society" wishes to control the activity of a private firm and then considers the alternatives – ranging from social or market discipline to nationalization – arrayed along a spectrum of control. Institutions structure human interaction and pull us out of the nasty, brutish, and short life of Hobbesian anarchy. Institutional controls are implemented because the perfect application of property rights does not exist. However, institutional controls also bring with them the threat of government expropriation and coercion. The underlying premise of the IPF framework is both that all institutions impose social losses to some degree – because no institution perfectly prevents social losses – and that all institutions control the dual costs of dictatorship and disorder in comparatively effective ways.

FIGURE 1: THE INSTITUTIONAL POSSIBILITY FRONTIER



Costs of *dictatorship* arise from state-based expropriation. In the words of Djankov et al. (2003, p. 598) this is the "risk to individuals and their property of expropriation by the state and its agents in such forms as murder, taxation, or violation of property." Some dictatorship costs are obvious, such as an oppressive regime, but also include more subtle forms of using the power of state coercion to control others through regulatory capture. Costs of *disorder*, in contrast, are the costs private individuals impose upon each other. Djankov et al. (2003) describe disorder costs as the "risk to individuals and their property of private expropriation in such forms as banditry, murder, theft, violation of agreements, torts, or monopoly pricing." The common elements of the costs of disorder are private appropriation stemming from too much power combined with the threat of opportunism.

The IPF depicts the trade-off between the costs of disorder and dictatorship as a convex function (see Figure 1). The central benefit of the IPF framework is that it allows comparative institutional analysis around the focal point of an economic problem (such as the regulation of business shown in Figure 1 above), rather than beginning with the nature of an institution (e.g. top-down or bottom-up). For instance, in Davidson and Potts (2016) and Allen (2017) the institutions of innovation are depicted through the IPF framework, ranging from the private orderings of innovation commons all the way down to public science. In this way, all institutional possibilities – including organizations such as firms, markets, clubs, hybrids, and commons, and other institutions such as social norms – can be represented as points within the IPF space. Furthermore, the convexity suggests a point where the costs of dictatorship and disorder are minimized. This cost-minimizing point of institutional efficiency is found where the IPF is tangent with a 45-degree line because this represents the efficient cost-minimizing institutional solution closest to the origin.

In the short run, the location and shape of the IPF is fixed. In a longer historical context, however, the location and shape of the IPF is influenced by changes in civic capital, technology, and institutional and economic constraints. Shifts in the IPF, in the same way as the more widely understood Production Possibility Frontier, are a result of multiple complex factors, many of which are out of our control (Boettke et al. 2005). For example, prior institutional choices constrain and direct future institutional choices. Glaeser and Shleifer (2002) and La Porta et al. (2008) look at the economic significance of legal traditions as those traditions are transplanted through colonization or conquest. There is a recognized tension in Djankov et al. (2003) between the argument that societies choose an efficient control strategy on the IPF and that legal origins explain why some societies choose certain strategies over others. It is here that an Austrian subjectivist approach to the IPF bears fruit.

3. The idea of subjective institutional costs

At first it is unclear what value a subjectivist approach adds to the context of institutional choice. But as Hayek (1955) once wrote, “it is probably no exaggeration to say that every important advance in economic theory during the last hundred years was a further step in the consistent application of subjectivism.” What we find below is that many of the analytic shortcomings of the IPF, such as the supposed lack of applicability to real-world institutional scenarios, can be ameliorated through a central insight of Austrian economic theory: that value and costs, including opportunity costs, are *subjective* perceptions (Buchanan and Wagner 1977; Menger 1871; Stringham 2010; Yeager 1987).

Methodological subjectivism is well known to be the bedrock of the Austrian tradition (Boettke 2002b; Vaughn 1998). A subjectivist understanding of human action rejects the claim that the criteria on which choices are made are externally objective.[4] Subjective costs have broad implications for perspectives on the economic system (DiLorenzo 1990) because it forces the scholar to focus on the interactions of exchange between individuals (Buchanan 1979). Indeed, social phenomena derive meaning from the mental states of participants in that society (Lachmann 1990), which plays out through time and in ignorance (O’Driscoll et al. 1996).

While the claim that institutional costs are subjective is a simple observation, it has major implications for the application of the theory and for the usefulness of the new comparative economics approach more generally. Across the IPF literature the idea that the costs of dictatorship and disorder are centered on preferences is only mentioned once, to the knowledge of the authors. That is, in Whitford and Lee (2012, p. 8) when they attempt

4 While of course the level of subjectivism adhered to by the scholar changes the scope of application (for instance, see radical subjectivist accounts including Lachmann 1976; Shackle 1983; Shackle 1992), the “degree” of subjectivism is not relevant for our purposes here.

an empirical analysis of the perception of government effectiveness and state: "We want to be very clear that this indicator measures subjective perceptions regarding government effectiveness in different countries." While some of the literature, such as Rosser and Rosser (2008, p. 87), attribute some cross-country differences to preferences within those countries and allude to subjectivity, the remainder of the literature proceeds either assuming some objective optimum institutional set, or assumes objective costs for tractability.

In mainstream economics, subjective preferences are usually treated as both fixed and exogenous. But preferences should not be treated as an unexaminable black box (Hausman 2011). For example, Becker (1996) emphasizes that future consumption is closely related to past consumption. The marginal analytical point is that a preference for wine on Sunday is related to the consumption of wine on Saturday. A preference for a variety of wine is dependent on past experiences with that variety, and strength of expectation that those past experiences provide information about future satisfaction. Rather than been seen as fixed, preferences can be seen as an evolutionary information discovery mechanism.

Indeed, as Buchanan (1969, p. 43) taught us, cost "exists in the mind of the decision maker and no-where else." That is, by the subjective stock of knowledge by the individual acting in a social world (Schutz and Luckmann 1973). It follows that the dictatorship and disorder costs underpinning the IPF are subjective by their very nature because they rely on opportunity costs of institutional implementation as perceived in the minds of the individual agent, and are revealed by their action. They are not objectively determinable by an external observer or external criteria. Those costs consist of the alternative institutions foregone.

Dietrich and List (2011) offer a critique of the rational choice approach to preference change – which sees observed preference changes as simply a reflection of new information on fixed, underlying preferences – by offering an alternative where preference change is the result of shifts along motivationally salient dimensions. Agents have different ideas about the relative importance of the characteristics of the objects of their choices. Observed preferences change when some characteristics become more or less salient – when a wine drinker becomes a wine connoisseur, and they move from a preference for red over white, to a preference for pinot noir over merlot, from a preference for New Zealand pinot noir over Napa Valley pinot noir. Dietrich and List argue these shifts are distinct from the Bayesian information approach, as the existence of New Zealand pinot is known to the wine drinker but they lack the motivation salience to appreciate it. But in a subjective framework, this distinction isn't clear.

While information reduces uncertainty (Shannon 1948), that uncertainty relates to mental states, not objective truths. Our drinker has still experienced a process of information discovery and learning – not about the existence of New Zealand wines – but of the relative subjective benefits of choosing to consume wine from that region. Likewise, for Dietrich and List's capitalist businessman who lives through a plane crash and then devotes his life to charitable works, it is not that he has necessarily abandoned his affection for wealth, but the near-death experience has given him more information about the desirability of a life dedicated to altruism.

This information approach has particular importance when we apply it to institutional preferences. What is usually reduced to "ideology" is in fact a complex set of normative and positive perceptions about the world. Indeed, there are a large number of definitions of ideology, with one survey identifying 27 distinct definitions (Hamilton 1987). Downs (1957, p. 97) began the study of the economic function of ideology as purely normative, describing "a verbal image of the good society and the chief means of constructing such a society." Ideologies reduce transaction costs for voters facing a large number of possible issues on which political parties might disagree (see also Hinich and Munger 1996; Laborit 1996). However, ideologies also have a descriptive function. A model of the ideal society is by necessity a critique of the current order – of the costs of the institutional status quo and alternative institutional arrangements. In the moral foundations theory, an individual's ideology is constructed by that individual's intuitive response to mixture of five values and their opposites – care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, and sanctity/degradation (Federico et al. 2013; Haidt 2012; Haidt and Joseph 2004). Each value pair can be seen as costs on a dictatorship/disorder axis.

From the perspective of moral foundations theory, the subjective approach to dictatorship and disorder costs can be intuitive and aesthetic. Consider the ideological politics of urban planning. Individuals will have different perspectives as to the desirability of a clean, rationally planned model of the urban environment – represented at its extreme by Le Corbusier's planned cities of Ville Radieuse, Brasilia, or Chandigarh – as compared to the messy, unplanned, and evolutionary urban orders elucidated by Jane Jacobs. Le Corbusier was "offended by [the] disarray and confusion" (Scott 1998, p. 106) he saw in unplanned urban environments, and saw linear symmetry as not merely practically but aesthetically superior. Jacobs reaction against high modernist urban design was, at least in small part, a reflection of her anti-authoritarian preferences (Kanigel 2016).

Individual institutional preferences reflect in part different intuitive preferences (or, to put it another way, intuitive tolerances) for disorder or dictatorship costs. This is one vector through which one can see McCloskey's rhetoric, ceremonies and metaphors – as mechanisms through which societies make sense of, communicate, and coordinate beliefs about the dictatorship and disorder costs of social institutions.

While dictatorship and disorder costs are subjective in our analysis they are held by the agents themselves to be reasonable representations of the world around them. At the first instance, events, ideas, or experiences affect perceived dictatorship and disorder costs. For example, the Global Financial Crisis of 2007–2009 provided information about the subjective disorder costs of the financial regulatory framework. Richard Posner (2010) and Alan Greenspan both subsequently said they had been mistaken to support banking deregulation in the lead-up to the crisis, based on information they had now acquired from observing events. The evolution of ideas can likewise be seen as an exogenous event that feeds into subjective costs. The sustained disequilibrium posited in Keynes' General Theory can be seen as increasing knowledge about the disorder costs of the free market in employment and production, and the socialist calculation debate can be seen as increasing knowledge about the dictatorship costs of a planned economy.

3.1 SUBJECTIVE COSTS AND THE PROBLEM OF MOTIVE

The basic public choice critique of economics is that it treats the state as a unit outside the analysis – as a benevolent and omniscient external force that can be deployed to resolve market failures, rather than a human organization subject to the same incentive and agency problems as an organization operating in the market. Contrasting the romantic "public interest" motivation where political action is driven by notions of the greater good, they provide a public choice motivation where human action in the political sphere is shaped by institutional incentives (Buchanan and Tullock 1962). However, as Boettke and Lopez (2002) note, while the public choice school has relaxed the benevolence assumption embedded in much economic policy analysis, it has been reluctant to relax the assumption of omniscience – that is, to integrate the subjective analysis of the Austrian school into its approach. Austrian economics has, for its part, been reluctant to abandon the benevolence assumption. Programs like robust political economy (Boettke et al. 2007; Leeson and Subrick 2006; Pennington 2011) and Wagner's entangled political economy (Becchio 2014; Wagner 2014; Wagner 2016) sought to relax both assumptions, building a program that is compatible with both Austrian subjectivism and public choice analyticHowever, the rational actor model that underpinned the public choice critique of the benevolent state has meant that the strength of its critique was dulled. Both public interest and public choice models have at their base the assumption of an externally-verifiable objective ideal of action. Yet what an observer might consider to be publicly interested political action or self-interested political action by an agent is in fact a reflection of the mental state of the observer. While Pareto efficiency is commonly used as a criterion by which publicly interested motives can be judged, it is not necessarily the case that the agents charged with public interest institutional choices share that criterion. Observing that banking regulation differs substantially between jurisdictions, Barth et al. (2006, p. 19) point out that the "social efficiency" implied by a public interest argument for banking regulation does not necessarily mean Pareto efficiency. Rather, "national tastes determine the degree to which the specific focus is on output maximization, variance minimization, or broadening access to capital." Some defenses of the public interest model have explicitly made the claim that public interest action is subjective. For example, Mikva (1988, p. 173) argues that the public interest is "fashioned by people...who are thinking of the public interest (as they see it)" (see also Udehn 1996). Both agents and observers have a positive description of the world that may differ from others' descriptions, and have a normative vision of what institutions would maximize social welfare. Their institutional preferences could be starkly different while the intellectual coherence of the public interest model is maintained.

The significance of this is clearer if we add a temporal dimension to our positive analysis of political action. The analytic challenge is not to explain political choice in equilibrium, but to see how political choices are made in historical time. Pareto improvement cannot be a threshold for publicly interested action before the publication of Pareto ([1906] 2014). Levy and Peart (2009) have shown that the analytical egalitarianism underpinning economic analysis is one which was developed in historical time. What agents have conceived as the public interest has variously focused on individual happiness, social welfare, national glory, racial dominance, imperial expansion, and civilizational virtue. Those normative ideals form institutional preferences long before any public choice analyses of incentives and rational irrationality. If voters vote expressively, then what are they trying to express? It is recognized in market analyses that individuals have different preferences as to aesthetics and that these preferences are both meaningful and are shaped by exogenous and endogenous forces. The same is surely true of institutional preferences.

Public choice models fare little better when they turn to self-interested motivations. The neoclassical public choice position is that political agents are maximizers constrained by bounded rationality. This skips over what agents seek to maximize when they engage in the political system. Self-interest is mediated through ideas about what forms that self-interest (Boettke 2002a; Evans 2014; Mises 1957). For example, it is not clear what the relevant unit of analysis is when accounting for self-interested institutional preferences. Do individual agents seek to maximize the welfare of themselves, or of groups they form a part of? There is a non-trivial distinction between maximization strategies focused on individual welfare and the welfare of that individual's family. Likewise, agents could be seeking to maximize the welfare of an organization or an ethnic bloc. At some margin this self-interest becomes hard to distinguish from the "public interest" if the unit of analysis is drawn wide enough. The function of ideas about what constitutes self-interest in the formation of self-interested behavior is key.

If the hard core of public choice analysis is the observation that the agents are subject to incentives in both the economic and the political sphere, then the subjectivity of preferences is no challenge. In a market transaction, the price system reduces complex changes in the factors of production and in individual taste to a single end-user price (Hayek 1945). Similarly, the subjective "costs" of an institution of social control reduces complex ideas about how the preferred institution will benefit the chooser as an individual and any group – their family, their neighbourhood, their ethnic bloc, their (or *a*) economic strata, the aggregate inhabitants of the political jurisdiction, the global citizenry, etc. – that they deem ought to have a call on the benefits of the institutional framework. While this approach might seem reductive, it has a number of distinct advantages over the traditional public choice approach. The degree to which preferences are self-interested or public-interested is neither objectively determined nor objectively verifiable. Self-interested institutional preferences are rarely publicly admitted. While it is tempting to peer inside announced preferences and seek underlying motives for those preferences, this can only be accomplished with attention to a broader appreciation of the function of ideas. The famous claim that what is good for General Motors is good for the country and vice versa is only explicable within a framework of Austrian knowledge constraints and McCloskeyian rhetoric and metaphors.

Djankov et al. (2003) note that exogenous factors, such as technology and social trust, will shift the shape of the IPF, but it is not immediately obvious how this happens given that the curve is fixed in the short run. Our explanation is that these factors change the subjective perception of costs, and therefore shift the range of institutional possibilities. High social capital lowers subjective disorder costs as individuals are less fearful that their neighbors will expropriate their wealth. The development of technology enabling more stringent government surveillance raises dictatorship costs as individuals become more fearful about the possible loss of their privacy. Such a change may also decrease disorder costs by increasing the transparency of state institutions. Likewise, changes in ideas about the role of the state and civil society alter the institutional trade-off. It is possible to explain the rise of religious toleration, for example, as a shift in perceived dictatorship costs.

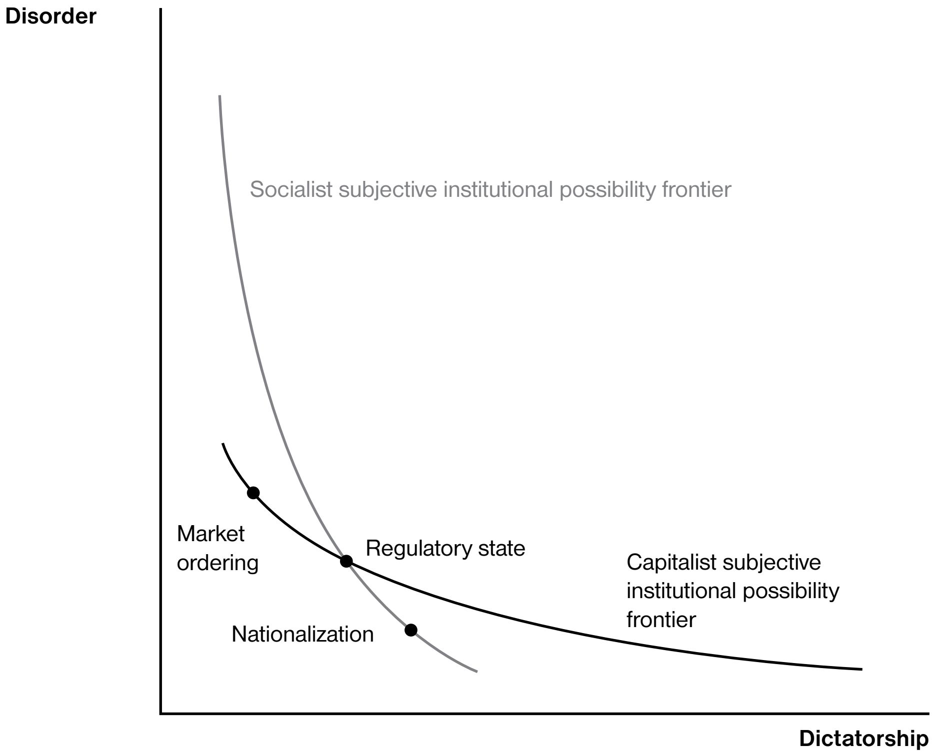
4. DISAGGREGATING THE INSTITUTIONAL POSSIBILITY FRONTIER: INTRODUCING POLITICS AND SOCIAL CHOICE

In Djankov et al. (2003) society "chooses" the point on the IPF that minimizes institutional costs. Readers attuned to a methodological individualist approach will object that society does not consciously choose anything. Brada (2009, p. 11) notes that the framework of new comparative economics "take(s) no account of policy differences. Outcomes are largely explained by institutional differences, themselves the relatively immutable forces such as colonial past, location, etc." This objection to the IPF framework is fundamentally an aggregation problem. As Hayek (1945) argued, aggregate measures (and indeed any aggregate representations) lose the detail of individual preferences.

The Austrian subjectivist approach is particularly fruitful in examining such problems because of its focus precisely on how individuals with *different* preferences and perceptions *coordinate* their actions (Horwitz 1994). By introducing subjectivism into the IPF, new comparative economics can be based on a disaggregated SIPF down to the level of the individuals who make up the polity. Each agent has a subjective view of the costs trade-off of a given institution (i.e. of the position of points within the IPF space in Figure 1), and therefore each agent has an SIPF with a different shape and slope. While in aggregate this appears to be a single, society-wide IPF, the IPF observed by Djankov et al. (2003) is in fact the outcome of an inter-agent bargaining coordination process.

Almudi et al. (2015) describe civilization as the result of a contest between competing utopian visions. Consider for example a society made up of two individuals, Capitalist and Socialist, with equal political power and a fully-formed and ordered SIPF representing their different ideas about the costs of various institutions. Each conceive of the cost-minimizing institution as "market ordering" and "nationalization," respectively. Figure 2 shows their two SIPFs. In this highly stylized example, their SIPFs cross at the regulatory state, providing a potential institutional compromise between the Capitalist and Socialist. As this shows, what Djankov et al. (2003) claim to be the cost-minimizing position might well in fact be a compromise position solely created as a function of the relative subjective costs of two individual SIPFs. As there are no "real" dictatorship and disorder costs – institutional costs are mental states rather than objective facts – any observed institution "emerges" as a function of both a diverse range of ideas about the costs of those institutions and a social bargaining process.

FIGURE 2: THE SUBJECTIVE INSTITUTIONAL POSSIBILITY FRONTIER WITH TWO AGENTS WITH EQUAL POLITICAL POWER



In this depiction, neither Capitalist nor Socialist are completely happy with the institutional compromise, seeing the regulatory state as imposing more costs than their preferred institution. Their dissatisfaction can be shown as the distance between their perceived cost-minimization lines and their 45-degree line that intersects the regulatory state. (The two 45-degree lines have been removed from Figure 2 above.) In this highly stylised example, market ordering and nationalization are equidistant from the regulatory state. Both Capitalist and Socialist are equally dissatisfied with the compromise position. Institutional stability is only maintained to the extent that they continue to have equal influence over the choice of institution, that the relative perceived costs of the institutional set are stable (unaffected by exogenous or endogenous changes), that the costs of dissatisfaction are less than the benefits of maintaining the constitutional order, that alternative institutions are not invented which would change the relative perceived costs and therefore the shapes of the SIPFs, and that the number of participants in the decision making group are stable. Relaxing these stabilizing assumptions produces an evolutionary framework of institutional choice.

For example, how close the observed institution is to an agent's institutional optima will be a function of the political power they wield and the institutional framework in which decisions are made. The observed social institution need not be the intersection between the two SIPFs. Rosser and Rosser (2008) object that the IPF is unable to account for institutional differences between North Korea and South Korea. Our SIPF is easily able to accommodate these differences. It could indeed be true that there are different underlying preferences between the two polities – that state control is less costly in the North than the South. Alternatively, and more likely, North Korea's institutional form can be seen as the result of the political "bargaining" regime in that hereditary dictatorship results in an institution being "chosen" that is far from the compromise intersection. For example, in a two-agent political system where the Socialist holds absolute political power, nationalization will be the chosen institution. For the Capitalist this will represent a substantial institutional inefficiency. How high do dictatorship costs have to be for the Capitalist to reject the constitutional order? In a $n>2$ system the transaction costs of institutional change will differ agent by agent, and suffer from Olson's collective action problem.

One of the costs of dictatorship is the distribution of political rents and concentration of political power. Rent-seeking behavior – such as regulatory capture (Dal Bó 2006; Laffont and Tirole 1991; Stigler 1971) – is an endogenous dynamic that influences the social choice of institutions, pushing it the right on the SIPF. Similarly, in a market order private interests might be able to wield disproportionate influence over the system of social choice through political donations or the buying of votes.

The subjective political economy framework is neutral as to the system of social choice. The starting point is that individuals have individualized preferences about what institutions of social control they believe society should adopt. The method of aggregating those preferences through politics is itself an institutional choice. The process of choosing institutions of social control can itself be seen through an institutional lens, with (for example) direct democracy and totalitarianism providing the outlying institutions.

Likewise, institutional costs can be seen as partly endogenous in the subjective political economy framework. Ideas are fundamentally sociable. Mill's (1859) argument for freedom of speech is that ensuring the truthfulness of an idea requires testing against other ideas. Collins (2009) goes further by arguing that an "idea" is only meaningful if seen in the context of communicating that idea. Individuals do not enter the system of social choice with a fixed set of preferences and perceived institutional costs. We are not born with fixed notions of the harm of disorder and dictatorship. These are worked out through interaction with other individuals within that system, and subject to continuous adjustment. The acquisition of information about institutional costs is not truly exogenous – it has to be learned and interpreted through social interaction (Berg 2017; Searle 1995).

5. INNOVATION AND IGNORANCE

Knowledge of institutional costs exists in relation to time (Loasby 2001), and for analytic purposes can be sequenced in relation to other knowledge and possibilities. As new knowledge emerges it changes the institutional choice structure, that is, changes the shape of an individual's SIPF and the relative costs of alternative institutions. However, the curve as depicted in the Djankov et al. (2003) IPF is complete and well-ordered. Agents know and can assess the relative subjective costs of each institutional arrangement. Figure 1 shows the cost-minimization curve at a halfway point between independent judges and regulatory state. But this raises an important question: what institution does society choose under such circumstances? Likewise, under our subjective approach, the point of intersection between the Capitalist's curve and the Socialist's curve might not have a corresponding institution. If the institutional set is static – in an equilibrium outside historical time – the prevailing institution (assuming that each agent has equal political power) will be that which is closest to the intersection. To the extent that the chosen institution is not equidistant from the intersection, one agent will perceive higher subjective costs than the other agent.

The discontinuity of the SIPF provides opportunities for endogenous institutional innovation. The choice of institutions is not fixed. New forms of social control can be invented or adapted through intellectual and ideological endeavor. It is not solely that the need for social bargaining is a spur to institutional innovation – it is that institutions are not conceivable without that underlying bargaining process in the first place. Buchanan et al. (1982) argued that the market order emerges from the process of its generation – that is, the voluntary interaction of individuals. Likewise, institutions as social facts are only created in the context of a bargaining process around diverse perceptions of the costs of the existing institutional set. Given that choices along the SIPF are relative to each other, the creation of new institutional alternatives will likely have an effect on the subjective costs of legacy institutions. Further, the process of political secession to private governance mechanisms (e.g. Stringham 2015; Leeson 2014) or collective action in the commons (Ostrom 1990, 2005) can similarly be seen as a process of institutional evolution over subjective costs. In this view, the process of secession is a process of interaction between individuals with similar perceptions of the IPF and the loss-minimizing institutional solution.

One further consequence of viewing institutional costs as socially formed is the function of ignorance and certainty. In Djankov et al. (2003) the IPF is convex toward the origin, reflecting society's knowledge about the costs of the institutions on the curve. However, it has been observed that agents are not always well-informed about policy alternatives (Caplan 2011; Somin 2013). Of course, in a subjective political economy all agents are equally ignorant of "true" or "objective" costs. Not all agents may feel they are able to produce a well-formed, well-ordered, and complete ranking of institutional alternatives in the SIPF space relative to other agents. The convexity of the SIPF curve is a function of the relative certainty of subjective costs. The perfectly uncertain agent is unable to distinguish any difference in disorder and dictatorship costs between market ordering and nationalisation. Their "curve" in that case is perfectly straight and perfectly equal to the cost-minimization line. Convexity increases as agents more intensely distinguish the costs of institutional choices and are spread institutions across the space.

Agents are keen observers of the preferences of other agents (Earl and Potts 2004). There are transaction costs incurred while spreading ideas – that is, perspectives about the subjective costs of a given institution – from agent to agent. The spread of an idea is a function of the influence of the agent that holds it. In this sense social learning would be shown by the movement of the SIPFs of followers toward the SIPFs of leaders. A stylized two-party democracy can be seen as clustered SIPFs where subjective costs are aligned by the need to maintain in-group solidarity. The persuasive technique of exaggerating the subjective costs of the institutional preferences of an opponent is self-reinforcing to the extent that agents come to believe their own rhetorical claims. This conception allows for the framework to integrate our emphasis in the previous section on the production of new institutions with the social diffusion of those institutions. The lessons of the Global Financial Crisis were not immediately obvious to all actors in its aftermath. The institutional settlement which emerged in its wake was the result of social learning and persuasion. Multiple possible explanations for the crisis and multiple possible policy responses competed among each other. The diversity of SIPFs is a function of the influence and persuasiveness of idea entrepreneurs (López and Leighton 2012).

The SIPF provides a complex and adaptable framework through which to understand political disagreement and institutional change over time. By recognizing that costs are subjective the SIPF resolves the problems raised by critics of Djankov et al. (2003). It also helps more deeply integrate ideas into political economy while still enabling the analytical constructs of cost and trade-offs to be utilized. In the following section we apply the SIPF approach to the deregulation of the financial sector and the rise of the regulatory state.

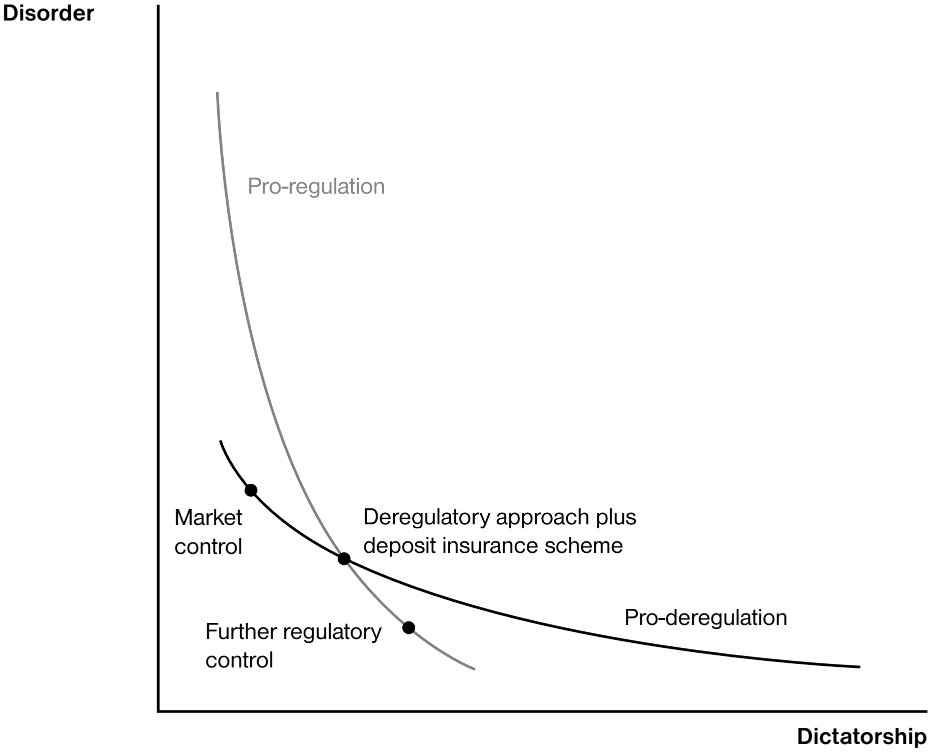
6. APPLYING THE SIPF: THE DEREGULATION MOVEMENT IN AUSTRALIA

As Kroszner (1999) notes, economists have used the insights of public choice to explain the existence of heavy regulation in the developed world, but have struggled to apply the economic theory of regulation to the deregulation movement that swept the developed world since the 1970s and 1980s (see Keeler 1984). In those decades, developed countries such as the United States, United Kingdom, New Zealand, and Australia reduced legacy regulatory controls – such as fixed prices and restrictions on competition – on sectors such as transport, energy, telecommunications, and finance, privatized government-owned businesses, and reduced centralized industrial relations power. Peltzman (1989), applying the economic theory of regulation, concludes that deregulation was caused by changes in the "politics" and "economics" of economic control, where politics describes the relative balance of interest group power and economics describes the gap between the regulated equilibrium and a laissez-faire alternative and the wealth available for redistribution. However, the political economy regime that replaced the heavy state intervention of the mid-20th century was not a laissez faire one, but what has been described as a "regulatory state," where social control is wielded still by regulation, but increasingly through "arms-length" independent regulatory agencies that were intended to approach policy questions from a pro-competition perspective (Berg 2008; Braithwaite 1999; Glaeser and Shleifer 2003; Moran 2003). The Djankov et al. (2003) IPF is well suited to describe the institutional set available to policy makers and describe the trade-offs faced by society before and after the deregulation movement. While each sector differs in the detail and effect of state control, in broad strokes, the political economy changes in these decades represented a shift along the IPF to the left, trading off the dictatorship costs of nationalization and direct regulation against the disorder costs of more competitive service and goods provision. This trade-off is shown in Figure 1. Djankov et al. (2003) also provide some tools to explain the shift. Exogenous changes in civic capital, particularly that of technology and organizational innovation, create inefficiencies that undermine the existing institutional control. In their description of the rise of the first regulatory state in the United States at the end of the 19th century, they describe how industrialization and commercialization made litigation through the courts an inefficient mode of social control, driving the shift toward regulation. A similar explanation is often advanced for regulatory reform in the at the end of the 20th century – the combination of technological change and macroeconomic factors meant that the regulatory framework no longer functioned efficiently (Kasper and Stevens 1991). Regulatory reform disrupted the institutional equilibria and necessitated further regulatory reform, with a cascading effect through the economy.

However, societies do not move seamlessly from one mode of social control to another. Alternative institutional choices have to be identified, negotiated, and implemented. Djankov et al. (2003) allow for political factors and path dependency to account for observed institutional inefficiencies in the real world. The subjective approach focuses on the act of institutional choice and the subjective and intersubjective ideas of institutional costs as they affect the choices faced by policymakers.

Berg (2016a) offers an account of the early institutional choices made during financial liberalization in Australia. A crisis in the Australian building society sector between 1974 and 1976 caused, for the most part, by the macroeconomic upheavals of those years, presented the Commonwealth government with demands for reform of building society regulation, as the IPF framework would predict. However, the Commonwealth government was faced with two distinct reform directions. It could increase regulatory controls on building societies so that they were aligned with the heavy regulation imposed on the private banking sector, or it could move the entire financial system toward market control. The private banks were noncommittal on whether they would rather be freed from restrictions or whether they would prefer their more-nimble competitors to be restrained (Pauly 1987). The eventual choice of deregulation was not foreordained. Cabinet documents show that Prime Minister Malcolm Fraser favored the former option. This choice, the debate surrounding the choice, and the final institutional settlement, are readily comprehensible through a subjective frame.

FIGURE 3: APPROACHES TO REGULATORY REFORM IN BANKING, AUSTRALIA 1976–78



There were two distinct perceptions of the costs of the regulatory choices within the Fraser cabinet. The *pro-regulation* advocates understood the costs of the existing institutional structure to suffer from sub-optimally high disorder costs – the relatively light-touch regulatory control imposed on building societies and other non-bank financial intermediaries were attracting business away from the highly regulated banks. This both encouraged risky financial practices and led to unacceptably high interest rates. In this perspective, any reduction of control would increase those disorder costs. The *pro-deregulation* advocates understood the current institutional settings to have high dictatorship costs, that that the institutional differences between banks and non-banks were a problem brought about by financial repression, and that Australia's financial sector was inefficient. The resulting institutional arrangement brought about the introduction of a deposit-insurance scheme for building societies (the short-lived Australian Building Societies Share and Deposit Insurance Corporation) and the development of a more general program of deregulation in line with "the government's free enterprise objectives" (Committee of Inquiry into the Australian Financial System 198, xxiii). This institutional arrangement was a compromise between the two conceptions about institutional costs rather than a coherent statement about the efficiency of that arrangement. Analyzing this institutional choice through an objective, society-wide IPF both misses the substance of the decision and would impose a coherence that the final settlement lacked.

Thus, the SPIF, in this case, introduces both politics – the foremost advocate of the deposit insurance scheme was Prime Minister Fraser – and the content of that political clash (the different ideas about institutional costs). The result is more than just a fall-back onto "ideas" as a catch-all explanation for change (Kroszner 1999). Support for deregulation was not uniform and the resulting settlement was not uniformly deregulatory. Likewise, any account of the rise of financial regulation – particularly focused on prudential regulation – after the deregulation period requires both a recognition of the institutional demands of new competition and the enduring perception, which dated back until at least the Second World War, that depositors required a safe haven for their deposits (Berg 2016b). The resulting rise of the regulatory state was not "chosen" but was the result of a diverse range of changed and fixed perceptions about institutional costs.

8. CONCLUSION

The costs of dictatorship and disorder, which are inevitable in implementing institutional controls on society, are subjectively perceived by individuals within a society. We extended the Institutional Possibility Frontier from new comparative economics by incorporating this Austrian notion of subjective costs. This forms what we called the Subjective Institutional Possibility Frontier, a framework enabling the dynamics of ideas and politics, and schools of thought underpinning them, to be explained from a base of methodological individualism. In addition, such an approach incorporates the potential for institutional entrepreneurship as discovering previously untested points within the SIPF space. We demonstrated the applicability of the SIPF framework through an application to the deregulation movement in Australia.

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NATIONAL DEFENSE AS A PRIVATE GOOD: FREEDOM AS A POSITIVE EXTERNALITY

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ABSTRACT

The standard anarcho-capitalist suggestion for defense against foreign aggression leads to numerous systematic built-in problems which prevent it from being more widely accepted. The most prominent one is the anarcho-capitalist defense being a public good. Additional problems can be identified with regard to the incentives/motivation and knowledge of the anarcho-capitalist defense companies. A new, stateless, free-market-based system is offered which makes national defense a private good and brings the incentives and knowledge issues in line with the standard way free market is organized. The suggested system, which represents an alternative of anarcho-capitalism, lets the aggressor pay entirely for the respective society's defense, thus freeing the private property owners from the obligation to provide for their own defense. In this way national defense becomes a private good and the respective society's freedom, a byproduct and a basic human right.

KEYWORDS

Austrian economics, anarchism, national defense

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1. INTRODUCTION

How to protect your nation/community/society against foreign invasion is one of the hard questions posing before the supporters of anarcho-capitalism. Several solutions to this problem have been offered, which are stateless and market-based by their nature. However, all of them suffer from the same ethical and economic problems. From an ethical perspective they force people to pay for their own protection, which, in fact, as will be shown, contradicts the essence of libertarian beliefs. From an economic perspective, they keep the public good structure of national defense and create additional problems with the incentives and knowledge of anarcho-capitalist private defense agencies. Conflicts of interest, unaligned interests and insufficient incentives of the defense companies can be identified from a motivational point of view. There are also problems with regards to how they disseminate and use information.

The suggested anarchic system of defense resolves the above-mentioned ethical problem by making the very aggressor pay entirely for the respective society's defense. It makes the aggressor the true client of private defense agencies and releases private property owners from the obligation to pay and from their client status. In the process, it makes national defense a private good, since private property owners will not receive services and thus the free-rider problem will be avoided entirely. The suggested system avoids the conflicts of interest and aligns the interests of the private defense agencies toward the common goal, i.e. fighting the aggressor, thus making the structure of this economy branch the same as any other one. It ensures knowledge is collected and used efficiently by the market organizations providing defense against foreign aggression. In effect, the respective society will gain its freedom as a byproduct of the market for defense against foreign aggression. In economic terms: freedom will become a positive externality.

2. OVERVIEW

There are two typical ways for providing protection against foreign aggression offered in anarcho-capitalist literature. As the most common solution to this problem it is suggested that protection against foreign invasion be implemented with the help of a combination/fusion of private insurance and private defense companies (Tannehill and Tannehill 1970; Hoppe 1999). With this solution, private property owners buy private property insurance and the insurance companies in turn make sure their clients are secured against foreign invasion by employing private defense companies to fend off the aggressors. A separate and somewhat different view is the one offered by David Friedman (1989). It suggests that militia forces recruited voluntarily from the general population are led by a small elite of professional soldiers paid from voluntary donations. In what follows both systems will be critically evaluated and compared with the suggested system from an ethical and economic perspective.

3. ETHICAL PROBLEMS

I. In the most wide-spread anarcho-capitalist suggestion on how to deal with foreign aggression, people/companies would buy insurance to protect themselves. While this resembles very closely the way people buy insurance to protect themselves from natural disasters (earthquakes, floods, etc.), there is one significant difference – that is, why they do it. In both cases, i.e. natural disasters and foreign aggression, people would act out of fear that they may lose what they have. However, only in the latter case would there be any aggression initiated. Earthquakes and floods cannot initiate aggression since they are not human beings and thus their occurrence is not a matter of choice. They are a force of nature. As a comparison, however, foreign aggression is not and as such it is avoidable if the potential aggressor decides not to wage their war. It should be stressed out that when people insure themselves against natural disasters, they act out of fear, but not due to initiated aggression. In the case of foreign interference, people would insure themselves again out of fear. However, this time this fear would be caused by initiated aggression. Since people would take part in this market out of fear of initiated aggression, this market would not be a free one. A free market is a market in which none of the transacting parties acts under initiated aggression or a threat thereof. It must be noted that it is irrelevant who has caused the aggression at a particular market. The aggression needs not come from any of the parties in the market transaction. It may come from an external entity which is only indirectly related to the particular market exchange. Assuming the opposite for a moment would lead us to the bizarre situation to call markets, such as the one for "green" energy or the one for any type of state-imposed compulsory insurance, free just because neither the energy supplier/insurance supplier nor their clients aggress against each other. A corollary from the above is that a completely free market is not possible as long as aggression exists. Thus markets, such as the one for bike locks, or the one for personal guns (when bought for self-defense), are not free by definition. Their very existence is based on the presence of the credible threat of initiated aggression.

This shows that the standard anarcho-capitalist suggestion to defend an anarchist society against foreign aggression by using insurance and private defense agencies is not a free-market one, i.e. it contradicts the basic way the free market operates.

II. The ethical argument above applies to the "voluntary" solution suggested by David Friedman as well. While this solution appears to function without force being initiated, since funds would be donated voluntarily, this is not so in reality. The reason is that if people do not pay "voluntarily", they would suffer, i.e. the threat of initiated aggression would be the motivating factor for people to donate funds. It is not just simple fear that would motivate them to donate, but a fear of initiated aggression.

III. National defense in anarcho-capitalism is a public good in general (Murphy 2010; Hummel 1990). As such, there may be people who get protection without paying for it, i.e. the free-rider problem will be present. The latter is practicably unavoidable for the simple reason that even if everyone agreed to pay for defense (which is unlikely to happen in practice), not everyone could afford it. Thus, there will always be people who get services (protection) paid by other people, i.e. people who obtain something at somebody else's expense. The latter could be treated as an economic problem and/or an ethical one depending on one's personal views.

4. ETHICAL SOLUTIONS

In order to avoid the aforementioned problems, i.e. acting out of fear of initiated aggression and the free-rider problem, one must organize the anarchist society in a different way. From an ethical perspective, the one who must pay for defense against foreign aggression must be the very aggressor. After all, he is the one who has caused the problem, not the private property owners suffering from his actions. It is the aggressor who must logically pay, not his victims.

In view of the above, the ethically clean solution would be the defense forces of the particular anarchist society to get fully paid by the aggressor only. So in case of war the defense companies would have the right to be compensated entirely from the property/resources of the aggressor (reparations). This would guarantee that private property owners would not have to pay for protection if they do not wish to do so, and also that the public-goods problem can be avoided entirely. Note that one does not expect the aggressor's economy to suffer significant damages due to war, i.e. resources would be available to indemnify the attacked country. At the same time, the public-goods problem will be avoided entirely, since it will not be the private property owners in the particular society who will obtain a service, but the aggressor himself. The public will get the byproduct, which in this case is their freedom.

Thus, a new type of market is suggested, where the aggressor himself is on the demand side, and on the supply side - the respective defense company. Since national defense is a sub-case of the more general problem of defense against any aggression, one could use the same arguments as given in Ninov (2016) to justify the existence of such a market. What needs repeated emphasis is that such a market would be a free one, since neither the defense company nor the aggressor will act under initiated aggression. The defense companies' actions will be justified as a response to/defense against initiated aggression and will be motivated by the prospect of making profit.

5. ORGANIZATION OF THE SYSTEM

PREREQUISITES

A necessary and sufficient condition for the suggested system to function is the existence of a pre-established, monopolistic body of law governing a certain land area, the sole purpose of which would be to ensure the protection of private property. An extended justification of the latter requirement can be found in Ninov (2016). A short summary will be presented here.

The existence of monopolistic laws over a given territory is not synonymous with the existence of a state. Monopolistic laws can exist without a state or, in general, without any force being initiated. What we have nowadays is monopolistic laws imposed by the usage of initiated aggression by the state. It is, however, the initiated aggression that is the problem, not the monopolistic structure of the laws. The same monopolistic laws can exist if imposed by private property owners without initiating force. The latter is entirely possible when all the property within certain territorial borders is entirely private. And the reason is that it is the private property rights which determine if a particular application of force is aggressive (bad) or non-aggressive (good). For example, a land owner has the right to ban the possession of guns on his private land. And the reason is that he owns the particular land and has the right to dispose of it as he sees fit. Thus, if this particular land owner punishes a person owning a gun on his property, this will not be an act of aggression, but an act of defense, because his private property rights were violated. Taking the above into consideration, the existence of groups of private land owners who agree to impose the same set of laws over their combined territory is entirely possible and admissible from a libertarian point of view. Thus, monopolistic laws can exist without a state or, in general, without force being initiated. Note that such monopolistic laws require/lead to homogeneous societies, i.e. societies composed of people with a shared moral code (Ninov 2016). One must add that the existence of ethically homogeneous societies is not a limitation of the system, since it is a natural tendency among human beings to form groups espousing the same ethical views.

OVERALL STRUCTURE OF THE SYSTEM

Similarly to the case of anarcho-capitalism, there will be many competing defense companies seeking to profit from the act of foreign aggression. These companies will be funded by private investors seeking to profit from war and in particular, from the aggressor himself. The companies need not be local ones only, i.e. belonging to the particular society under attacks, but can operate on an international level. The opportunity to earn profit will be the force attracting them to provide services for national defense. The society under attack will offer them a moral justification for taking part in the war and will provide them with the services necessary for profiting from it. In particular, it will provide court decisions about the transfer of resources obtained from the aggressor and the subsequent protection/recognition of defense companies' newly acquired property under the laws of the particular society.

The number and size of the companies involved will be determined by the opportunity for profit, i.e. the system will adjust its size and organization to the aggressor in order to defeat him. For example, if there is a threat of a terrorist attack, then small, agile, focused defense companies will be formed to counter the problem. In the opposite case, if the aggressor is big and strong, then a major part of the society will organize itself against it. The latter will prove possible, because the prospective of profit from a war will outweigh the rest of the available economic alternatives. In fact, a thorough economic restructuring would ensue lead by the market forces. Thus, the size, number and organization of the defense companies will be determined entirely by market forces.

The traditional "subscription-based" defense companies could co-exist with the suggested "reparation-hunting" companies, but it is highly unlikely that they will be able to compete with the latter. Private property owners would not want to pay for something which they could normally get for free. Thus, the essential and most important difference between the discussed systems of national defense is that in the suggested system, the defense companies will be paid only and exclusively by the aggressor, whereas in anarcho-capitalism the defense companies are paid by two sides - by the private property owner subscription payments and by reparations (compensations) from the enemy.

COMPENSATION OF DEFENSE COMPANIES

Let us now discuss how defense companies will be compensated for their effort in fighting and defeating the enemy. This requires a preliminary discussion. The problem is the following: for a market to work, the goods/services exchanged must be privately owned. A government as such, however, is not a private entity. So, when a country attacks a given society, there is no clear-cut private "villain", so to speak. As a result, it is not clear who exactly must compensate the defense companies when the attacking country has been defeated. Should this compensation be imposed on the whole country-agressor itself, i.e. through taxation? Or perhaps the soldiers who took part in the offensive must be held financially responsible? Or the politicians who sent them? A simple and straightforward way to handle this problem would be to apply the laws of the respective libertarian society under attack. This way, the following could be expected to happen: if, during war, hostages were taken or any private property was appropriated (this could include private companies, plants, infrastructure, personal belongings/funds), the owner of this property would be considered responsible for compensating the defense companies for defeating the country-aggressor. All that belongs to the state-aggressor would be considered non-owned and thus subject to direct sale/appropriation. The latter could include: war machinery, state-owned buildings, state infrastructure, etc. With that in mind, we could outline how the compensation of the defense companies could be organized. In particular, if private property was captured, it would be subject to court proceedings to determine how it should be used for compensating the defense company. Both sides, namely the respective defense company and the property owner whose property was appropriated, will have to turn to a judge to settle the issue. The procedure will be practically the same as suggested in (Ninov 2016) for cases dealing with common criminals. As to the state property being appropriated: as it will be considered non-owned, it will simply have to be recognized as property of the respective defense company that appropriated it. Actually, it is up to the society to decide how to proceed in such a situation. There may be alternative ways to dealing with the problem. When something is not private, no particular rules apply to it. Taking all that has been said into consideration, one can organize a way for the defense companies to be compensated for their efforts.

RESTITUTION

What proves harder is to find a way to compensate private property owners who have suffered damages due to the war, i.e. to organize restitution. And the reason is that it is not always clear who exactly damaged what. For example: an army attacks a particular city razing many homes. Who exactly is to blame for razing the home of citizen X? If the respective army was a private one, then one knows who is to blame and be held responsible, i.e. the army's owners/investors with all of their property/funds. Thus, the indemnification procedure mentioned above could be used, this time to compensate the private property owners who suffered damages due to the war. However, if the army is organized by a government, who is to blame? Every soldier separately? All soldiers together? The politicians who sent them? The attacking country as a whole?

Please note that this specific problem is not limited only to the suggested system. It is an integral part of anarcho-capitalism. In anarcho-capitalism, an insurance company is supposed to have the right to be indemnified for its expenses for capturing a particular criminal by the criminal himself. Since, however, national defense is a sub-case of this more general case of protection against any aggression, then one must expect that national defense companies under anarcho-capitalism must also be compensated by the defeated opponent. What this means is that the mentioned problem is a common one for both systems. The real problem is that market solutions to economic problems require the existence of private property. When public property is at play, the situation has no clear resolution from an ethical point of view. Thus any reasonable solution to this problem could be deemed acceptable. For instance, the private property owners could be compensated from the appropriated state (public) property of the aggressor.

6. ECONOMIC CONSIDERATIONS

THE PUBLIC-GOODS PROBLEM

As already mentioned, while the public-goods problem is present under anarcho-capitalism, it is entirely absent in the suggested system because of its different organization. Since private property owners are not the clients and do not pay for their own protection, then free-riding will be impossible as such. We could say that all people in the society will "free-ride", since freedom will become in fact a side product of the defense market , i.e. freedom will become a positive externality. The latter fact is the most important feature of the suggested system and a solid answer to the most prominent objection against a free-market for defense.

INCENTIVES/MOTIVATION

Motivation under the suggested system

The defense companies to be formed in the suggested system will be motivated by the prospect of making profit. Since their profit will directly depend on how much of the enemy's resources they manage to win, they will be highly motivated to keep these resources as intact as possible, so that they can gain the maximum possible profit from them. Destruction will be the last thing such companies would wish. Therefore, the usage of weapons of mass destruction (atomic bombs for instance) would be in practice non-existent.Any defense company based in a libertarian society will have to follow its rules/customs, since this society will be a homogeneous one. Thus, if the society espouses the view that wars of aggression are impermissible, then the particular defense company will not be allowed to initiate an attack on another country. Otherwise, it would immediately be labeled a criminal and thus become a target for its competitors, as discussed in (Ninov 2016).

A possible objection against the suggested system could be expressed as: "Who should pay for a successful deterrence?". We must note, first and foremost, that in the particular case the word deterrence does not fit properly, since no "deterrence" service was requested or obtained. As has already been mentioned, freedom is a positive externality in the suggested system. What could, in fact, happen is the potential aggressor might refrain from attacking, because it fears the military strength of the respective society. In that case the defense companies will have no prospects of obtaining income. Thus, the problem is how to fund defense activities which do not result in the collection of reparations. In other words, defense companies have expenses for investment and support of their troops in peacetime, which may be so high as to make the whole undertaking unprofitable.

In order to provide a solution to this potential problem, one must note first that it is the profit that motivates the businessmen, but profit is the difference of revenues and costs. As long as revenues surpass costs by a sufficient margin, the particular businessmen will be motivated to invest in and support defense companies. Furthermore, it does not matter how these revenues are obtained as long as they are high enough. Thus, it may be the case that wars do not happen often, but, when they do, one could obtain a really huge amount of money if successful in them. So huge as to compensate the peacetime losses. Put in mathematical terms: revenues can be represented as a mathematical expectation, which is the probability of a profitable event to happen multiplied by the amount of money to be obtained from it when it does happen. If this mathematical expectation is big enough, businessmen will invest in defense. Such is, in fact, the mode of operation of drug companies at present. They invest in many different drug research activities of which they already know they will lose. However, if just one new drug proves successful, it could compensate and overcompensate all the investment.

Taking all of the above into consideration, if the defense companies are allowed to obtain a big enough part of the aggressor's resources after the aggressor was successfully defeated, they will be motivated to support and invest in defense. In addition, the large fixed costs for defense we have at present are not representative of what could happen if there were a free defense market. Nowadays, armies are state-run, but the state is not motivated enough to optimize costs. We should expect that the fixed costs for defense would fall significantly if left to the market. It must be noted that the defense companies, although based in a particular society, could function internationally and thus, would be able to profit from defensive wars abroad. As an example from real life for the profitability of the suggested system, one could point out the fact that piracy has existed and still exists. It has been profitable enough to outweigh the risk and the investment. Another example is privateering Sechrest (2003). Both piracy and privateering as such are paid exclusively by the opposing parties if defeated.

Specific issues of incentives/motivation

Insurance/defense company approach

I. The anarcho-capitalist insurance/defense company solution has a distinct and very specific problem. It is a general one which applies not only to national defense, but to defense from any initiated aggression. It stems from the fact that what is suggested is a fusion between the general economic fields of insurance and police protection. Let us first see how the insurance branch of the economy normally functions. An insurance company typically offers compensation for occurrences such as: natural disasters (earthquakes, hurricanes, floods, etc.), loss of productive ability (health insurance), loss of property (robberies, car insurance), etc. What is common among all of the mentioned cases is that from the point of view of the insurance company, these occurrences are unforeseeable. They can be predicted only through statistical means, but cannot be controlled by the company itself. In short: an insurance company has no control and cannot have any control over earthquakes, for instance. It can only estimate the probability of having one and bet against its clients on its happening/not happening.

What the anarcho-capitalist insurance/defense company approach offers is a fusion between insurance and defense. I.e. an insurance company insures against some event and at the same time protects you from it by using its defense branch. What this, however, suggests is that the insurance company will obtain control over the particular insurable event. This way, it will be able to exert control over its happening/probability. Once this control is available, there is no doubt that it will be used in the best interest of that company.

What is typically suggested in the relevant literature is that such control will have a positive outcome for the company's clients, because the insurance company will try to minimize its costs [Tannehil]. For example, if you are insured against robbery, the company will try to protect you, so that it does not have to pay you compensation in case you are robbed. What seems to have been overlooked in this simplistic view is the fact that companies on the market try to maximize their profits in the first place. Minimizing their costs is part of the profit motive, but it is not the whole one. Another part is maximizing their sales revenues. In particular, an insurance company would want to win customers who are highly motivated to insure themselves and thus willing to pay a high price for the company's service. But what motivates people to insure themselves against aggression in general? This is the fear of being robbed/mugged/killed/etc. If this fear is high, people will be motivated to pay a lot for insurance services. However, if the same fear is low, people will not be willing to pay much to protect themselves from aggression. Thus, from the point of view of the insurance company it is better when its clients are afraid. Their legitimate concerns over their security will translate into bigger insurance sales. People, however, are afraid only if such crimes happen from time to time to them or to their neighbors. From such a standpoint the lack of crime/aggression in a society will be the worst thing that can happen to such an insurance company. If there is no crime, people will not insure themselves against it, so no clients and consequently no revenues for the insurance companies. Note that if one has no clients, one cannot minimize costs in the mentioned way, because these costs exist only if there are clients. All of the above means that it is in the best interest of any insurance company there to be crime/aggression. However, in the anarcho-capitalist solution it is the insurance company which is able to control the occurrence of these offences, since it is given control over them. There is no doubt that this control will be used in the best interest of the company, but this interest may not coincide with the one of its clients. So, crimes may be allowed to happen, because this will be beneficial for the owners of the company. Examples of such crime can be found in some of the former Eastern Bloc countries after the 1989 changes from socialist to capitalist economy. In the early years of the transition, the said fusion of insurance/defense companies existed (protection/extortion/ racketeering). For instance, unless one insured oneself against car theft, one's car was guaranteed to disappear. However, if one was insured, the likelihood of such an occurrence decreased dramatically (CDS 2007).

It must be noted that such a situation can happen because of the fusion of the insurance and executive functions. If such a fusion does not exist, the said problems will not be present. And the reason is that the insurance company will not be able to control the particular insured event the same way it cannot control the occurrence of an earthquake. Thus, from the suggested solution to combine insurance and defense companies so that foreign aggression be fought against, significant problems will arise. The fusion of two separate and originally independent branches of economy will have adverse consequences for the society. The above argument is valid even for plain defense companies, since they are affected by the same incentives. In particular, they will also have control over the event they protect against. Thus this argument is a general one which affects not only the anarcho-capitalist defense against foreign aggression but the anarcho-capitalist defense against any aggression.

From an incentive/motivation point of view, the defense companies have two self-opposing motives: on the one hand, to stop the crime, because only then will they be employed and paid by their clients; on the other hand, they will have motivation not to prevent the crime, because only then will their clients be afraid and therefore willing to pay for their services. This is a classical situation of a conflict of interests.

In contrast, in the suggested system such a problem does not exist. The interests of the defense companies will be one-sided, namely to win the war only. And what is more, the interest of any defense company will be to capture more of the enemy's resources than their competition.

II. Under anarcho-capitalism, every private insurance/defense company gets paid by the private property owners it insures/defends. Thus, if we accept that it will be driven by the same market incentives as any other company on a free market, we must acknowledge that the particular company will care primarily about the interests of its clients, not about those of its non-clients. In effect, there will be many different companies which protect different clients in the same country. Thus, if the clients of company A are being attacked, this is a problem for company A only, but not for company B, C, D, etc. The rest of the companies need not join company A in its fight against the aggressor. They do not have the direct incentive to do so because they will not be paid for this. To put it in another way, the interests of the insurance/defense companies under anarcho-capitalism are different; they do not coincide, because they serve different pools of clients. Due to this fact, if an anarcho-capitalist society is attacked, only the companies whose clients are affected will have the incentive to defend them. The ones whose clients are not attacked will not have the motivation to undertake any counter-action. What is more, the "free-rider" problem will be present. It would be extremely profitable for a company to let the others carry the burden of defense, while it sits on the sidelines. Due to the obvious threat (of war) it could raise its prices, while doing nothing in the meantime.

Let us now compare the above with the suggested system. There will again be many defense companies, but since their client will be the aggressor himself, they will be highly motivated to fight the aggressor together or independently in a search of profit. It would not matter who exactly is attacked as long as he/she belongs to the respective society. They may unite if they deem such a strategy more promising, or, alternatively, undertake a guerrilla tactic alone. In any case, their interests will be aligned (to fight the same aggressor) and their decisions will be made based on the best option to earn a profit.

David Friedman's approach

In the voluntary militia and professional army approach suggested by D. Friedman, the professional part of the army is funded through donations. Getting money from donations, however, is not a market mechanism. As such, it lacks the traditional free-market incentives. In particular, the money which will be obtained will have to be distributed/managed by other people, not by the original owners of the funds. Basically, the organization which will make use of the funds will have to manage money which does not belong to it. The problem with that is that if it loses or mismanages this money, it will not have lost personal funds. In comparison, a businessman in the same situation loses his own money if he uses it incorrectly. The situation is similar to the usage of public funds by the government nowadays. Since money from taxes does not belong to the government itself, the motivation to use it efficiently is low or entirely missing. The same problem will occur in Friedman's solution.

In the suggested system, however, the money to organize the defense will come directly from big investors who will either organize their own defense companies or invest in existing ones, thus becoming owners in them. So, if they lose, they will lose their own money which is what motivates them to use it as efficiently as possible. Thus, the motivation of the defense companies in the suggested system will correspond exactly to the one existing on the free market.

Specific issues with regards to knowledge

Insurance/defense company approach

Under anarcho-capitalism, the insurance/defense companies will be dependent on private property owners for their money. I.e. if private property owners think that a danger is imminent, they will be willing to spend more money on insurance against foreign aggression, but if they do not think so, they will spend less. The real problem here is that the individuals are not always willing or able to objectively assess the situation. If one wants the whole society to spend more, it must be convinced somehow that the threat is real and imminent. Thus, a whole propaganda network must be organized somehow to handle this problem. I.e. an organization for collecting, processing and distributing information will have to be established, so that this particular market can work somehow.

While such an undertaking can be organized by a government very well, because the government is a centrally run organization with almost unlimited funding, this will not be the case in an anarchist society. We should not expect that such an advertising campaign will have more success than it usually does on the free market. Let us take, for example, the closely related situation of the traditional insurance companies in their function as insurers against natural disasters. Experience says that they are not able to convince all or even most of the people that having an insurance against earthquakes or floods is meaningful. In a free market, however, this failure to insure themselves will be borne personally, i.e. just the people who refuse to protect themselves against the particular natural disaster which happened will suffer. The ones who have prudently insured themselves will be compensated. Thus, the inability to convince people will not be a joint problem. This will not be the case with the war effort, however. A failure to convince at least the majority of the people will be fatal for all of the society, because the consequences will be borne jointly. The suggested way for spreading information and convincing people (advertising), however, is not guaranteed to succeed, because there is no existing market mechanism to ensure its success. If there had been one, it would have already been used by the free market.

As a comparison in the suggested system, what the general public knows, believes or is convinced of will be irrelevant. The defense companies will collect the relevant data, estimate the level of risk themselves and since they would not rely on the general public for money, they would make the necessary investment (arms, soldiers, etc.) themselves out of private funds. They would be funded by big investors willing to take the risk and looking for profit. The information about the level of risk of foreign invasion will be gathered and used only by people motivated to profit from it as is typically the case at a free market. The result will be that the necessary preparations will closely match the level of risk, because a market mechanism for this will be in place.

David Friedman's approach

In the voluntary militia and professional army approach suggested by Friedman the professional part of the army is funded through donations. Since donations do not represent a market mechanism, it will be impossible to determine how to use the particular funds, how much to pay for the specific parts of the service, what exactly this service must be and how it must be organized. This is the general problem of lack of knowledge characterizing all non-market-based systems.

Let us take a look at an example how the market normally functions. In a market situation, when a consumer spends some money to buy a particular good/service, he transfers information by paying for it. He expresses his willingness to buy the particular good/service along with his abilities to pay for it. The seller/producer obtains this information and uses it to better adjust to the preferences of the consumer. Thus, the producer/seller is informed by the market what he must produce, how it must be produced and what the optimal structure for production must be.

In the case of donations, however, most of this information is missing. The person who donates the money simply expresses his preference that the money be used for a particular purpose, but he does not say how. In such a way, the organization that obtains the money from donations is in the dark about how to use the donated funds. It will be clear that the money must be used for the cause that they have been donated for, but the question of how is left unanswered. The consequence from the above is that the respective organization will have to make decisions on its own. It will, however, have to make decisions about a group need. And how does one evaluate a group need? One cannot simply average over the needs of his clients in a society. All needs are specific and thus, individual. In effect, the decisions about how to protect the particular private property owners will be simply arbitrary.

The problem can be exemplified with the contemporary police service: it is impossible to know what its organization must be, how much money must be spent on it and how this money must be allocated. In the case of police, money comes from taxes, but the situation is absolutely the same from an informational point of view. No info is given to the police on how to use these funds. Friedman's solution is plagued by the same problems.

Such a problem will not be present in the suggested system since, the defense companies will adjust their size and organizational structure to the particular enemy, i.e. they will be guided by the market.

7. CONCLUSIONS

A new system for organizing national defense has been offered. The proposed system is an anarchic and a free-market-based one. However, it differs significantly from the one suggested by anarcho-capitalism. In it, it will be the aggressor himself who will pay for the defense services, not the private property owners. Thus, the service will be provided to the aggressor himself, avoiding entirely the public-goods problem by which the standard anarcho-capitalist proposal is plagued. The proposed system will ensure the defense of its citizens against foreign aggression for free, since they will not pay for it. Freedom will become a positive externality.

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BOOK REVIEW

FRAGILE BY DESIGN: THE POLITICAL ORIGINS OF BANKING CRISES AND SCARCE CREDIT BY CHARLES CALOMIRIS AND STEPHEN HABER, 2014. PRINCETON, NJ: PRINCETON UNIVERSITY PRESS, 584 P

In *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit*, Charles Calomiris and Stephen Haber hope to establish explanations for banking outcomes by researching through the lens of not just economics, but political science and history. They use case studies of five different countries to assist them in this task: Britain, the United States, Canada, Mexico, and Brazil. Through an investigation of each country's unique history and governmental structure, Calomiris and Haber compare and contrast the development of each country's banking system. For example, the United States has experienced 12 banking crises since 1840 but Canada has had zero. Through the case studies, Calomiris and Haber attempt to find out why. The book suggests that a country's financial sector is determined by a process labeled the "Game of Bank Bargains" where politics and banking become intertwined, and powerful coalitions and incentives become extremely important. Thus how political institutions and coalitions differ explain the unique banking outcomes of different countries.

Calomiris and Haber begin by discussing the origins of banking. They claim that states and banks are dependent upon one another, for states made banks and banks made states. Banks require the presence of government so as to enforce their contracts and promote the rule of law. On the other hand, the state needed banks largely to finance wars and create sufficient trade, which helped to ensure the survival and dominance of the current regime. As evidence, consider that almost every country has undergone a period of having a state-chartered bank. Calomiris and Haber state that the interdependence of rulers, financiers, and merchants led to the need of banks and their growth. However, the book importantly warns that government faces a conflict of interest with its role in the financial sector. The government must regulate banks and determine the winners/losers of bailouts, but the government both depends on the political support of those using banks and is heavily financed by the banks themselves. This can lead to problematic rent-seeking behavior.

The authors next turn to Great Britain where they find one of the oldest banking systems. Once Britain's political responsibilities were transferred from the monarch to parliament in 1688, the country's debt now became a national issue. In response, Britain created and chartered the Bank of England in order to finance the government (mostly military conflicts). During this time, the Bank of England had a monopoly over banking in the country as it was the only bank parliament would charter. A banking crisis in 1825, however, served as a focusing event that demanded reform. Parliament reacted by ending the Bank of England's charter monopoly and allowing competition. After the 1850s, Britain's banking sector entered an era of "tough love" and its banking system was more stable until the 2007 financial crisis. This is not to say that during the World Wars government crowding out of credit did not occur. The state took control of large portions of the economy in an attempt to please the median voter, which lasted until Margaret Thatcher's reforms. Thatcher's success, and Britain's history, point out that democracy alone does lead to a certain type of banking system that is immutable. Most importantly, Thatcher's tenure illustrated that democracy does not simply lead to a welfare state where rulers continue to make promises for the population until the system collapses.

Calomiris and Haber next discuss the banking system of the United States. As aforementioned, the financial system in the U.S. has been unstable having had 12 banking crises since 1840. Remarkably, the U.S. underwent an era of unit banking from 1810 to 1980. This meant that banks were not legally allowed to have branches, so each bank was more or less a localized monopoly. Unit banking inherently meant instability for two reasons. First, risk could not be spread out and diluted. Second, funds could not be allocated to banks that were failing because banks did not have branches to aid them. One should wonder why such a system was in place at all if it produced such poor results. Calomiris and Haber find that the U.S. government's heavy reliance on federalism, and thus local populism, promoted unit banking. Ultimately, lack of economic growth and technological innovation, such as the ATM, brought an end to unit banking.

Due to large-scale branch banking and increased competition, the banking system of the U.S. improved but did not become stable. Why? Moral hazard and the abundance of easy credit plagued the financial sector. Starting in the 1980s, banks already were considered "too big to fail," and failures were bailed out. This punished taxpayers for the banks' shortcomings and did not incentivize careful investing. Moreover, in the early 2000s, political activists encouraged the government-sponsored enterprises Fannie Mae and Freddie Mac to make home-owning more affordable for low income and urban individuals. This created an era of easy credit that engulfed much more of the population than just those targeted groups. The takeaway from the story of the U.S. is twofold. First, even well-intended policies can be harmful. Second, how political coalitions are able to assert their influence has a profound effect on the structure of the banking system.

The authors move on to Canada, which is important because their banking system has been remarkably stable while their neighbor the U.S. has undergone multiple banking crises. First, Calomiris and Haber clarify that Canada has had large business cycle fluctuations but they did not carry over into the banking sector. Unsurprisingly, the banking outcomes were not the only unique aspect of Canada, so too was the structure of its banking system. Canada did not even have a central bank until 1935, and even then, it held little power. Alternatively, Canada had a large system of nationwide branch banking where there were a few large and competitive banks. The reason for this is that Canada has a stronger central government resulting from the British being fearful of the French population in Canada during the colonial period. This history meant that Canada has not faced the strong regional factions and banking coordination problems that the U.S. did, leading to a much more stable system. Another essential feature of the Canadian banking system was focus on avoiding moral hazard. Sometimes the government bailed out banks, but usually troubled banks were allowed to fail or saved through voluntary agreements with other banks. This led to a much more stable system. For example, not a single Canadian bank failed during the Great Depression!

In the central part of *Fragile by Design*, Calomiris and Haber shift their attention to autocracies. Through studies of Mexico and Brazil, they find that autocracies almost always lead to worse banking outcomes than democracies. A banking system should be valued based on two aspects–the availability of credit and the stability of the system. Autocracies have a few, unsuccessful banks in large part because the government cannot help itself from expropriating the banks. Banks then do not have the funds needed to finance the needs of the general population so credit is scarce. Likewise, without economies of scale and the dispersion of risk, these banks are unstable as well. Usually, government-run banks then result, but they typically favor the political and social elite of society. These banks can sometimes be stable, but credit is so rare that it hardly is conducive to economic growth.

As a result of their research, Calomiris and Haber come to several conclusions. First, banking crises are not random events. If such crises were random, they would be evenly distributed across the globe, but they certainly are not as is clear by the difference between the U.S. and Canada. Second, banking outcomes stem from a process the authors call the "Game of Bank Bargains" where the political structure and coalitions within a given state combine to produce a system that serves the interests of those who are politically powerful. Politicians utilize banking systems to pursue policies and agendas because the alternative is doing so through taxation, and taxation is much more transparent and unpopular. Third, Calomiris and Haber assert that readers should not expect politicians or regulators to alleviate banking instability and prevent the next crisis without populist pressure. They rarely feel the effects of such crises and are strongly motivated to pursue their own interests unless pressured for reform, as was the case during the Thatcher era in Great Britain.

Fragile by Design: The Political Origins of Banking Crises and Scarce Credit is a fascinating read. While one may be familiar with the banking history of a specific country, this text exposes readers to a comparison of various countries. The book does have a few flaws, however. Calomiris and Haber spends a vast amount of time detailing the specific history of each country discussed. While it is important to detail the history of each country, the broad scope of detail covered in the book at times seems unnecessary and takes away from the most crucial events. In addition, while Calomiris and Haber superbly deconstruct the financial sector in these countries, they rarely reconstruct it and provide a normative way forward. Readers of the book will likely come away with a very pessimistic view of potential reform. Ultimately, however, *Fragile by Design* does a phenomenal job at opening the readers' eyes to the cause and effect nature of political institutions, banking systems, and banking outcomes. After having read the book, a reader will have a much better understanding of how interwoven politics and banking is, and perhaps that is the important takeaway.

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