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# Monetary stability and the rule of law

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ABSTRACT

This paper investigates the relationship between the functioning of money and the rule of law. We explore the claim that monetary stability is a necessary condition for the rule of law to operate and that periods of rapid inflation and deflation stemming from monetary instability erode and undermine the rule of law. We support our argument with panel data evidence and four detailed case studies from the Roman empire, the Weimar Republic, the Great Depression and the Great Recession. Our conclusions examine what monetary institutions are most conducive to maintaining monetary stability and the rule of law.



## 1. Introduction

The macroeconomic consequences of monetary instability are well understood by economists. However, monetary instability can have additional, harder to detect, effects on the institutions of a market economy. This paper investigates the relationship between monetary instability and the rule of law.

For instance, the aversion that central bankers, policymakers and the public have to high inflation indicates that there is a tacit understanding that periods of high and unstable inflation can inflict serious damage on a society. But this tacit knowledge is not reflected in either theory or in textbooks; the costs of inflation emphasized in the standard macroeconomic literature (menu costs, shoe leathers, fiscal drag, etc.) do not fully capture the reasons why high inflation is feared.[1] This gap between the theory and practice suggests that it is important to explore the connections between monetary stability and a country's political and legal institutions, and specifically, its adherence to the rule of law.

The ways in which macroeconomic and monetary instability can undermine the rule of law have been not been extensively studied despite the fact that episodes of monetary instability have often been associated with a breakdown of the rule of law.[2] One reason for the neglect that this topic has received is that it is difficult to do empirical work in this area due to obvious endogeneity concerns. We use panel data to show that there is indeed a negative relationship between measured inflation and rule of law. But this analysis is far from conclusive due to concerns of omitted variable bias and reverse causality. To address these limitations, we utilize an analytical narrative approach that allows us to identify potential mechanisms and channels through which monetary instability can affect the rule of law. These mechanisms are: (i) the effect that monetary instability has on the structure of relative prices and hence on the informational properties of the price system; (ii) the effect of monetary instability on the distribution of income; and (iii) on

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[1] Ball and Romer observe '[a]lthough inflation is widely viewed as a major economic problem, economists have yet to give a clear account of why it is costly' (Ball and Romer, 2003, p. 177).

[2] Prominent examples include Revolutionary France, the Confederacy, Germany and Zimbabwe in 2008. Other examples of hyper-inflation occurred in Hungary after 1945 and in some Post-Soviet economies after 1991. See Burdekin and Langdana (1993) for an account of the Confederate inflation.

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the economic and political institutions of a society, in particular, the rule of law.

We draw on evidence from four case studies: Ancient Rome, Weimar Germany, the United States in the 1930s, and the aftermath of the Great Recession in order to substantiate our claims. Our conclusions examine what monetary institutions are most conducive to maintaining monetary stability and the rule of law. Our findings provide further evidence in support of a rule-based monetary policy and provide additional reasons to consider reforms to existing central bank practice.

This paper is organized as follows. Section 2 proposes four mechanisms that link monetary instability to the quality of institutions, in general, and the rule of law, specifically. Section 3 presents cross-country data consistent with the thesis that monetary instability is associated with less adherence to the rule of law. Section 4 develops our historical case studies. The first explores debasement and inflation in the Roman empire, and assesses the role played by monetary instability in the transition from the comparatively liberal early empire to the more autocratic later empire. The second case study we employ is Weimar Germany; we examine how monetary instability destabilized a nascent liberal democracy and made the institutional transition to autocracy more likely. Finally, we look at the United States to see how rapid and unexpected deflation brought about the crisis of the Great Depression, and how this crisis was used to justify various policies that were in violation of the liberal rule of law and would otherwise never have been considered. Our final case study examines reevaluates modern inflation targeting regimes in light of the recent Great Recession to assess the properties that a desirable monetary system should possess. Section 6 concludes.

## 2. Rule of law and monetary stability

Legal scholars such as Dicey (1908), Fuller (1969) and others suggest that the rule of law requires (1) a concept of legal equality, that is, that all individuals are equally subject to the law; (2) rules that are public, consistent, not retroactive, and stable over time; and (3) rules that are general and apply uniformly to a large group of individuals.[3]

In addition to this thin definition of the rule of law, social scientists also employ thicker definitions of the rule of law to refer to a nexus of desirable institutions such as the existence of procedures that help protect human rights and institutional arrangements that are conducive to the development of a market economy (see, for example, Locke, 1967; Hayek, 1960; Weingast, 1997; Haggard et al., 2007). We refer to this broader definition as the liberal rule of law. Individuals are subject only to rules of behavior that are general, widely accepted, and well known; this enables individuals to plan their lives around them. Moreover, these rules of behavior are stable; they cannot be arbitrarily changed by the legislature and have, instead, to be anchored in an explicit or tacit constitution. Thus the rule of law provides a check on the power of government and guarantees each individual their own private sphere of non-interference.[4]

Monetary stability or equilibrium refers to a situation where changes in the supply of money are approximately equal to changes in the demand for money. More specifically, in equilibrium producers and workers should not have to make large or costly changes to prices or wages in order to equilibrate the real and nominal money stocks. A situation of monetary instability could involve a short term, but very large one time adjustment to equilibrate money supply and money demand, or one in which the price level becomes less predictable due to an increase in the variance of inflation. Under this definition, moderate increases in the price level may be consistent with monetary equilibrium so long as that inflation is anticipated and stable. Individuals can hedge against inflation if they have some confidence about the future path of prices. High and unstable levels of inflation, on the other hand, do disturb the real economy. Sudden and unanticipated deflation likewise can generate unemployed resources, financial crises, and cause a sudden collapse in aggregate demand.[5]

Monetary instability has a first order effect on the ability of the market to coordinate individual plans. We state this as follows:

**Mechanism 1.** *Sustained monetary instability corrodes the ability of the price system to allocate resources.*

In a market economy, producers respond to prices which convey information about the state of demand and the relative scarcity or abundance of inputs into production. Prices communicate, and allow individuals to act upon, knowledge that would otherwise be unavailable.[6]

Inflation, particularly unanticipated inflation, injects noise into this process because prices adjust at different rates. Some prices are able to respond to inflation quicker and more flexibly than others. As a result, after a period of inflation the price system become less accurate and less informative. Producers are less able to tell which prices are rising because of an increase in inflation, and which are rising because of a change in economic fundamentals. Consequently, the relative structure of prices, which conveys the relative scarcity or abundance of resources, is distorted. The increased epistemic burden inflation imposes on economic actors reduces the ability of the market to coordinate individual plans. Thus the effect of inflation is not merely redistributive; it is not a zero-sum but a negative-sum process.[7]

Deflation is benign if it is driven by increased productivity and consistent with monetary equilibrium (Selgin, 1995). However, deflation that is the result of monetary disequilibrium, either because of a contraction in the money supply or a failure to accommodate an increase in the demand for money, will have deleterious effects. In an environment in which wages are sticky downwards or workers have an aversion to nominal wage cuts, deflation causes resources to be unemployed. In the absence of sophisticated

[3] According to Dicey the rule of law has three meanings: (1) 'the absolute supremacy or predominance of regular law as opposed to the influence of arbitrary power, and excludes the existence of arbitrariness, of prerogative, or even of wide discretionary authority on the part of the government'; (2) 'equality before the law, or the equal subjection of all classes to the ordinary law of the land'; and (3) a formula for expressing the fact that the law of the constitution, the rules which in foreign countries naturally form part of a constitutional code, are not the sources but the consequence of the right of individuals, as defined and enforced by the Courts' (Dicey, 1908, pp. 198–199). Raz (2009) argues for a still thinner and solely procedural based definition of rule of law under which a 'non-democratic legal system, based on the denial of human rights, on extensive poverty, on racial segregation, sexual inequalities, and religious persecution may, in principle, conform to the requirements of the rule of law better than any of the legal systems of the more enlightened Western democracies' (Raz, 2009, p. 211). However, this definition of the rule of law, though logically coherent, is of little value for applied research in the social sciences.

[4] This statement is most clearly stated in Hayek (1960). It can be traced back to Cicero, St. Augustine, and Thomas Aquinas (see Waldron, 2008, p. 13). Note, this definition of the liberal rule of law presupposes a market economy (it is incompatible with non-market forms of economic organizations such as slavery, feudalism, or a command economy). For an analysis of the microfoundations of the rule of law see Hadfield and Weingast (2012). Gowder (2013) provides an analysis that seeks to bridge the different definitions of the rule of law.

[5] See, for instance, the discussion in Yeager (1997).

[6] This insight was best expressed by Hayek (1945).

[7] However, it is important to note that in the presence of macroeconomic rigidities, second-best theorizing suggests that some inflation may make the price system work better see (Akerlof et al., 1996). The empirical issue is then at what level of inflation do the costs of inflation exceed the benefits.

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financial contracts, deflation increases the real burden of debtors while benefiting creditors.[8] Furthermore, the increased real burden of debtors due to an unexpected deflation can cause otherwise sound borrowers to default, which can lead to a secondary or debt deflation. In this case, both borrowers and creditors will end up worse off as banks and other lenders become insolvent due to defaults and the subsequent drop in aggregate demand can lead to a serious recession (Fisher, 1933).

Importantly for the purposes of our argument, in addition to its effect on the functioning of a market economy, monetary instability has secondary effects via the policies adopted by political leaders in response to these crises. In the medium to long run sustained periods of monetary instability erode the quality of institutions themselves. There are several channels through which monetary instability can affect institutional quality and the rule of law.

**Mechanism 2.** *A period of sustained high inflation expropriates savers and benefits borrowers and can entails a radical redistribution of resources. Conversely, a period of rapid and unexpected deflation expropriates borrowers and benefits savers.*

Inflation disproportionately benefits those who have either already incurred large debts, or are in a position to do so, or else have easy access to foreign currency, at the expense of savers and those who earn incomes that are either fixed or are adjusted only slowly. Importantly, periods of monetary disequilibrium arbitrarily benefit either borrowers or savers in a way that is disconnected from the production of new goods or the satisfaction of consumer preferences.

Our historical analysis emphasizes that the significance of these second order effects depends crucially on a society's economic and political institutions.

**Mechanism 3.** *Sustained periods of monetary instability reduce the relative payoff to participating in market exchange and increase the incentive to engage in non-market activities.*

Periods of high, unanticipated, and unstable inflation damage market-supporting institutions and tend to reduce the political influence of the middle classes. If rapid and unanticipated deflation causes large-scale unemployment it can have a similarly damaging impact on society.

Under periods of monetary instability interest groups form, made up of those individuals who have benefited from the inflation or deflation, and have an interest in perpetuating it. This leads us to our final mechanism:

**Mechanism 4.** *Monetary instability undermines the rule of law because it appears to make necessary all kinds of kinds of discretionary polices such as wage and price controls, the implementation of which is incompatible with a liberal interpretation of the rule of law.*

Monetary instability has a further effect on the institutions that uphold a liberal society. Economic crises and panics are emergency situations in which all of kinds of policies that would not otherwise be political acceptable become permissible.[9] Periods of crisis provides moments of opportunity for would-be reformers to implement policies which would otherwise have little chance of being implemented. In practice, this has led to the implementation of both radical left and radical right-wing policies.

Policies such as price controls impose economic inefficiencies as they freeze relative prices and prevent producers and consumers from adjusting to new information about demand and supply.[10] But, so long as they are announced in advance and uniformly applied, they are not necessarily inconsistent with the thin ruler of law. In practice, however, price controls tend to undermine the liberal rule of law through several channels: in particular, by criminalizing an activity as innocuous as raising or lowing a price, they undermine the legitimacy of the legal system as a whole. Moreover, to the extent the price controls are applied selectively, i.e. to gasoline, or to agricultural markets, they create niches within a market economy in which individuals are subject to specific, and not general, rules. Furthermore, since price controls shift power to the government they pose serious questions about the ability of government agencies to apply these powers in a uniform manner.[11]

Robust market economies can maintain both the liberal rule of law and some level of price and wage controls. Indeed temporary price controls during financial crises or panics may be necessary and consistent with the rule of law.[12] But in the long-run the existence of such controls were work to undermine both the market economy and the rule of law.

## 3. Cross-country evidence

We use the World Bank's rule of law index as our independent variable and the change in the price level as our primary explanatory variable of interest.[13] Our data set covers 143 countries over the period of 1996–2011. As alternative measures of the stance of monetary policy we employ the growth rate and standard deviation of nominal GDP in light of the arguments that it functions as a better indicator of the stance of monetary policy (Bernanke, 2000; Woodford, 2012).

Fig. 1 plots the raw relationship between the rule of law index and the absolute value of changes in the price level. While there appears to be no relationship between rule of law and changes in the price level for countries with changes in the price level of <5%, it is clear that beyond this point, the farther the change in the price level strays from zero, the less likely it is for a country to receive a high score on the rule of law index. The rule of law index varies between −2 and 2 and there are only a few observations where a country with an inflation rate of greater than 10% received a score above a 1 on the rule of law index. Similarly, for countries that

[8] Inflation indexing can protect creditors and borrowers from price level risk, but as Eagle and Domian have shown if there is a negative shock to real GDP an inflation indexed loan still benefits creditors at the expense of debtors and vice versa for a positive shock to RGDP. They propose a more sophisticated type of contract which they term a quasi-real indexed bond is necessary to eliminate this additional risk (Eagle and Domian, 2005).

[9] See White (2010) for an excellent discussion of this in the context of the 2008–2009 financial crisis.

[10] Both price floors and price ceilings are generally ineffective. When excessive inflation or deflation is occurring across an entire economy it is almost always the result of monetary instability, and as such price controls are an attempt to treat a symptom rather than the cause of the problem. Neither has the effect of resolving the underlying problem which is an excess/insufficient quantity of money.

[11] For a discussion of this last point see Rockoff (1984, pp. 10–11) who asks: 'How will the legislatures respond to their new powers? Will they set reasonable guidelines that permit the controllers to discharge their duties in an equitable way, or will they respond to overtures of special interest groups by providing privileges and exemptions. The dangers, moreover, go beyond the corruption of the legislature to political freedom itself'. Cox (1980) provides evidence that the pattern of price controls observed in the United States between 1971 and 1974 was not equitable or uniform but rather varied in a fashion consistent with utility maximization by the price controllers.

[12] See Rockoff (1984) for a detailed history of the use of price controls from the colonial period through to the 1970s.

[13] The World Bank's rule of law index is meant to capture perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. It is closer to what we have called the thin definition of the rule of law than the thicker definition.

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**Table 1**
The relationship between the absolute value of inflation and rule of law.
Controls include GDP, Government revenue, investment, and measures of democracy. *t* statistics in parentheses.

| | (1) Log rule of law | (2) Log rule of law | (3) Rule of law | (4) Log rule of law |
|---|---|---|---|---|
| Inflation | −0.387*** | | | −0.096** |
| | (−5.19) | | | (−2.41) |
| Growth NGDP | | −0.0251*** | | |
| | | (−6.10) | | |
| SD. NGDP | | | −0.000534*** | |
| | | | (−3.24) | |
| Controls | Yes | Yes | Yes | Yes |
| Fixed effects | No | No | No | Yes |

* $p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

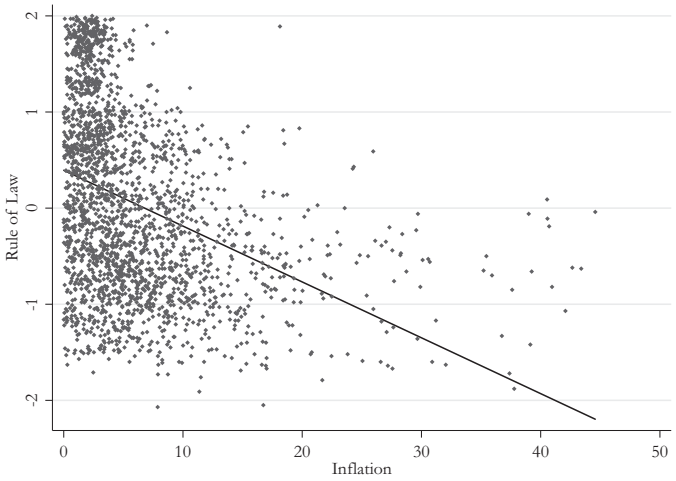


**Fig. 1.** The relationship between the absolute value of inflation and rule of law. Data: see text.

experienced an annual deflation of 5% or more we do not observe any countries with a score above 0.25.

In order to explore this relationship more closely we use our data set as both a pooled cross section and as a panel.[14] We control for as many of the standard macroeconomic variables as possible including government revenue, real GDP, and real investment. We further control for how democratic a country is in accordance with research relating inflation and democracy (Desai et al., 2003). Our panel specification is as follows:

$$\text{Rule of Law}_{it} = \beta \text{Monetary}_{it} + \gamma_t + \eta_i + \mathbf{X}'\Omega_{\text{it}} + \epsilon_{it}, \quad (1)$$

where $\text{RuleofLaw}_{it}$ is our measure of rule of law, $\text{Monetary}_{it}$ is our measure of monetary instability (absolute value of inflation, the log of inflation, NGDP, and the standard deviation of NGDP), and $\mathbf{\Omega}_{it}$ is a vector of controls.

As we report in Table 1, we find a strong negative relationship between rule of law and the absolute value of changes in inflation in our OLS specification. As a robustness check we also re-ran the regression using the log of absolute value of inflation and the log of the rule of law index in order to address any possible unit root issues. Our basic results remain unchanged; a 1% increase in the absolute value of inflation is associated with a 0.96% decrease in a country's score on the rule of law index. Of course this relationship could be driven by country specific factors that affect both inflation and rule of law that we are unable to adequately control for. As a further robustness check, we include country fixed effects to control for possible confounding variables such as a stronger cultural value placed on rule of law. Our coefficients shrink is a sign when we include fixed effects, but they retain their sign and are significant at the 5% level.[15] It is well known that fixed effects do not solve omitted variable bias if the omitted variable is time varying. However in this case, the main source of omitted variable are likely to be deep institutional and cultural factors that are time-invariant over the span of our panel. Hence the inclusion of fixed effects does partly address this source of bias.

Nevertheless, this exercise is clearly exploratory. In particular, it is very likely that rule of law affects monetary instability as well as vice versa and in the absence of any sort of natural experiment to try to isolate the effects of one variable on the other, we cannot identify a causal relationship. Furthermore, this exercise does not permit us to identify the mechanisms or channels through which inflation undermines the rule of law. But these results are at least consistent with the claim that there is a connection between monetary conditions and the rule of law in a country. In order to further explore this relationship we adopt employ a more microeconomic and historical approach and explore three historical case studies to find evidence for the specific political economy mechanisms we identified in Section 2.

## 4. Three historical case studies

From Argentina to Zimbabwe, there are plenty of contemporary examples of extreme monetary conditions being associated with a deterioration in the rule of law. Nevertheless, in order to gain a deeper understanding of the processes at work, we explore three historical case studies in order to find evidence for the mechanisms outlined above. These episodes have the advantage of enabling us to trace the decline of the rule of law over a long period of time.

[14] This is for two reasons. First, with only 1757 observations adding in country and year fixed effects significantly reduces the power of our regression. Second, we do so in order to allow us to also use the standard deviation of nominal GDP over the sample period as one more possible measure of monetary instability.

[15] Using the untransformed absolute value of inflation our results are significant at the 5% level in the panel data set, although they become insignificant once clustering standard errors by country. The combination of country fixed effects and clustered standard errors reduces our degrees of freedom significantly. The relationship between log rule of law and log inflation is robust to clustering standard errors however.

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### 4.1. From principate to dominate: monetary instability in Ancient Rome

The first historical example we draw upon is the Roman empire. Recent work by economic historians and archaeologists indicates that a flourishing market economy developed during the first two centuries of the Roman empire (Temin, 2012).[16] The vibrancy of the Mediterranean economy is attested to both by the number of shipwrecks dating to this period, and by the existence of a large number of different bronze coins which demonstrate that coinage was used for day-to-day transactions (Hopkins, 1980). By the late Republican period, the Roman empire possessed a sophisticated financial sector and fractional reserve banking (Harris, 2006).

To employ the terminology of North et al. (2009), the Roman empire was a natural state. That is, access to economic rents were limited and restricted to a political elite. As such, political dissent was not tolerated and perceived threats to the established order were ruthlessly suppressed. Nevertheless, during the early Empire or Principate, the principal of freedom under the law was upheld.[17] For citizens, at least, there was rule of law: property rights were enforced, and the principle of a sphere of private action was recognized. During the Principate, the autocratic power of the emperor was usually disguised and, at least under the 'good' emperors, limited; the imperial bureaucracy remained small in size and limited in scope, and much of day-to-day administration remained in local hands.

Monetary stability played an important part in underpinning the economic expansion of Europe and the Mediterranean during the Roman period. The Roman system of coinage, based on the bronze sestertii (and other small denominations), the silver denarius, and the gold aureus, spread across the western Empire, while in the eastern empire many cities retained the right to issue their own currency.[18] There were occasional debasements, but prices in general rose very slowly.[19] Average wine prices in the Roman east increased from around 3 or 4 drachmas in the first century A.D. to around 10–15 drachmas by the third century, implying an average rate of inflation of <1%. Wages and the cost of wheat also seem to have increased at around 0.8% per year on average; a level of inflation consistent with monetary stability.[20]

This monetary stability was dependent on the fiscal position of the Roman state. Seigniorage—coin clipping—was one of the few ways in which the empire could obtain additional revenue at short notice. In the third century the fiscal position of the empire deteriorated. Consequently the frequency of debasements accelerated. Lacking the capacity to raise taxes, emperors resorted to the expedient of devaluing the coinage whenever 'revenues were falling and expenses rising' (Corbier, 2005a, p. 412). A vicious cycle was created whereby military and fiscal crises create pressures for debasements, which further undermined the economy and eroded the tax base, and therefore made future crises more likely. In the first two centuries of empire, the weight of the gold aureus fell about 19% from 8 to 6.5 g, but, from Septimius Severus (193–211) to Trebonianus Gallus (251–3), it fell by a further fifty percent (Corbier, 2005a, p. 356). As Fig. 2 indicates by the late 260s the silver content of denarius fell to <5%.

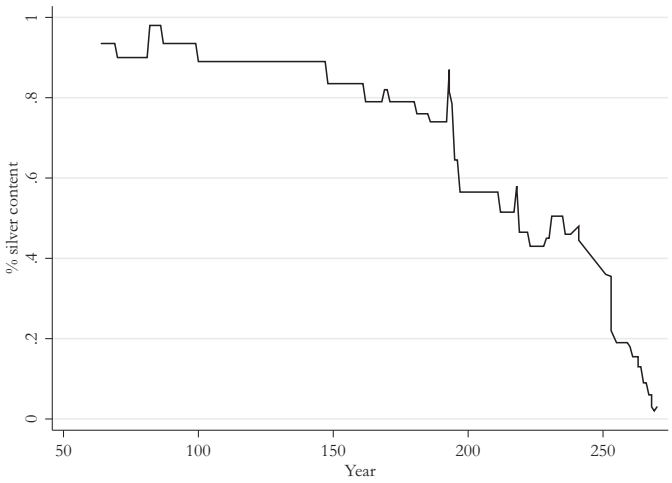


**Fig. 2.** Silver content of the Denarius and the Antoninanius.

The Roman currency was a semi-fiduciary currency, that is coinage derived part of its value from the metallic content of the coins, but the nominal value at which it circulated was typically greater (Haklai-Rotenberg, 2011). Thus the debasement of the coinage in the second and early third century did not lead to rapid inflation. However, by the second half of the third century, as the rate of debasements increased, people began to distrust the coinage, hoarding the good coins and spending the bad. This produced a gradual but accelerating inflation which accelerated the fracturing of the empire and led to a situation where multiple mints were producing increasingly debased coins. Prices more than doubled between 258 and 275.[21]

At this distance, it is impossible to disentangle the consequences of this inflation from those of the general downturn in trade and agricultural production brought about by the invasions by Germanic tribes and Persians into the empire and the onset of civil war. It is evident, however, that inflation played a vital role in destroying the Roman financial system. As Silver (2011) argues, the conjunction of inflation with a legal interest rate ceiling cut into lenders' profits and eventually forced the real interest rate to be negative. In this respect, it is unsurprising that Harris can comment on 'the disappearance of bankers from the evidence' and note 'that, by A.D. 300 at least, the volume of credit-money had drastically shrunk' (Harris, 2006, p. 22).

Attempts were made by several emperors to restore the coinage. Diocletian (284–306) attempted to limit inflation by fiat. Finally, Constantine (306–337) introduced a new gold coin, the solidus, which became a stable currency for the rich and powerful until medieval times. But, by this time much of the damage was done. The silver denarii continued to devalue until it became worthless, and the disappearance of silver and bronze money, used for the

[16] This view overturns earlier 'primitivist' views associated with Moses Findlay (Finley, 1973).

[17] See Hayek (1960). Later Roman law as codified by Justinian was much more authoritarian and it was this body of legal thinking that shaped the development of continental European law from the middle ages onwards.

[18] For the western empire see (Reece, 1973).

[19] Nero reduced the gold content of the aurei by a small amount but devalued the sestertius by over 20%. Commodus substantially reduced the silver content of the denarius and reduced the weight of the sestertius by a further 30%. Other emperors notably Domitian and Septimius Severus attempted to restored harder money (Duncan-Jones, 1998, pp. 100–101).

[20] Wine and other price series are from (Duncan-Jones, 1998, pp. 26–28).

[21] A more than doubling in 17 years is a moderate inflation by modern standards. It implies 4% annual inflation. But it was a very high rate of inflation for an economy with metallic rather than paper money. As a point of comparison the sixteenth century 'price revolution' saw annual increases in prices of <1%. Our main source of evidence for this Roman inflation is from the history of coinage. This is less than ideal as credit was also an important medium of exchange in the Roman empire. Rathbone (1996, 1997) uses price evidence from Egypt to argue that the inflation was more sporadic and less sustained than is conventionally argued to be the case.

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daily transactions of ordinary citizenry and the poor, testifies to the demise of a fully monetarized economy.[22]

While due caution has to be exercised due to the sporadic nature of the surviving evidence, the Roman experience sheds valuable light on the mechanisms through which inflation can degrade the rule of law. As Mechanism 1 suggests, monetary instability in the Roman empire damaged the ability of the market to allocate resources. The archaeological record suggests that trade contracted and the division of labor became more local. Inflation, war, and the disruption of trade led to a gradual demonetarization of the economy. To hedge against the uncertainties of inflation both landlords and the state demanded payments in-kind (Southern, 2001).

Mechanisms 2 and 3 emphasize the pernicious redistributive effects of inflation. This is evident in historical assessments of the third century inflation: Urban workers: craftsmen, scribes, clerks, teachers, and shopkeepers were particularly hurt while the 'rich protected themselves from the debasement of the coinage by hoarding: many savings hoards are known from the third century, containing coins (notably coins mounted as jewelry), jewelry and silverware' (Corbier, 2005b, p. 449). Wealthy landowners were even 'able to take advantage of inflation, which raised the prices of their produce and the revenues of their lands'. The social and economic gap between the rich elite and the rest of society widened. 'The polarization of wealth that concentrated most of it in the hands of the owners of these large estates ensured that economic and political power accrued to the landowners. The poor got poorer and the rich got richer, and the small shopkeepers and traders, who never had much of a coordinated or coherent voice in the historical record, disappeared' (Southern, 2001, p. 267).

The wider institutional impact of the third century inflation is consistent with Mechanism 4. The political response to the inflation was price controls. Diocletian's edict set the maximum permissive price. Violating the price edit was punished by death. A biographer of the emperor observes that 'Diocletian's policy is a huge step away from [Roman] tradition. It aims at generalized permanent control, and in forbidding merchants to withdraw their goods from sale at the stipulated price it has a distinctly totalitarian ring, proclaiming in effect the State's primary claim on the use and direction of the material resources of society, private ownership notwithstanding' (Williams, 1997, p. 131).

The Roman state after the mid-third century was more centralized and more autocratic. Taxation was assessed in-kind and the overall tax burden went up. Higher revenues not only supported the larger standing army required to meet defense needs but also fed a growing bureaucracy which expanded in size from several hundred officials plus 10,000 slaves to perhaps 35,000 officials (Kelly, 2004, p. 111) During the early empire, authority was highly localized. Prominent residents of each city volunteered to serve as magistrates. Under Diocletian and Constantine, civic offices became compulsory and hereditary. Other civic institutions either disappeared or were incorporated into the state: the 'voluntary associations of businessmen and artisans (*collega*, *corpora*) were transformed one by one into obligatory organizations like the city councils, geared to the larger State machinery' (Williams, 1997, p. 134). Other occupations became hereditary. Farmers were bound to the land and became serfs. Thus inflation, in combination with external and internal warfare, played a crucial part in this transition from Principate to Dominate. The precise processes through which inflation undermines a liberal society can be traced still more clearly in the next historical example that we consider: Weimar Germany.

[22] A classic analysis of this process is given by Michell (1947).

*Inflation and hyper-inflation in Weimar Germany*

Inflation in Weimar Germany provides a second example of the consequences of monetary instability. The Weimar inflation is associated with the hyper-inflation in 1923. But it properly refers to a decade-long inflation that began in 1914.[23] The monetary instability of the late Roman period was the product of both opportunism by individual rulers and systemic instability. Similarly, the Weimar inflation was the consequence of political decisions made by the Social Democratic lead government and the Reichsbank after World War 1.

The principle cause of the inflation was war and the failure to control the fiscal deficit. Sustained inflation began in 1914; inflationary financing, used to support government spending in war, was continued into peacetime. Reichsbank president Rudolf von Havenstein accommodated the fiscal expansion by printing marks in order to buy up government debt. The government was unable to control spending. Generous subsidies were granted to industry, to unions, to housing sector and to the railways; 7 billion marks were spent in 1920 on keeping the price of food low. By 1920 overall prices had increased by 900%; the number of marks circulating had increased from 2.9 billion in July 1914 to 55.8 billion in July 1920. The value of the mark relative to the dollar collapsed from 24 cents to 1.5 cents (Graham, 1930; Bresciani-Turroni, 1937; Feldman, 1993). The Social Democrats, vulnerable from both left and right, felt that it was politically too dangerous to cut back spending and the Reichsbank blamed the increase of prices on the balance of payments deficit and the reparations clause in the Treaty of Versailles rather than on monetary policy.[24]

In 1922 the government abandoned all attempts to reduce the deficit pursuing a deliberate policy of inflation in order to renegotiate reparations. The index of wholesale prices increased from 36.7 (where 1913 prices = 1) in January 1922 to 100.6 in July before exploding to 1475 in December, by which time the volume of marks in circulation reached 1.28 trillion. By the middle of 1923, after the French invasion of the Ruhr, the wholesale price index was at 19,385. At the end of the year it was at 1.26 billion. It cost 250 billion marks to buy a kilogram of butter and the price of beer at bars changed several times each evening (Ahamed, 2010, p. 121).

This period of sustained inflation and then hyperinflation distorted and damaged the price system in a manner consistent with Mechanism 1. Inflation forced down the costs of borrowing, and this, combined with government largess, fueled an investment boom, concentrated in the capital-intensive industries of shipping and railways. The number of telephones in Germany increased by 60% between 1919 and 1924 (Ferguson, 1995, p. 330). The short-lived boom drew workers into jobs that would otherwise not have existed. Unemployment amongst unionized workers fell from over 6% at the beginning of 1919 to just 0.6% in the middle of 1922 (Bresciani-Turroni, 1937, p. 189).[25] Inflation and proliferate government spending distorted the structure of production, disguising the fact that productivity had actually fallen and was still well below 1913 levels—two thirds of what it had been in mining for example.(Ferguson, 1995, p. 336). When the inflation exploded into hyperinflation it became apparent that living standards had fallen

[23] Hyperinflation refers to rates of inflation in excess of 50% per month.

[24] Reparation payments made it difficult for the government to balance its books and thus contributed to the pressure to monetize the debt but reparations represented no more than 15% of total public spending in any one year (Ferguson, 1995, p. 278).

[25] Another source of funds for investment was provided by forced savings, the result of prices rising before wages.

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**Table 2**
Decline in real wages by occupation relative to 1913 = 100 benchmark.

| | Railway workers | | Printers | Ruhr Miners |
|---|---|---|---|---|
| | Skilled wage | Unskilled | | |
| 1920 | 66.7% | 89.1 % | 60.8 % | 77.6 % |
| 1921 | 74.5 % | 100.0 % | 68.9 % | 89.1 % |
| 1922 | 64.2 % | 87.6 % | 60.9 % | 69.9 % |
| 1923 | 50.9 % | 69.1 % | 54.2 % | 70.1 % |

Source Feuchtwanger (1995).

**Table 3**
Average real weekly wages of railway and textile workers in 1922 relative to 1913 = 100 benchmark.

| | Railway workers | | Textile Workers | |
|---|---|---|---|---|
| | Skilled | Unskilled | Skilled | Unskilled |
| January | 69.3 | 93.5 | | |
| February | 58.6 | 79.0 | | |
| March | 49.4 | 66.7 | | |
| April | 61.8 | 84.6 | 85.5 | 88.9 |
| May | 75.3 | 102.0 | | |
| June | 78.4 | 106.8 | | |
| July | 70.9 | 96.5 | 85.9 | 93.2 |
| August | 66.3 | 91.0 | | |
| September | 83.4 | 114.4 | | |
| October | 53.3 | 73.5 | 70.3 | 76.1 |
| November | 48.5 | 66.9 | 61.5 | 65.9 |
| December | 55.0 | 76.2 | 74.6 | 81.0 |

Source: Feldman (1993, p. 614).

and that the German people were poorer than they had been in 1914.

The Weimar inflation illuminates several different ways in which a period of sustained inflation enriches a small minority at the expense of the majority (Mechanisms 2 and 3). The middle classes were hit hardest. The real value of their salaries fell and their savings disappeared. The savings banks and cooperative societies lost their capital as they were only able to invest a small amount of their deposits in foreign exchange. For example, the Schultz-Delitsch co-operative societies lost its entire capital of 428 million marks and its deposits estimated at 1.6 billion marks mostly disappeared. In total, Bresciani Turroni estimated that the deposits of savings banks and cooperative societies valued at 44 billion marks in 1913 were more or less wiped out (Bresciani-Turroni, 1937, p. 320).

The political economy that supported the policy of inflation has been viewed as an alliance between labor and capital.[26] And, in its early stages, the policy of inflation was perceived as benefiting workers. Real wages for workers managed to partly keep up with rising prices, at least until 1923. Wage schedules were compressed as firms, threatened by industrial unrest, increased the wages of skilled workers more slowly than they did the wages of unskilled workers. Table 2 indicates that on the railways skilled workers lost almost 50% of their 1913 real wages while unskilled workers lost around 30%. Miners working in the Ruhr suffered less printers. Overall, the premium of 45% that skilled workers earned relative to unskilled in 1913 had collapsed to just 5% by 1923 (Bresciani-Turroni, 1937, p. 313).

Table 3

Labor did not benefit in the long run from inflation however. The boom stimulated by the inflation was unsustainable and rapidly collapsed once the inflation became a hyperinflation. Industrial production fell by 34% in 1923. The unemployment rate of trade union members increased from 2% to 25% between mid-1922 and the end of 1925 (Ferguson, 1995, p. 384).

Financiers and speculators made fortunes out of the inflation. Industrialists involved in foreign trade could acquire dollars and thus hedge themselves against the depreciating mark. While the middle class 'rentier' population, who owed large quantities of government bonds, were expropriated, and many old merchant houses lost their capital, a small number of profiteers like Hugo Stinnes—the *inflationskönig*—and Jacob Michael acquired huge industrial empires. They obtained these empires by borrowing cheaply and by leveraging whatever they borrowed to acquire underpriced assets. These industrialists influenced policy and became a vested interest group in favor of further inflation.[27] The Weimar inflation encouraged a spirit of speculation and gambling and discouraged saving and thrift. The process of inflation undermined the cultural foundation of a market economy. John Maynard Keynes understood this, noting that '[t]o convert the business man into the profiteer is to strike a blow at capitalism, because it destroys the psychological equilibrium which permits the perpetuance of unequal rewards' (Keynes, 1963, p. 95).

Mechanism 2 suggests that the number of individuals who gain from a period of sustained inflation is usually small compared to the number who lose out. Hence a period of inflation is often associated with a widening in the distribution of income. This was the case in Germany. Bresciani Turroni notes that 'those who were in a position to benefit from the inflation were far fewer than the victims of the depreciation. Holders of debentures, etc., issued by one private entrepreneur could be counted by hundreds and thousands' (Bresciani-Turroni, 1937, pp. 319–320). But whereas the previous generation of entrepreneurs were 'producers' whose 'wealth had its roots in the general prosperity of the country, to which they had contributed by continually improving the productive equipment, and by perfecting the banking, industrial, and commercial organizations,' those who enriched themselves between 1918 and 1923 were speculators who exploited opportunities created by the process of inflation.

Many of the costs of the inflation were hidden and came in the form of increased rent-seeking (Mechanism 3). Thus the inflation generated a demand for small banks and foreign-exchange dealers. Bresciani Turroni reports that 401 new banks were formed in 1923 alone, ten times as many as were formed in 1914 (Bresciani-Turroni, 1937, p. 216). The number of middlemen increased because the variability of prices created more opportunities to profit from simple bartering. As a result of the continuously rising prices more and more time was spent correcting for the rate of inflation. For the most part these jobs were simply a form of rent-seeking—unproductive labor—an additional cost imposed by the depreciating mark.

The inflation undermined the rule of law directly simply because the law courts were overwhelmed with civil cases resulting from the inflation as creditors contested debts repaid in devalued marks. Furthermore, the unrest associated with the inflation brought with it a crime wave. The total number of crimes increased from 117 (where 1882 = 100) in 1913 to 170 in 1923. Once the inflation was brought under control this subsided to 122 in 1925. Crimes committed by young men increased from 125 in 1913 to 212 in 1923 before falling to 87 in 1925 (Ferguson, 1995, p. 342). At the same

[26] Ferguson notes that a 'Hamburg fishmonger explained the problem succinctly: 'We of the middle class are not organized against the wholesalers, while the workers are organized against us' (Ferguson, 1995, pp. 342–343).

[27] Bresciani Turroni noted, 'the paper inflation would not have assumed such vast proportions if it had not been favored in many ways by the people who drew a large profit from it' (Bresciani-Turroni, 1937, p. 104).

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time the efficiency of the courts declined as the real salaries of lawyers and judges fell.

Inflation also undermined the rule of law indirectly via Mechanism 4. The inflation destroyed the wealth of the middle classes—particularly the urban middle classes, who were the main supporters of the liberal parties in the Imperial Germany and the democratic and national liberals (DDP) and (DVP) in the Weimar Republic. Large numbers of this middle class had now been proletariatized and were attracted to extremist political parties. On the left the moderate Social Democratic Party (SDP) was discredited and the Communist Party (KPD) became more popular. Political power shifted from those who favored liberal principles and upheld the idea of equal treatment under the law—intellectuals like Max Weber and Thomas Mann and politicians like Walher Rathenau and Gustav Stresemann—to those who favored coercion and rejected the principles of liberalism—like Hjalmar Schacht, Alfred Hugenberg, and thinkers such as Carl Schmitt.[28]

Though the German economy recovered during the latter part of the 1920s, this recovery was fueled by the inflow of hot money and direct investment, largely from the US and encouraged by the Dawes Plan. This investment came to a sudden stop in March 1929 with the announcement of the Young Plan. As overseas investment and international trade contracted severely between 1929 and 1932, the already fragile German economy collapsed into a deflationary spiral as Chancellor Heinrich Brüning raised taxes and cut spending in an attempt to stay on the Gold Standard (James, 1986). In 1930 both M1 and GDP were 7% below their 1929 levels; unemployment peaked at 31% in 1932 with output 15% below its 1925 level (Ritschl, 2013, pp. 119–131). Rapid and unexpected deflation generated a political crisis and led to a brake-down in constitutional government. Brüning governed through emergency Presidential decrees rather than through the Reichstag.[29] Thus even before the rise to power of the Nazi party, the Weimar Republic experienced a decline in adherence to the rule of law.

Lionel Robbins described Hitler as the 'foster-child of the inflation' because of the long-term effects that the inflation had on German society—what he described as a moral as well as an economic disequilibrium.[30] Ferguson expresses this more expansively:

> 'Bourgeois society upheld industry; the inflation broke the link between pay and productivity, profit and diligence. Bourgeois society believed in thrift and parsimony; the inflation expropriated savers and benefited those who borrowed to the hilt and consumed. Bourgeois society was a hierarchy resting on the ownership of property; the inflation precipitated a radical reshuffle of wealth, rendering bonds and other paper assets worthless. Bourgeois society's civil law code was based on the binding nature of contract—on equity and good faith; the inflation subverted this principle by allowing debtors to pay creditors in depreciated marks. Bourgeois society upheld the rule of law; the inflation unleashed a crime wave and discredited the courts. Above all, bourgeois society craved Ruhe und Ordnung; the inflation was a time of disorder and violence' (Ferguson, 1995, pp. 430–431).

When Hitler came to power he was determined to learn the lessons of the Weimar period. As he pursued expansionary fiscal policy he guarded against the threat of inflation through wage and price controls thereby illustrating Mechanism 4. Nominal wages were frozen at their 1933 level; wage rises had to be approved by the regional trustees of labor (Tooze, 2006, p. 102). In 1934 a Reich commissioner for price control was appointed. By 1935 an elaborate system of price controls had been erected. This succeeded in repressing, but not in preventing inflation, and was part of a gradual process whereby the German economy was cartelized and socialized in the 1930s.[31]

### 4.2. Deflation and the great depression

The episodes of ancient Rome and the Weimar Republic illustrate the damage that monetary instability in the form of persistent inflation can cause on a liberal social order. However, rule of law can deteriorate in the event of a persistent period of excessive deflation due to a collapse in the money supply. The Great Depression in the United States serves as an example of the mechanisms through which monetary instability can lead to an erosion in the rule of law even in a stable and liberal democracy.

The monetary causes of the Great Depression have been well documented. Briefly, in the spring of 1928 the Federal Reserve decided to raise interest rates in response to concerns over what they perceived as excess speculation on Wall Street. In late 1929, the stock market crashed, and the economy entered a recession. The resulting recession, however, did not truly become a full-blown depression until 1931, when the Fed decided to raise interest rates again in response to worries over a speculative attack on the dollar, sparked by the announcement that England was abandoning the gold standard, and by fears that the same would eventually happen in the United States. At this point the price level began to plummet, banks started failing at an accelerating rate, and the economy plunged into the worst contraction in US history. The price level fell by over 25%, unemployment peaked at 25% for the general population while youth unemployment reached almost 50% by the winter of 1932–1933 (consistent with Mechanism 1) (Friedman and Schwartz, 1963).

Contrary to popular opinion, President Hoover did respond actively to the Great Depression. Several new institutions were authorized between 1931 and 1933 with the primary focus of increasing federal lending to the financial sector, farmers, and state governments: the Agricultural Credit Banks and the Home Loan Banks, and ultimately culminated with the Reconstruction Finance Corporation. These institutions combined represented the largest peace time lending in US history, but they were done mostly within the bounds of the usual democratic process. The onset of the Great Depression did not therefore see immediate violations of the rule

[28] See Hill et al. (1977, pp. 299–313). This was, for example, the view of Brescinai Turroni who noted that the 'paper inflation, by reinforcing the economic position of those classes which formed the backbone of the 'Right' parities, i.e. the great industrialists and the great financiers, encouraged the political reaction against democracy' (Bresciani-Turroni, 1937, p. 330). Inflation undermined another important support for the rule of law: civil society; it bankrupted religious and charitable societies and other voluntary institutions which had been influential in pre-war Germany. There were 60 such societies in Berlin worth 56 million marks in 1913 but by 1924 after revaluation they were worth just 1.5 million marks (Bresciani-Turroni, 1937, p. 320). Consequently, those civil institutions which were responsible for mediating relations between the state and the individual in a liberal society were already severely weakened prior to the Hitler's rise to power.

[29] James notes that in September 1931, Brüning 'proudly reported to Paul von Hindenburg that in one and a half years he had virtually reduced parliamentary power to the level of that of the Bismarkian Reichstag and had created for Hindenberg a greater accumulation of power "than the Kaiser even had"' (James, 1985, p. 167).

[30] In the Introduction to Bresciani-Turroni (1937, p. 5).

[31] This accelerated after 1936: 'Gauleiter Wagner, who had responsibility for price control in the Four Year Plan, issued a blanket ban on 26 November 1936 prohibiting any price increases. Formalizing a development begun in the early 1930s, this effectively eliminated the market mechanism as a means of regulating scarcity in the German economy. The logical next step . . . was the introduction of rationing, managing scarcity by bureaucratic allocation rather than the market process' (Tooze, 2006, p. 231).

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of law unlike those that happened in Weimar Germany from 1930 onwards under Brüning.

However, upon taking office on March 4th 1933, Roosevelt took a series of more radical measures. These measures undoubtedly played a vital role in preventing a complete collapse in the banking industry and in laying the foundations for the subsequent recovery. Nevertheless, though these policy innovations were important, they also undeniably represented a stark change in the adherence to the rule of law.

The national bank holiday was declared under the authority of the Trading with the Enemy Act, amended by Congress to allow it to be used outside of times of war. It goes without saying that it took a liberal interpretation of 'trading with the enemy' to include withdrawing or transferring funds from a domestic bank, by a domestic citizen. The banking holiday heightened the sense of desperation around the country; there was a feeling that '[t]he crisis justified the casting aside of precedent, the nationalistic mobilization of society, and the removal of traditional restraints on the power of the state' (Garraty, 1987, p. 932). Much of the legislation passed in the following years made explicit claims that the policies were justified in light of the national emergency, and in Roosevelt's inaugural address he said in the event that the emergency was still critical he would ask for 'broad executive power to wage a war against the emergency as great as the power that would be given me if we were in fact invaded by a foreign foe' (Higgs, 1989, p. 171).

A number of policies actually worsened monetary instability. In September 1933 Roosevelt began a gold purchase program aimed at increasing the price of gold vis à vis the dollar. However, the timing of the effort, which took place after the tie of the dollar to gold had been severed by Roosevelt himself, meant that it was very unlikely to succeed. More significantly, the way in which Roosevelt undertook these efforts was entirely arbitrary, with advisors recalling Roosevelt declaring that they would move the price by seemingly random amounts each morning.[32] Even assuming that the value of the dollar was still tightly linked to gold at that point, no economist in their right mind would suggest jerking the price level around in random increments. Indeed, John Maynard Keynes, who praised Roosevelt for moving off of the gold standard in the first place, worried that the President's gold purchase program was ill advised. Keynes believed it introduced greater uncertainty, and would harm the goals of raising output and employment, going so far as to say that it was like 'the gold standard on the booze' (Keynes, 1963).

Even policies that Roosevelt passed which had positive macroeconomics effects had the unintended consequence of making it increasingly uncertain what the law would be like in the near future, impeding medium to long-term economic planning. This is evident in the abrogation of gold clauses in both public and private contracts, after the suspension of the gold standard in the spring of 1933. Although the United States had temporarily suspended the gold standard previously, it had never made any attempt to invalidate such contracts before.[33] Several cases were heard by the Supreme Court on the issue of contractual obligations of parties to repay not just in dollars, but in the quantity of gold the dollar was worth at the time the contract was entered into. The Supreme Court ruled 5-4 that the constitutional power of Congress to regulate the value of money also gave them the power to retroactively invalidate contracts made with gold clauses which might 'interfere with the carrying out of policy it is free to adopt' (Higgs, 1989, pp. 186–187). In the dissenting opinion, Justice McReynolds was incensed by the decision stating that congressional authority 'cannot be so enlarged as to authorize arbitrary action, whose immediate purpose and necessary effect is destruction of individual rights'. The ultimate result was increased uncertainty about what other ex post facto laws might be passed, and likely hampered the ability for business to engage in mutually beneficial trades.

Was it necessary to violate the rule of law in order to save the economy from the Depression? Given the monetary roots of the Depression, the eventual devaluation of the dollar in 1934 was an important step in the right direction to equilibrate real money demand with the insufficient supply of money. A number of scholars, most notably, Eichengreen argued that the gold standard itself was to blame for the inability of the Federal Reserve to expand the money supply because the Fed had too little free gold to safely expand without being run upon (Eichengreen, 1992). If this is true, than the abandonment of the gold standard and the abrogation of gold clauses may have been a necessary violation of the rule of law in order to prevent further damage to the economy.

More recent work has suggested that this view is in incorrect, and that the Federal Reserve was in fact not constrained by the gold standard. In particular, Eichengreen's estimates of the level of free gold are misleading because the Federal Reserve had an additional $136 million dollars of notes held in its own vaults that were not in circulation which were listed as liabilities (Bordo et al., 2002, p. 15).[34] Bordo et al. also point out that Eichengreen's analysis ignored the effects of the money multiplier, and thus he significantly overestimates the amount of money the Federal Reserve would have needed to create to overcome the fall in M1.[35] Hsieh and Romer also challenge the notion that expansion of the money supply would lead to speculative attacks via fears of devaluation (Hsieh and Romer, 2006). They develop an alternative measure of fears of devaluation after Fed expansions in 1932 by comparing movements in the difference between foreign and US interest rates, as well as the difference between forward and spot rates of the dollar. Using both measures, they find little effect of an increased fear of devaluation from expansions of the money supply. While other countries may have been significantly constrained by the gold standard, this evidence suggests the US had the ability to undertake a monetary expansion or devaluation while adhering to the gold standard.

Consistent with Mechanism 3 there was an extensive move away from market control of prices and towards collusion or price controls in almost every sector of the economy. This began with the Davis-Bacon Act in 1931 and the Norris-Laguardia act in 1932 under Hoover, both of which had the aim of increasing real wages and facilitating increased unionization (Ohanian, 2009). These policies drastically exacerbated the nominal wage stickiness problem, and

[32] For instance, one day Roosevelt told his advisers that the target for the day was to move the price up by twenty one cents. When asked why, he responded 'It's a lucky number, it is three times seven' (Blum, 1959, p. 70).

[33] In fact, during the most recent suspension during WWI, the government had made use of such gold clauses to obtain financing at lower rates than would have otherwise been possible due to the increasing inflation of the time.

[34] Furthermore the Federal Reserve held $740 million dollars in US securities which it could have used as collateral for Federal Reserve Notes, but chose not to do so until mid-1932.

[35] They develop a model of expansionary policy by the Federal Reserve and conclude that the Federal Reserve could have acted in October of 1930 or September of 1931 to avert the crisis without breaching their required reserve ratio. Their work is further reinforced by related research suggesting that covered interest parity did not strictly hold due to lower capital mobility at the time. For instance, differences in the interest rate between the dollar and the pound would not be arbitraged until they had diverged by about 50 basis points (Peel and Taylor, 2002). In addition, since the United States was a large open economy, it could affect the interest rates across the world, so an expansion in monetary policy in the US would lower foreign interest rates, thus reducing the incentive to sell the dollar (Bordo et al., 2002).

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significantly contributed to the non-neutrality of money.[36] As these policies were passed as a response to conditions of 1929–1931, they can be seen as a second order effect of the monetary instability.

These efforts intensified under Roosevelt as he shared Hoover's belief that collusive agreements among both laborers and employers would help to raise wages and spending power. The Agricultural Adjustment Act (AAA) in May of 1933, gave the Secretary of Agriculture the authority to intervene in agricultural markets in a variety of ways, from acreage, production controls, and minimum prices for agricultural products to authorizing exemptions from antitrust laws for collusive marketing agreements. At the same time the National Industrial Recovery Act (NIRA) was passed, giving similar powers to the newly created National Recovery Administration. The NRA eventually implemented 557 basic codes as well as 189 supplemental codes which are estimated to have affected 95% of industrial workers covering nearly every conceivable aspect of industry including hours worked, minimum safety conditions, minimum wages, minimum prices, advance notice of intent to change prices, standardization of products and service, and, again, the ability of the director of the NRA to suspend anti-trust laws to form business cooperatives. Collusion was encouraged for both workers via increased unionization, and businesses through explicit cartelization.[37]

The Supreme Court recognized these policies as violations of the rule of law and deemed them unconstitutional in 1935 and 1936 respectively. In Schecter vs US the court ruled unanimously in favor of Schecter, because his trade was entirely intrastate and thus outside of the purview of Congress. In addition, the NIRA itself did not create standards or rules of conduct, but rather gave the President power to create or approve any law which he thought might achieve the objectives set forth in the act. In the eyes of the court, Congress did not have the constitutional right to 'delegate legislative power to the President to exercise an unfettered discretion to make whatever laws he thinks may be needed or advisable for the rehabilitation and expansion of trade or industry' (Groves, 1963, pp. 434–437). In the case of the AAA, the court ruled 6-3 that the tax on processors which was to be paid to farmers violated constitutional law, and regulation of agriculture was a power which rightfully belonged to individual states.

These victories for constitutional law were short-lived, however, as Roosevelt introduced his court packing scheme to increase the number of Justices on the Supreme Court as a response to their obstruction of the New Deal. Had he succeeded, this would have been a clear violation of the liberal rule of law. As it happens, the Supreme Court began to fall in line soon after these cases and it allowed the very similar National Labor Relations Act to pass later in 1935. The AAA was recreated in 1938 with more appropriate wording to avoid the issues of the first case. Over the next several years, the remaining dissenting Judges retired for various reasons, and Roosevelt replaced them with Justices that were more sympathetic to allowing him the kind of broad powers that he wished to exercise. The legacy of these actions continue today, with many policies either being extensions of those started under the AAA or NLRA, or drawing their judicial precedence from court cases which ruled in favor of these acts.

Mechanism 4 suggests that periods of economic crisis will led to temporary violations of the rule of law and eventually become permanent. Elements of the New Deal were consistent with the long development of American public policy (Fishback and Wallis, 2013). Other policies were more radical innovations, and these deviations from past practice and previous ways in which the rule of law had been understood, permanently changed the landscape of US policy. If instead the Federal Reserve had properly fulfilled its role as the lender of last resort, a role which it was in the sole position to fulfill since it had been granted a monopoly on the ability to issue bank notes, these institutions may have developed differently.

In making this argument, it is vital to note that we do not want to stress the violations of the rule of law as being primarily the result of Roosevelt's politics or character. Indeed, the very crux of our argument is that monetary instability will tend to lead to a breakdown in support for the rule of law in both the 'thin' and 'thick' sense in many cases regardless of who is in power.

It is clear that there was a demand to do something in response to the economic crisis. The point we want to emphasize is that there were established methods within the framework of the US democracy to enact the sort of policies we saw from 1931 to 1937, but despite the fact that enough members of Congress supported these bills that they likely could have passed a constitutional amendment in short order, those methods were sidestepped. Of course, the rule of law did not ultimately break down to the extent that it did in the case of Rome and the Weimar Republic. US political and economic institutions were significantly more robust. In both of those cases, the monetary instability lasted an extended period of time, taking place over many decades in the Roman case and lasting over a decade in the Weimar Republic. While the Depression was severe in the US, it was shorter than it might have been as monetary policy loosened worldwide once countries left the gold standard and Roosevelt was able to devalue the dollar, which moved the US back towards monetary equilibrium. In the absence of these positive shocks, we may have seen even more violations of the rule of law, and observed further deterioration of liberal economic institutions in the United States. Thus, the suggestive relationship between monetary stability we found in the macroeconomic evidence is highly consistent with the historical episodes we have reviewed.[38]

## 5. The 2008 financial crisis and after

In the post-1945 period governments employed discretionary monetary policy within the Breton Woods system in pursuit of full employment. The Bank of England was nationalized in 1945 and the Federal Reserve was placed under close political supervision with a dual mandate.[39] Contemporary monetary institutions—independent central banks, implicit and explicit inflation targets etc.—emerged in response to the failure of democratic supervision to achieve monetary stability in this period. During the Great Moderation, these institutions were hailed for achieving macroeconomic stability; in the wake of the Great Recession, they have come under renewed criticism. We review these institutions

[36] Cole and Ohanian develop a DSGE model which suggested that increased cartelization can account for a significant portion of why the Depression persisted so significantly in the US and across Europe (Cole and Ohanian, 2013).

[37] 'Microeconomists who study the NRA bluntly describe the codes as cartel arrangements enforced by the national government. The codes violated the antitrust laws and could only be put in place because the national government shut down antitrust enforcement' (Fishback and Wallis, 2013, p. 314).

[38] Other examples could be studied from the French Revolution to the inflation experienced by transition economies in the 1990s in support of the specific mechanisms we outlined in Section 2.

[39] During World War 2 the Fed cooperated closely with the Treasury. It gained some measure of independence as a result of the Accord of 1951. However, political influence on the Fed remained strong throughout the 1950s and 1960s. See Walsh (1993).

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in light of our findings concerning the relationship between monetary stability and the rule of law.

In the 1980s, central bankers like Paul Volker at the Federal Reserve, and Donald Brash at the Reserve Bank of New Zealand, succeeded in halting the inflationary spiral that emerged across the developed world in the 1970s because they were able to credibly signal their willingness to bring about recessions. Central banks were provided with 'instrument independence' and insulated from democratic influence.[40] Independence was heralded as the institutional solution to the problem of inflation bias. The theoretical literature showed that by either delegating monetary policy to a 'conservative' central banker, or by regulating the behavior of the central banker either contractually, or through an explicit inflation target, the problems associated with discretionary monetary policy could be eliminated. In other words, the benefits of a fixed rule like the gold standard could be obtained without the corresponding costs.[41]

The movement towards rule-based policy making reduced both the mean and variance of inflation, inaugurating a period of macroeconomic stability. It produced a scholarly consensus that independent central banks had solved the time inconsistency problem and that monetary policy was no longer a destabilizing factor in policy making (Cecchetti, 2000). Scholarly attention focused on fine-tuning this system and mitigating minor technical issues such as stabilization bias. If this had been true, than the subject matter of this paper—the relationship between monetary instability and the rule of law—could have been relegated as something only relevant for economic historians or development specialists.

However, in the wake of the recession of 2007–2010, these conclusions no longer seem tenable.[42]. In hindsight, Adam Posen's argument that the power of central bank independence to guarantee low inflation and monetary stability was largely illusionary, appears particularly perceptive. This is not to deny that inflation was low during these years, or even that there was a Great Moderation, but it *is* to downplay the role that improved monetary policy, in general, and the much vaulted independence of central banks, in particular, played in achieving this stability. Posen agreed that central bank independence and low inflation were correlated, but he denied that there was any necessary causal relationship. Rather: 'since central bank independence is always at risk from proponents of inflation, and that risk both determines the policies pursued *and* is determined by the political strength of opposition to inflation, *there is no reason to expect that central bank credibility or revealed policy preferences will have a fixed relationship with statutory independence*; instead they will vary with developments in the ongoing political struggle over inflation' (Posen, 1993, p. 47). If this is true, then policy-makers cannot neglect the impact that their conduct of monetary policy will have on institutions like the rule of law.

Two charges can be laid against contemporary monetary arrangements. The first charge is easiest to uphold. Economic policy proved fragile in the face of a financial crisis. Textbook monetary policy worked, or appeared to work, so long as external conditions were favorable. Within a narrow corridor of macroeconomic stability, to use Axel Leijonhufvud's phrase, implicit or explicit inflation targeting delivered stable and low rates of inflation and low levels of output volatility (Leijonhufvud, 1973).

The second charge states that not only were existing monetary institutions and policy ill equipped to respond to an exogenous shock, but rather that they were themselves partly responsible for the shock in the first place. A number of economists including John Taylor, Raghu Rajan, Axel Leijonhufvud, Lawrence H. White, and William White have argued that low Federal Fund rates in the wake of the Dot.com crash played a crucial role in the build-up to the Sub-Prime crisis.[43] Taylor argues that monetary policy after 2001 became excessively loose (relative to the norm set in the Great Moderation period). He views this as a government intervention and as a deviation from a rule-based monetary policy during the Great Moderation.[44] Expansionary monetary policy was justified on the grounds that unemployment remained high (peaking in June 2003) and consumer price inflation low. But these indications were misleading; as Rajan observes, output growth was relatively rapid (the recovery was 'jobless') and broader measures of economic activity such as asset prices suggested that the economy was approaching capacity. Low borrowing costs fueled house prices and low returns on savings and ordinary investments encouraged investors to take on more risk. Thus, as Leijonhufvud and many others argue, the pursuit of narrow inflation targets generated financial instability. Broader measures of inflation or a focus on the behavior of NGDP would have suggested a different course of action.

The conduct of monetary policy after the 2008 crisis has similarly been questioned. The prevailing wisdom during the Great Moderation was that independent central banks were successful because they insulated monetary policies from democratic interference. Recent events indicate that the resulting epistemological opacity caused by this insulation leaves them open to accusations of corruption and cronyism. Central bank independence increasingly looks like a mirage. At the zero interest-rate bound central banks have moved increasingly towards ad-hoc discretionary measures and away from rule-based policies.

The first two instances of quantitative easing taken by the Federal Reserve (QE1 and QE2) were not accompanied by any clear indication of what target the Fed was attempting to hit. The Fed announced how much and what type of securities they intended to purchase, but not what their ultimate policy goal was. As a result, while both programs resulted in some increase in inflation expectations and the value of stocks, markets were left guessing about how long the programs would continue, and what future Fed policy would be in the aftermath. This policy uncertainty is exacerbated by the numerous counterproductive comments made by the Fed that these policies did not represent an attempt to move inflation significantly above 2% and the discretionary nature of the extension to QE1 and Operation Twist (see Woodford, 2012).

With QE3 the Federal Reserve announced purchases of $75 billion dollars of securities a month until 'labor markets improved substantially' in an attempt to give more forward guidance to markets. However, the ambiguous meaning of when the Fed would consider labor markets to have substantially improved, or how much inflation the Fed would be willing to tolerate before pulling back meant that markets were still left guessing what future

[40] In countries like New Zealand and the UK the discretionary power of monetary authorities was further reduced by the introduction of explicit inflation targets. See Bernanke and Mishkin (1997).

[41] For the concept of a conservative central banker see Rogoff (1985). For the idea of a contract to bind the central banker see Walsh (1993). Empirical evidence on the relationship between independence and inflation is provided by Alesina and Summers (1993). Inflation targets are seen to be superior to a fixed rule because they allow for 'constrained discretion' Bernanke et al. (1999).

[42] This has been recognized in the move towards a greater emphasis on macroprudential policies for many central banks (Lim and Staff, 2011). While the long term effectiveness of macroprudential policies is not yet clear, the shift in focus from ensuring the neutrality of money by equilibrating money demand and money supply towards micromanagement of the broader economy and financial markets may result in a failure to accomplish either goal, particularly given the limited success of central banks in achieving monetary stability in the first place.

[43] See Taylor (2009), Rajan (2010), Leijonhufvud (2009) and White (2008, 2006).

[44] The Federal Funds rate stayed below 2% until mid-2004 whereas the Taylor rule would have specified a gradual tightening in monetary policy from 2001 onwards and a Federal Funds rate of 4% in 2004.

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monetary policy would look like, essentially only moving us slightly away from discretion and towards a truly rule based policy if at all. A number of leading academics and other figures have suggested various explicitly rule based means to conducting monetary policy at the lower bound, including Scott Sumner's NGDP futures market proposal, and Lars Svensson's 'foolproof' method of escaping a liquidity trap (Sumner, 2012; Svensson, 2003). As White (2010) argues this absence of rule-based policy making means that monetary policy is currently subject to rule of central bankers rather than the rule of law.

## 6. Concluding comments

This essay has examined the, at times subtle, mechanisms linking, seemingly technocratic, questions of monetary policy and inflation to wider issues concerning the institutions that are necessary to support a liberal, market-based society. It has advanced three claims: (1) the costs of high and unstable inflation or deflation are subtle and difficult to measure; that (2) one of the most pernicious consequences of monetary instability is that it undermines the rule of law and other institutions vital to the running of a liberal economy; and finally, that (3) monetary stability and the rule of law are mutually self-supporting.

In the late Roman Empire and Weimar Germany inflation corroded market institutions and values and led to the demise of comparatively liberal societies. These two examples can be taken as illustrating the thesis of this paper *in extremis*. The example of the Great Depression shows that similar deterioration in the rule of law and liberal institutions can occur in the event of a significant deflation.

The lesson that the historical episodes reviewed in this essay teach is that there is a mutually reinforcing relationship between a society's monetary institutions and it's legal and social institutions. Monetary policy cannot be studied in an institutional or historical vacuum; it is not merely a technical subject best left to expert central bankers. And in the wake of recent events, the relationship between macroeconomic policy and wider concerns for the rule of law need to be reconsidered. A reading of history teaches us how much damage an out-of-joint monetary system can inflict. It indicates that the cost of monetary instability are often slow to emerge, but can impose long-run damage (via Mechanism 1); these costs operate both through the political and economic institutions of a society (Mechanisms 2 and 3) and through the policies that they facilitate (Mechanism 4).

In the case studies surveyed, the true costs of monetary instability included the costs imposed by the political responses to monetary instability: the price edit imposed by the emperor Diocletian, the socialization of the Germany economy under the Nazis, and the increased uncertainty and deviations from the rule of law during the Great Depression. Similarly, if one adheres to the monetary view of the Great Recession, than the civil unrest in Greece and other European countries that suffered strong adverse consequences from the recession can be viewed as another instance of monetary instability being linked to a breakdown of the rule of law. Monetary instability, not only causes direct damage to a market economy, but, if not controlled, can prompt populist policy responses that can do even more, deeper lasting, damage to a liberal society. Our argument suggests that in the long-run, a liberal social order requires a monetary policy that is both capable of delivering monetary stability and is itself subject to the rule of law.

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