

A Production Function of Economic Regulation:

The Example of Forced Money

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Abstract

Regulation of any specific economic issue depends on the severity and importance of the problem it tries to address, the economic ideology of the legislature, and the constitutional nature of the regime. These three factors are substitutes in a formal production function of economic regulation. I illustrate this substitutability and the working of the production function with a law that criminalizes rejection of official money. Enacted in the French Revolution to support hyperinflated money, it was transplanted all over the world, crossed legal systems, and still survives, because it catered to the needs of belligerents, socialists, and dictators.

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1. Introduction

How is economic regulation created? Pigou (1960) suggested that it was created in response to the perceived needs of society. Key Chicago economists responded with a theory of political power, according to which interest groups lobby for protective regulation in return for political support (Peltzman 1989). Higgs (1987) argued that regulation originated in crises, such as the World Wars and the Great Depression, that change ideology and make the crisis regulation persistent. Recently, Shleifer and coauthors have advocated a Legal Origins Theory (La Porta et al. 2008), which argues that in market economies the pervasiveness of regulation is largely pre-determined by the transplantation of either common law or civil law.

While many insights have been gained by the Legal Origins Theory, it only compares averages among groups of countries. The evolution of a specific regulation in a specific country is too complicated and rich to be attributed wholly to the difference between common law and civil law. At such a micro level, the contemporary local circumstances are important. This paper suggests a formal way of understanding regulation at the micro level, by postulating a parsimonious production function of regulation. It takes into account all the key circumstances that are relevant at the time that a specific regulation is created or revised. The output of this production function is the scope of regulation of a specific economic issue as enacted at a specific time in a specific place.

I argue that there are four key circumstances. First, a real or perceived problem that can be addressed by the regulation. Second, the economic ideology of the legislature. Socialists are more likely than capitalists to regulate the economy. Third, the constitutional nature of the legislature. Dictatorships restrict freedoms more than democracies do, and this usually includes economic freedom. Less obvious is a fourth circumstance – legal reform. A regulation might

change because it is included in a body of laws which happens to undergo a revision, unrelated to any contemporary problem.

The legislature considers the regulation only if either the first or fourth circumstance is in place. In the next step, it decides whether to adopt the regulation and in what scope, depending on the first three circumstances. A problem of serious consequences, an ideology of interventionism, and authoritarianism, are likely to lead to more and stricter regulation. I argue further that these three circumstance are likely to be substitutable. For example, it is commonplace that a capitalist democracy at war enacts regulations that dictatorships and socialist countries have during peace. These three circumstances can therefore be referred to as substitutable factors in a production function of regulation.

Ideally, this hypothesis would be tested by estimation. The scope of a specific regulation will be shown to be a function of these factors. The scope usually does not change many times in a single country, so data on many countries will have to be used to get statistical significance. However, the variables in such a regression have serious measurement problems. On the left hand side, the scope of regulation includes punishment and enforcement effort. A standardized disutility measurement of fine, imprisonment, corporal punishment, and capital punishment, might be too arbitrary. Enforcement effort is also hard to measure. On the right hand side, rankings of authoritarianism and interventionism are available only for recent years. One would need rankings at the year in which the regulation was created in each country. Regulations often stay in force for decades due to legislative inattention. Explaining them according to current, rather than contemporary, indicators would be anachronistic and misleading. One would also need to know for every country and every year whether the problem that is addressed by the

regulation existed and how severe it was. Such detailed data for many countries over long periods are probably not available for any specific regulation.

As an alternative first step in the empirical testing of the production function, I use a multiple case study with partial quantification. My complicated story illustrates the working of the production function and the relation between its factors, because it has almost the largest possible variance in the values of the factors. There are ten changes in a single regulation, spread over seven political regimes, four geographical units, two legal systems, two centuries, and vastly different circumstances.

The regulation I investigate makes it illegal to reject the official state currency in trade. This regulation is far more remarkable than the innocuous legal tender laws.¹ First, it is a blunt government intervention, which strikes at the very heart of the freedoms of exchange, contract, and property. In modern times it compels market participants to trade their produce for paper and hope that others will accept this paper from them. Second, this regulation criminalizes passive behavior. Third, it was often invented to support a policy of wild money printing. It is a fundamental microeconomic regulation with a potential for the most profound macroeconomic and political consequences.

My story begins with the creation of this regulation to support the hyperinflated money of the French Revolution, due to a problem of money rejection, leftist political capture, and a military crisis. The scope increased as Terror progressed. The regulation was later adopted by many dictators, starting with Napoleon. Following only one of many branches, I find the regulation transplanted in the Ottoman Empire. The succeeding British Empire adopted it in Cyprus and

¹ Legal tender laws only settle disputes about discharging pre-existing debts and taxes. They do not force spot sellers to accept currency (See, e.g., Federal Reserve System 2013, Bank of England 2013).

transplanted it from there to the Mandate of Palestine. Democratic Israel kept it, mostly due to a military crisis and socialism. This regulation still exists in France, Italy, Israel, and other countries. After assigning numerical values to the levels of crisis, interventionism, and authoritarianism in every episode, I show that they were perfect substitutes in the production of this regulation.

A production function of laws has been used before only in a mechanistic macro sense, where the input is time spent by the legislature and the output is the quantity of laws (e.g., Rosenthal and Forth 1978; Fon, Ghei, and Parisi 2004). Here a production function has a substantive micro sense. The circumstances of the legislature are mapped into the content of a specific law that it creates. Compared with existing regulation theories, the suggested production function is very general. It is consistent with Pigou's needs, Chicago's political capture, Higgs' crises and ideology, and the Legal Origins Theory. It is restricted to neither market economies nor democracies. It applies to war as well as peace. It covers all sources of regulatory changes: An original invention, domestic evolution, voluntary transplantation, and forced transplantation.

The paper is organized as follows. Section 2 introduces a formal production function of regulation. Section 3 discusses legislation that criminalized refusal of currency before the French Revolution. I then describe the enactment of that regulation in the French Revolution (Section 4), Napoleonic France (Section 5), the Ottoman Empire (Section 6), British Colonial Cyprus (Section 7), the British Mandate of Palestine (Section 8), and Israel (Section 9). Section 10 compares the findings with the postulated production function. Section 11 concludes.

2. A Production Function of Economic Regulation

Consider a regulation that restricts some economic activity. There are two steps in the production of such regulation. In the first step, the legislature needs to become aware of the need or

possibility of such regulation. The legislature may be concerned, legitimately or not, about a real, expected, or perceived problem, that can potentially be addressed by such regulation. It could be any issue that provokes public concern, from numerous deaths due to hazardous working conditions to defeat in a war. Following Higgs (1987) I label all these as 'crises.' Another possibility is that the legislature is enacting an entirely new body of laws, or overhauling an old one, and the pre-existing code or a foreign model code includes that regulation.

Put differently, the legislature comes to consider the regulation either because of demand (for that regulation) or supply (of that regulation). Formally, let $D=1$ if there is a problem that needs to be addressed, and $D=0$ otherwise. Let $S=1$ if the regulation already appears in a model code or an inherited law, and $S=0$ otherwise. Only if at least one of these circumstances is in place (i.e., $\max(D,S)=1$), comes the second step, where the legislature decides whether to adopt the regulation and in what scope.

In the second step, three factors determine the legislature's decision. The first factor is the importance of the problem, if the regulation is a response to one. What matters here is not the mere existence of a problem, but its magnitude and the possible consequences of not addressing it. The second factor is the regime's economic ideology. This usually refers to its location on the capitalism-communism spectrum. Within market economies, the Legal Origins Theory distinguishes common law from civil law, where the latter tends to be more interventionist. But even within each legal system there is variation over time between right-wing legislatures and left-wing legislatures. The third factor is the constitutional nature of the regime, or its location on the democracy-dictatorship spectrum. Freedom of markets is less likely where freedom in general does not exist (Friedman 1962). Dictators often keep the population poor and illiterate to prevent the rise of an opposition (Hillman 2004) and regulation that prevents prosperity is one

way of achieving that. Some dictators create monopoly rents for themselves through regulation, while others give such rents to a potential opposition group in order to co-opt it (Haber 2006). While civil law countries tend to be more authoritarian than common law countries, they also have changes over time between dictatorship and democracy. Formally, let $C \geq 0$ denote the magnitude of the problem or “crisis,” let $I \geq 0$ denote the degree of ideology of economic interventionism, and let $A \geq 0$ denote the level of authoritarianism.

The scope of regulation consists of three elements: The specific acts that are outlawed, the level of enforcement, and the severity of penalties. Conceptually, they can all be quantified: The outlawed acts (denoted a) can be counted, the expenditure on enforcement (denoted e) can be measured in monetary terms, and penalties (denoted p) can be measured in terms of disutility. Let $a, e, p \geq 0$ and define the scope of regulation as the increasing function $R \equiv R(a, e, p)$.

Finally, let ε denote a random human error at the legislature which can affect the regulation. Let subscript i denote place of legislation and let subscript t denote time of legislation. Let F be an increasing function. The postulated *production function of economic regulation* is

$$(1) \quad R_{it} = [\max(D_{it}, S_{it})] \cdot F(C_{it}, I_{it}, A_{it}, \varepsilon_{it}),$$

In what follows I investigate various episodes of the regulation that forces acceptance of money. Based on the narrative, I later assign values to the factors of this production function in each episode. I calculate the predicted value of R in each episode with three alternatives functional forms of $F(C_{it}, I_{it}, A_{it})$: Perfect substitutes ($C_{it} + I_{it} + A_{it}$), Cobb-Douglas or partial substitutes ($C_{it} \cdot I_{it} \cdot A_{it}$), and perfect complements [$\min(C_{it}, I_{it}, A_{it})$]. I will show that the *actual* scope of regulation is best matched by the *predicted* value of perfect substitutes.

3. Before the French Revolution

Many past governments compelled sellers to accept specific currencies. For example, the Code of Hammurabi compelled wine-sellers to accept payment in grain (Harper 1999, 37). The invention of coinage made it a matter of sovereignty. Refusal to accept coins was an affront to the king whose portrait was on the coin (e.g., an 1503 English act: 19 Hen. VII. c. 5). The invention of paper money increased the state's need for such laws. Rejection of paper money in China was punishable by death (Polo 1871, vol. 1, Book Second, ch. 24). Rejection of paper money or its acceptance at a discount was outlawed in French Canada in 1685 (Shortt 1925, 71) and later by some British American colonies (Nettels 1934, 265). To Adam Smith this regulation seemed not only "tyrannical" but he could not comprehend how it could be enacted or enforced (Smith 1998 [1776], Book Two, ch. 2). As he published his book, more of the new American states adopted this regulation to help paper money finance their Revolution, even outlawing disrespectful speech about paper money (Harlow 1929). These examples show that authoritarianism or crises led some governments to force their currencies down the throats of their people. There is no reason to believe that the regulation was copied from one country to another. This regulation is a fairly trivial idea once sellers reject the money that the state abuses.

4. The French Revolution

The first criminal code of Revolutionary France (1791) did not prohibit money rejection (Doucet 2013). The *assignat* already existed as a bond and would soon become full-fledged paper money.² It circulated together with pre-Revolutionary precious metal coins and was supposed to substitute for explicit taxes and stimulate the economy.

² All general facts about *assignats* are from Harris (1930) and Aftalion (1990).

War with Austria broke in 1792.³ Military expenses were financed by printing *assignats*. Sellers responded by either raising prices or rejecting *assignats*. This was resented by the Parisian mob movement *sans culottes* ('have-nots') and the proto-communist demagogue *enragés* ('enraged ones'). The Paris Commune – the local government under their control – demanded in August 1792 to outlaw acceptance of *assignats* at a discount (Lefebvre 1962, vol. I, 245). After the mob slaughtered a thousand prisoners, the intimidated Legislative Assembly discussed the mob's demand that rejection of *assignat* at its nominal value be punished with death (*Archives Parlementaires* [henceforth *Archives*], vol. XLIX, 509). The Assembly was soon replaced by the National Convention which abolished monarchy, founded the Republic, executed the king, and declared war on Europe's monarchs.

In March 1793 the Revolution seemed to unravel. The *assignat* depreciated by then by 50%. *Sans culottes* riots, royalist revolts, and a major military defeat were followed by a failed coup of the losing general (who then defected). On April 6th, 1793, the panicked Convention, which had recently established the Revolutionary Tribunal, also established the Committee of Public Safety – the future Terror government. Two days later the Convention's Committee of Finance submitted a bill to "prohibit the sale of coin and to favor the circulation of *assignats*," justifying it as something extraordinary, necessitated by the circumstances. One section made it mandatory to accept *assignats*. It was approved three days later (*Archives* LXI: 442-450, 592-595). As Section 4 of the law of April 11th it fined violators the entire sum of the transaction. Section 2 of that law punished sellers who charged different prices for coin and for *assignats* with six years in prison. This section was added to the bill at the Convention and the harsh penalty was taken from another section, revealing the panic and haphazard legislative process: It was better to reject

³ All general facts about non-monetary issues are from Lefebvre (1962) and Aftalion (1990).

assignat altogether (fine) than accept it at a discount (prison). This was the kind of ε error mentioned in the production function above.

This law was the first building block in the ‘economic terror,’ that would soon establish price controls, prohibit autarky (by prohibiting food hoarding), and restrict leisure (by the Mass Levy). Most historians hold that no party in the Convention was ideologically against free markets. However, the *Montagnards* wanted to purge the *Girondins* from the Convention so they bought the support of the mob by voting for economic controls (Lefebvre 1962, Aftalion 1990). In May the mob did purge the Convention as planned. The currency law was thus an extreme case of political capture, as described by the Chicago school.

While the *Girondins* opposed price controls, two of their leaders – Deputies Lasource and Guadet – pushed for a *tougher* currency law (*Archives* LXI: 594). This probably happened because money printing to finance the war – both activities the *Girondins* initiated in 1792 – could work only if people accepted that money. Since money printing was an inflation tax, the currency law could be viewed as turning legal tax avoidance to illegal tax evasion.

There is no evidence that the law was copied from the American Revolution or inspired by similar laws of John Law’s System (1720). These episodes were mentioned only in the debates of 1789-90 as a warning against paper money. The laws in these episodes were temporary, failing, minor details in much greater events. Their texts were entirely different.⁴ The French Republic simply ran into the same problem of massive money rejection and discount, so it resorted to the same trivial legal “solution.”

This solution failed, so on August 1st, 1793, Georges Couthon of the Committee of Public Safety moved the Convention to increase penalties: A fine of 3000 *livres* and a six months prison

⁴ Law’s money was forced on both sellers and buyers but only in large payments (Davis 1887, 440).

sentence, and for a relapse a double fine and twenty years in prison (*Archives LXX: 75*). On September 5th, 1793, following the fall of Toulon, bread shortages, and continued inflation, the law was expanded: Snitching would be rewarded; offenders would be brought immediately to a Revolutionary tribunal with lax procedures; the penalty would be death if the offense was meant to help the enemy; and it became illegal to speak against the *assignats* (*Archives LXXIII: 406-7*). This change may have been prompted by news that the mob was about to raid the Convention again. The mob did arrive later that day, which was declared the first day of Terror.

Sellers responded to the expanded law by asking before a transaction whether the payment would be made in paper or coin, stopping negotiations in the former case. On May 10th, 1794, it became illegal to ask this question. This was also punished with death if done for treasonous reasons (*Archives XC: 210*). By then the far-left populist leaders were executed and Robespierre catered to the mob directly, promising a social security system and redistribution of confiscated land. The war was going much better.

It can be seen that as authoritarianism increased from April 1793 to May 1794 the law expanded in three ways: Related activities were outlawed to close loopholes, enforcement was strengthened, and penalties were increased. Some people were indeed executed or jailed for rejecting or not respecting the *assignat* (Greer 1935, 77-85; Harris 1930, 183). In July 1794 Terror ended and inflation exploded. In 1797 the valueless *assignat* was cancelled. Since all versions of the law specifically spoke of “*assignats*” rather than “money” all these laws effectively expired.

5. Napoleonic France

In 1801 a committee of jurists was appointed to draft a new penal code. Its 1804 draft (France 1804) was mostly a harsher version of the 1791 code (von Bar 1968, 337). Book IV:

Contraventions of Police and Penalties was at the very end of the substantive part (there was also a procedural part). It listed 45 minor offenses. Some came from the 1791 code, such as refusing to help the police in emergencies. One “new” offense was Section 435.13: “refuse to receive the national specie or coin, not being counterfeit or altered, at the value for which the same has currency.”⁵ This section and its descendents will be referred to heretofore as *currency sections*.

This section, which was not explained in the draft, was almost certainly borrowed from the previous decade. The committee members had all been active then in law or politics. Most important was Jean-Baptiste Treilhard, who had been a member of both the Committee of Public Safety and the Committee of Finance in April 1793 (Seruzier 1979, 101-2; *Encyclopedia Britannica* 1911, “Treilhard”).

Why was the section adopted? Napoleon was practical and had no ideology against free markets per se.⁶ The draft was composed in the most peaceful and financially calm period of his reign. He consolidated his control, became an emperor, built his forces, and reorganized finance along very conservative lines as a lesson from the *assignant* episode. Could the anticipated war require the currency section for the unlikely case that the looting Napoleon would resort to inflationary finance? Here the constitutional nature of the regime matters. A democracy restricts freedoms only after a crisis erupts (e.g., USA PATRIOT Act), while a dictatorship restricts freedoms regularly and in advance. The probable reason for the existence of the currency section in the 1804 draft is therefore authoritarianism, which was pervasive throughout the draft. Offenses against the state were repressed severely and without due process (von Bar 1968, 337;

⁵ The text was enacted without alteration and translated in *Penal Code of France* (1819).

⁶ Lefebvre (1969), vol. I, ch. 7 and pages 80-82, 131-133.

Seruzier 1979, 108-110; Ancel 1960, 4, 9). Citizens were not allowed to reject money simply because it was the state's money.

The 1804 draft was enacted in 1810 as the Penal Code (Doucet 2013). The currency section, Section 475.11, had a fine of six to ten francs and imprisonment of five days for relapse. The code became the most widely followed penal code in the world (Ancel 1960, 1). The currency section remained unchanged during the following half a century, in which France remained more or less a dictatorship.

6. The Ottoman Empire

In 1856 the British and French beat Russia in the Crimean War and demanded as a reward that the Ottomans adopt European codes. In 1858 the Ottomans enacted a French-based penal code (Davison 1973, 52-5, 97-8). The author, leading jurist Ahmed Cevdet, kept 21 of the 35 French contraventions, which is about the ratio he applied throughout the code. Section 256(iv) fined “persons refusing to take the coin of the realm at its nominal value” (Walpole 1888).

One suspect for the retaining of the currency section is the Crimean War, during which much paper money was issued. Prices increased by a total 30% in Istanbul during the two-year fighting and in some regions by 200% (Berument and Gunay 2007, Table 1). Paper lost half its value against gold coins in exchange markets (Pamuk 2000, 211). However, mass outright rejections have not been documented (Davison 1973, 80, cf. 111). During the preparation of the code the price level stabilized. In 1858 the crisis seemed to be entirely over.

Like Napoleon, the Ottoman rulers used economic policies only to survive in power, and as a rule did not mind free markets (Pamuk 2009, ch. 2). Cevdet kept French sections unless he had good reasons not to. He left out sections such as dream-solving for a living and not removing caterpillars from fields due to cultural and biological differences from France. However, the

importance of respecting the sovereign's money was similar enough in the authoritarian Ottoman Empire and in the authoritarian French Empire. Moreover, the entire 19th century state-building project of Ottoman reformation was inspired by the French model of the state. If the French had that section in their criminal code, and they were considered the experts in administrative control of the population, they probably knew what they were doing. In conclusion, the currency section was adopted mostly for authoritarian reasons.

The section remained in force until the Empire collapsed. As it was being conquered by the British in present-day Israel in 1917, some of the Empire's military commanders and civilian provincial governors drastically increased penalties. They threatened the business elite with collective deportations, or worse unspecified penalties, in towns where Ottoman paper money was rejected or discounted (Dabbah 2004, 30-3).

7. British Colony of Cyprus

Cyprus is a key episode because here the currency section moved from civil law to common law. Britain got Cyprus from the Ottomans in 1878 and left most laws intact. It annexed Cyprus in 1914 and made it a Crown Colony in 1925. In the late 1920s the Colonial Office in London prepared a standardized colonial criminal code, called the East African draft model Code. It originated in an 1879 attempt to codify the common law (Shachar 1979). In 1927 Cyprus's Attorney-General Charles Gerahty was instructed to base a new penal code on it. He copied the model code almost verbatim and reported every deviation from it. When deviating, he usually took sections from previous British legislation in Cyprus and other colonies. He borrowed offenses from the discarded Ottoman code only in rare cases: Sodomy felonies, damage to public buildings (a misdemeanor), and *twelve* contraventions (United Kingdom, National Archives, Public Record Office, Colonial Office [henceforth CO] 67/222/15).

Gerahty's unusual liking of Ottoman contraventions probably comes from the odd nature of the contraventions chapter. Most Ottoman offenses dealt with conventional criminal issues (treason, murder, robbery, etc.). These were obviously covered by the model code so they were thrown out wholesale. The contraventions chapter, however, stood out. In France it was a basket for offenses which did not fit elsewhere. The chapter's very existence in a criminal code was questionable, as reflected by its location at the end (Kremnizer 1980, 158-9). Most of its substance was not covered by the model code. Exactly for this reason, Gerahty took a closer look and adopted some of the contraventions, putting most of them in a Minor Offences chapter which did not exist in the model code. The last offense in Gerahty's code was Section 362(i), which punished anyone who "refuses to take coin or notes current in the Colony at their face value" by "a fine not exceeding five pounds." He did not explain the choice of specific contraventions. Elsewhere he cited "local conditions" as reasons for deviating from the model code.

Unbacked paper money had been issued in Cyprus on an ad hoc basis since World War I. In 1926 this money was reported as popular and widely used. Since Cyprus had just become a regular colony and the British pound had just returned to the Gold Standard, the treasurer wanted a permanent legal, financial, and technical foundation for Cypriot paper money. Gerahty was working on a paper money ordinance while preparing the criminal code (CO 67/218/2, CO 67/220/8, CO 323/1020/18). There was no *economic* reason to expect the new, better money to be rejected. The British government was certainly not intending to create inflation. The problem was a *political* one.

The political climate in Cyprus descended quickly after it became a colony due to the enthusiasm of most Cypriots for a union with Greece (Georghallides 1985, Storrs 1937). Governor Ronald Storrs was regularly greeted across the island with Greek flags. The

Constitution ignored this desire and Storrs mocked the locals. Another trouble was the arrival of communists. Storrs ordered Gerahty to take them into account in the criminal code, fearing they would revolt or sabotage the economy (CO 67/222/15, 34-8). Gerahty imported an entire chapter from Australia to deal with them. Gerahty was irritated by the local Legislative Council, expecting it to sabotage his code. Indeed, after he submitted the bill in 1927, the Council wasted time (CO 67/222/15, 2, 37-8). He suggested to enact the code by a royal Order-in-Council instead. In 1928 Storrs arranged public celebrations for 50 years of British rule and was furious that the locals did not join the party. This may have prompted him to support Gerahty's suggestion and the code was imposed from London (*Cyprus Gazette, Extraordinary*, 17 Oct. 1928). This invoked wide protest in Cyprus (CO 67/226/8), which was set on an explosive course. In 1931 a mob burned Government House. The British suspended the Constitution and declared martial law.

The currency section was thus adopted for authoritarian reasons by a revamped colonial regime which was nervous about a problematic Council, a disloyal population, and communists. Gerahty wanted to assert British authority with mandatory respect for British-issued money. He explicitly added paper money – the legal basis of which he was improving at the time – to the currency section. Consistent with this hypothesis, a statistical analysis of Gerahty's 112 small deviations from the model code reveals that only in offenses against the government his changes were decidedly biased towards harshness. He covered more acts, denied legal defenses, and increased penalties (details available by request). In general, whenever the British Empire was concerned about its authority it imposed on non-British natives what the French imposed on the French.

8. British Mandate of Palestine

The British captured this part of the Ottoman Empire in 1917, established a colonial-type government and received a League of Nations Mandate in 1922. In 1928 London ordered Palestine's Attorney-General Norman Bentwich to use the fresh Cypriot code as a model for a new criminal code (CO 67/222/15). Like neighboring Cyprus, Palestine was small, mostly agricultural but relatively advanced, with an Ottoman past, and a critical tension between Muslims and others (Christians in Cyprus, Jews in Palestine). The tension was worse in Palestine, where the Arabs refused to sit with Jews in a council.

The first draft of a new code, from May 1929, adopted half of the Cypriot code verbatim. The rest was omitted or modified, reflecting cultural differences, earlier legislation in Palestine, and Bentwich's additional training in French law. Bentwich kept all the Cypriot Minor Offences and added some. Section 390(i) in the draft was the currency section (CO 733/172/2-3). There was no economic need for this section. There were no problems of money rejection or inflation (Palestine Report 1920-1929; Ottensooser 1955, 14, 83). In 1927 a new Palestine pound had been introduced, equal to the pound sterling, backed by it, and issued by a strict currency board (Palestine Report 1927, 12-3, 21). It was "well received by all sections of the community" (Palestine Report 1928, 16; 1929, 31; Bentwich 1932, 253-4), so much so that counterfeiting "has already taken on serious proportions" (CO 733/162/19, 5).

The currency section was adopted simply because it was in the Cypriot code. Once a piece of colonial legislation was approved by the Colonial Office, it was elevated to a new status. Much like a common law precedent, Bentwich would have had to justify why he would *not* adopt it (CO 733/172/3). As in Cyprus, the section was appropriate enough to be imposed on a problematic, under-developed, non-British population.

The section's survival was cemented by the events to follow. Three months later, a religious dispute in Jerusalem turned into Arab pogroms. Ancient Jewish communities in Hebron and Safed were wiped out. This "near anarchy" was a "brutal shock" to the legal order (Bentwich 1932, Kolinsky 1993), so Bentwich re-asserted authority with repressive measures, such as the Criminal Law (Seditious Offences) Ordinance. It dealt with "offences against public order" and especially "offences against the authority of the government" such as "Insult to Flag." Other ordinances enhanced an earlier Collective Punishments Ordinance which fined riotous populations collectively (*Palestine Gazette*, 25 Oct. 1929; *Palestine Report* 1929, 50-1). Bentwich, a Zionist Jew, was then shot and wounded by an Arab government employee. Soon a censoring Press Ordinance and emergency regulations were introduced. In explaining why one third of the government budget was spent on police, Bentwich would blame "the maintenance of order in a country so rent with feud and faction" (Bentwich 1932, 254).

Bentwich recruited even the Minor Offences chapter to enhance public order. In the next draft of the criminal code he separated the currency section from the other contraventions and lumped it as a subsection with two Ottoman contraventions that were adopted in British Iraq but not in Cyprus: Refusal to help in an emergency and violating a government order (Israel State Archives [henceforth ISA], 2.10.1.7, Explanatory Note). These imports reflected the problem of authority during the pogroms. Section 394, which now included these two offenses and the currency section, was revealingly titled "Offences relating to the Public Authority." Its punishments added imprisonment to the fines imposed on other contraventions (CO 733/225, Part 1, 86).

In 1932 Harry Trusted became attorney-general. In a politically calm atmosphere he dismantled the authoritarian Section 394 and moved the currency section to the coin chapter, which dealt with counterfeiting and corrupting coin (CO 733/225, Part 3, 91). In 1936 his draft

was enacted as the Criminal Code Ordinance (*Palestine Gazette Extraordinary*, 14 Dec. 1936, Supp. 1). Section 370 read: “Any person refusing to take at its face value any coin or note which is legal tender in Palestine, is guilty of a contravention, and is liable to a fine of five pounds.” From 1936 Palestine had sustained military conflict. The Arab Revolt (1936-39), World War II, and the Jewish Revolt (1945-47) brought massive emergency regulation that curtailed individual rights across the board (Shachar 1995).

9. Israel

In 1948 the Mandate ended, Israel was founded, and its Arab neighbors invaded. Israel was busy with the war, mass immigration absorption, and state building (Aharoni 1991, 71-4). Only the most hated parts of the Palestine criminal code were abolished: Death penalty and flogging. In the 1960s Israel had time for massive legal reform. A bill to amend the penal code was submitted to the *Knesset* (Israel, *Knesset Records*, 13 Dec. 1965, 138). It suggested three-months prison terms for all offenses that were then punished only by fines. It also proposed to abolish three “antiquated” sections: Invitation to a duel, attempted suicide, and uttering defaced coin. The latter was Section 367, near the currency section (Section 370) and in the same chapter. The bill’s authors apparently looked at every section, and would have thrown out the currency section had they thought it was inappropriate. At the *Knesset* most speakers wanted more antiquated sections out, including some Minor Offences. The currency section, however, laid isolated at the end of the technical, boring coin chapter, which nobody discussed. In 1966 an amended bill passed (Israel, *Statutes* 1966, 68). The currency section survived and its fine was replaced with a three months imprisonment.

As shown above, the main motive for the currency section since the French Terror was authoritarianism. The main puzzle is why the Israeli *democracy* kept the section. The increased

punishment only highlights the puzzle. There was no economic need for this section since money was generally accepted and inflation was low. I suggest that the section was kept due to a combination of a permanent military emergency, socialist ideology, and mild authoritarianism at the Ministry of Justice. Let us take a closer look.

A state of emergency, which was announced upon Independence, permitted temporary government regulations without parliamentary consent. In 1965 it was still in force because the War of Independence wasn't really over. There were only cease-fire agreements with the neighboring countries which would attempt again to destroy Israel in 1967. Vastly inferior in area and population, and with the Holocaust fresh in collective memory, Israelis took the threat very seriously. The capital Jerusalem was divided between Israel and Jordan. In 1965 the *Knesset* building there was fortified against the risk of Jordanian tank fire from Beth Lehem (Rolf 2000, 144). The all-important Tel Aviv metropolitan area lied in a ten-miles strip between the sea and Jordan's West Bank hills. Abba Eban called it 'Auschwitz borders.' In response to the danger all Jewish men and women were regularly conscripted, while Arab citizens were subject to martial law. Indeed, in 1964 Minister of Justice Dov Yosef shot down a Bill of Rights at the *Knesset*, arguing that it could interrupt emergency measures: "We are surrounded by enemies intending on our annihilation," he reminded (Knesset Records, 15 Jan. 1964, 789). Yosef would be the one submitting the criminal code bill of 1965.

Most of Israel's founders were Eastern European socialists. Their flagship was the voluntary commune known as *kibbutz*. The post-Independence mass immigration created fears of mass starvation so the government used British war regulations to impose strict food rationing (Aharoni 1991, 71-7). The first (and last) Minister of Rationing and Supplies was the abovementioned Dov Yosef. He promised future rationing of clothes, footwear, furniture, and

household utensils, and price controls on restaurants and coffee shops (Knesset Records, 26 Apr. 1949, 401). A Quebec lawyer and economist by training, Yosef was shocked that so many “formerly decent people” were struck by an “illness” – i.e., resorted to the black market (Mark 2010, 31-2). To “cure” them (his words), his merchandize-seeking inspectors pulled over cars and searched homes without warrants. Snitching was rewarded and semi-popular tribunals were erected. After the public revolted in the polls, rationing was phased out from 1952.

During the following 25 years the economy was still planned. Minister Pinchas Sapir decided alone which industrial projects, from power plants and ports to carpet and cotton factories, would be built, where, and by whom. He was eulogized by the prime minister as “captain of the Israeli economy” (Avneri 1976, 11). As part of this planning the public’s monetary choices were disregarded. Foreign exchange controls (another British inheritance) forbade any holding of foreign currency. Travelers abroad were allowed to take only \$10 (ten) per trip. They all resorted to the black market (Bank of Israel, various years). In 1962 the currency was devalued overnight by 67%, driving numerous households with dollar-indexed mortgages to bankruptcy.

Immigrants from Germany formed the Progressive Party. Its ideology originated in the German ‘liberalism’ which invented social security. It emphasized basic civil liberties, the civic duty to help fellow citizens, the right to get such help, and a close collaboration between state and citizen (Salzberger and Salzberger 1998, Sheehan 1978). In Israel this was incompatible with the British norm of *caveat emptor* (‘buyer beware’), according to which parties to contracts were responsible only for their own interests. German immigrants Haim Cohn and Uri Yadin tried to fix this. Cohn was a Supreme Court Justice and chair of a standing committee to revise the criminal code. Yadin was Director of the Legislation Department at the Ministry of Justice. In 1962 they initiated a new offense in the criminal code: Exploiting unfair bargaining power due to

the other side's lack of experience, absent-mindedness, physical weakness, or mental weakness (ISA 74.0.6.1132, #85, 3; *Statutes* 1963, 131). Yadin inserted this, and the related doctrine of good faith, in general contract law (*Statutes* 1973, 118). Both changes originated in German law, reflecting a righteous preference for *fair* trade over *free* trade (Shachar 1991, 553-7; 1998, 98-108). The 1965 bill to revise the criminal code – which left the currency section in – was also prepared by Cohn and Yadin (ISA 74.0.6.1132, #86).

The Germans famously liked order. As Legal Advisor to the Government in the 1950s, Cohn was the authoritarian legal henchman of Prime Minister David Ben Gurion whose notion of democracy did not go far beyond free elections (Cohn 2005). Yadin was disappointed that the Declaration of Independence did not require obedience to the government, and he advised “complete oppression, termination, and dismantlement” of a former Jewish guerilla organization that wanted to keep its weapons (Shachar 1991, 549).

To summarize, Israel of 1965 was a besieged place, led by interventionist politicians and jurists. Cohn, Yadin and Yosef – the men who prepared the amendment of the criminal code – saw little virtue in economic freedom. They preferred fairness, state authority, economic planning, and order. This was in line with the atmosphere created by the great social planner Sapir. Unlike Adam Smith, they could not see anything outrageous about the currency section. If a seller was offered official money by a buyer, it was only fair to the buyer, respectful of state authority, and in accordance with economic planning and public order, that this money should be accepted. Period. All the more so while the country is in a permanent military emergency.

In 1977 the criminal code was re-arranged without substantive changes and the currency section was moved to the head of the Minor Offences chapter as Section 489. This happened to be the time that Israel began to change dramatically. Its geo-political situation improved

considerably, and now it has European-style capitalism and liberties. Under these different circumstances, the pro-inflation, authoritarian currency section probably would not have been enacted today. It survives because nobody has an incentive to repeal a dead letter.

10. Discussion

The currency section was initiated by a wartime problem of money rejection and political capture (Revolutionary France), strengthened by brutal authoritarianism (Terrorist France), scaled back under normal authoritarianism (Napoleon, Ottoman Empire, Colonial Cyprus, Mandate Palestine), strengthened during a military crisis (Ottoman Empire), almost strengthened on the brink of civil war (Mandate Palestine), and remained alive by permanent war, socialist ideology, and mild authoritarianism (Israel of the 1960s).

It is time to compare the narrative to the suggested production function of regulation. In Table 1, all the variables in all the episodes are assigned numerical values based on the narrative. The demand and supply are indicators of 0 or 1 (no or yes). The factors in F are on a 0-10 scale, where a higher number indicates a higher degree. Three alternative functional forms are then calculated for each episode: Perfect substitutes, Cobb-Douglas (partial substitutes), and perfect complements. These functional forms provide ranking of the episodes – a prediction which one should have more severe regulation. This predicted ranking can be compared to the “ranking” of scope of actual regulation (acts, enforcement, and penalties) which appears in the table descriptively.

The perfect substitutes formulation provides the best match to the actual ranking (the Table is arranged accordingly). The French Terror and the collapsing Ottoman Empire lead, followed by the warring democracies of Israel and France, and then come the empires. The Cobb-Douglas ranking fails especially where some factors are zero, because then it predicts no regulation at all:

The British Mandate of Palestine is predicted to have the same absence of regulation as in the United States, because Cobb-Douglas does not let authoritarianism and crisis have an impact which is independent from the lack of interventionist ideology. The perfect complements ranking has this problem and more, by always ignoring the worst circumstances.

11. Conclusion

There seems to be regularity in the production of economic regulation. The multiple case study presented here demonstrates that a parsimonious production function is general enough to explain original regulation (France 1793), local evolution of regulation (France 1793-1810, Ottoman Empire 1858-1917, Cyprus 1858-1928, Palestine-Israel), voluntary transplantation (Ottoman Empire⁷), and forced transplantation (Cyprus, Palestine). The function is general enough to include vastly different economic ideologies, legal systems, and forms of government. It applies to war and peace. It has room for all the regulation theories suggested in the literature.

The production of regulation has two steps: Coming up with the idea, and deciding whether to enact the regulation and in what scope. The first step of coming up with the idea is critical. The similarity of the Ottoman, Cypriot, and Palestinian currency sections to the French one indicates that the idea occurred to the later legislators probably because they saw the section in a model or a pre-existing code. Unlike counterfeiting sections which are standard in criminal codes, the currency section is not trivially thought of in normal conditions. The changes that were made to the phrasing and location of the currency section on its way from Napoleon to Israel prove, however, that no adoption along the way was mindless copying. Transplantation was joined by adaptation. Next consider English colonies in Africa and India. They did not have indirect French heritage as Cyprus did, and their governments were not ordered to use the Cypriot code as Palestine was. There was no supply of the idea of this regulation. Apparently there was no

⁷ The Ottomans were forced to adopt some version of a European code, but could have left this specific section out.

specific demand for a currency section either. These colonies did not have a currency section although some were even more difficult to manage than Cyprus and Palestine.

Passing the first step is necessary but not sufficient for enactment of regulation. Consider two Anglo-American jurisdictions. The young United States was supplied with the idea of a currency section from its own Revolutionary War. In Australia, Queensland in 1899 had such supply from the 1889 Italian code. The latter was the state of the art of criminal codes and thus Queensland consulted it as well as a British model (Shachar 1979). Italy had inherited the currency section from Napoleon (Section 441). And yet, neither the United States nor Queensland adopted a currency section. These democratic, free market societies, behaved as predicted by the Legal Origins Theory. In modern history, no Anglo-American country has had a currency section.

Many countries inherited the currency section through Napoleon's occupation of empires or through the Ottoman transplantation. Some retained it after independence, including the French dependencies Malta, Haiti, and Lebanon, the Italian dependency Somalia, the Ottoman-British dependencies Jordan and Iraq, and modern Turkey. The Spanish dependencies Puerto Rico and The Philippines had the currency section until the United States revised their laws. France and Italy still have the currency section (references for all these countries are available by request). More currency sections were independently invented later, as in the Japanese World War II occupation of Burma (Huff and Majima 2012). This out-of-sample observation is consistent with the theory. That short, fragile, brutal, exploitative regime scores 10 on crisis, interventionism and authoritarianism. Accordingly, the penalties were imprisonment, torture and death.

The substitutability of potential crisis, interventionist economic ideology, and authoritarianism, deserves some comments. First, most of the countries mentioned in the preceding paragraph have been democratically challenged. France, Italy and Israel, unlike most

democracies, regularly have communist parties in parliament. This illustrates the substitutability of authoritarianism and an interventionist economic ideology. Second, the same substitutability is illustrated in yet a different way by the Israeli case. Getting rid of British authoritarianism was accompanied by an increase in interventionist ideology. Independence partially moved Israel from common law to civil law. The French-trained Minister of Justice, German-trained senior jurists, and East European socialist politicians covered together three of the four branches of civil law (La Porta et al. 2008, 288). Small wonder that the French-inspired currency section survived. Third, substitutability between crisis and authoritarianism is important for understanding how the megalomaniac, unsatiated empires usually had the mildest punishments (see Table 1). Wartime crises solve the puzzle. Unlike the strong confident empires, the French and Zionist revolutionaries defied all odds in their struggles. They inevitably found themselves cornered and desperate. This resulted in less than noble laws. The same happened in the American Revolution.

In general, substitutability explains the remarkable persistence of the currency section across time and place. Catering to the needs of dictators, socialists, and belligerents, it found receptive audiences in such a diversity of times and places. Following up on Higgs (1987), this case study reveals an *international* ratchet effect. Crisis legislation is later copied by countries which never experienced the original crisis or similar crises.

A possible explanation of the substitutability between authoritarianism, interventionism, and crisis, is that the first and second factors are also crises in their essence. A dictator (i.e., a nation-wide gangster) is at constant, usually cold, war with his subjects. A socialist government is at constant war with capitalists ('class conflict'). For example, socialists would fight a capitalist who refuses to sell food to workers who were paid in paper by another capitalist.

As in any production function the output is a flow variable. The regulation corresponds to the values of the factors when it was enacted. This output can be durable because a given regulation is not up for re-evaluation every year. The rare times that legislatures choose to look at specific regulations without a related crisis seem to be random. Napoleon wanted new codes quickly to cement his rule, the Ottomans were forced to enact new codes, Britain had Cyprus and Palestine get rid of old codes, and Israel put state building first. The production function can only predict what would happen to a regulation given that it is re-evaluated in a certain year, with or without a crisis. Future work could look at other regulations according to the framework suggested here and see if the perfect substitutes result holds in general. Overall, the production function formulation can be a useful, formal, and systematic way to think about regulation.

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Table 1: A Numerical Summary of the Episodes

Episode	France May 1794	France September 1793	France August 1793	Ottoman Empire 1917	Israel 1966	France April 1793	French Empire 1804	Ottoman Empire 1858	British Palestine 1936	British Cyprus 1928
Demand	1	1	1	1	0	1	0	0	0	0
Supply	1	1	1	1	1	0	1	1	1	1
Crisis	8	9	9	10	8	10	4	3	2	2
Interventionism	4	4	4	2	8	4	2	2	0	0
Authoritarianism	10	8	7	8	1	3	8	8	7	7
$\max(D, S) \cdot (C + I + A)$	22	21	20	20	17	17	14	13	9	9
$\max(D, S) \cdot C \cdot I \cdot A$	320	288	252	160	64	120	64	48	0	0
$\max(D, S) \cdot \min(C, I, A)$	4	4	4	2	1	3	2	2	0	0
Acts prohibited:										
Rejection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Discount	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Disrespectful speech	Yes	Yes								
Question before trade	Yes									
Extra enforcement	Snitching rewards, fast trial, special tribunal	Snitching rewards, fast trial, special tribunal		Collective punishment						
Penalties	Fine, 6 months prison, death	Fine, 6 months prison, death	Fine, 20 years prison	Deportation or worse	3 months prison	Fine, 6 years prison	Fine	Fine	Fine	Fine

Sources: see text.