War and Society
Borrowing and Debt Servicing

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As I mentioned before, four problems with income from taxation made it relatively inconvenient as a reliable primary method of war finance. First, since the revenue was collected periodically, it might not coincide with the timing of the greatest need for wartime expenditure. Second, the revenue from certain sources affected by the war could drastically fall or dry up completely. Third, even after a serious expansion of revenue from the successful imposition of an income tax, the government income from taxation often came up short of covering the expenses of war. Some rulers resorted to manipulation of the money supply — debasing the coinage or printing money — but this was a desperate step that could have very deleterious effects on the economy (and so on the ability to wage the very war it was supposed to finance), not to mention the public resentment it created in those whose wealth was being thusly expropriated. Finally, attempts to levy new emergency taxes or to increase the rates of existing ones could generate opposition especially if the war is unpopular. The ruler might find himself staving off rebellion at home while simultaneously waging war abroad. This in itself would be a deterrent in attempting to use taxation for war finance.

To fill the fiscal gap between income and expenditure, rulers often tried to borrow the money they needed. Over time, the payment of interest and repayment of the principal of public debt gradually became a significant (and at times, the largest) expenditure item of many governments. With the growing importance of credit, lenders also tended to acquire economic and sometimes political clout, and rulers had to take their interests into consideration in policy-making. Since taxation was also often tied to servicing war-related debt, it is no wonder that war saw the concomitant increases in both government indebtedness and taxes.

The need for public debt was recognized early on at the formative stages of the American state. The debate between Alexander Hamilton and Thomas Jefferson is illustrative. It was self-evident to Hamilton that the state's ability to expand its mobilizable resources beyond the constraints of the tax base would be crucial to any war. The nation's credit

> is so immense a power in the affairs of war that a nation without credit would be in great danger of falling a victim in the fist war with a power possessing a vigorous and flourishing credit.[1]

He chastised some for being "ignorant enough" to think that war can be paid for by taxation alone, and pointed that even "powerful and opulent" nations like England, France, and the United Provinces are "deeply immersed in debt."[2] These were

> plain and undeniable truths [that] loans in times of public danger, especially from foreign war, are found an indispensable resource, even to the wealthiest of them. And that in a country, which, like this, is possessed of little active wealth, or in other words, little monied capital, the necessity for that resource,

[1] The cite is from *Defence of the Funding System,* and is quoted by Max M. Edling. 2007. " 'So Immense a Power in the Affairs of War': Alexander Hamilton and the Restoration of Public Credit." *William and Mary Quarterly,* 64(2): 287-326, p. 295.

[2] Cited in Henry Cabot Lodge, Ed. 1904. *The Works of Alexander Hamilton.* New York: G.P. Putnam & Sons, Volume 1, The Continentalist IV. Included in The Online Library of Liberty, `http://oll.libertyfund.org/title/1378/64156/1591126`, accessed January 19, 2010.

must, in such emergencies, be proportionably urgent.[3]

Jefferson did not deny that borrowing would improve the country's ability to wage war. In fact, this was precisely why he disapproved of it. His position was that public debt hid the real costs of war from the people in a way that taxes did not, and therefore increased their belligerency. He wished for

> an additional article [in the Constitution] taking from the Federal Government the power of borrowing. [...] I know that to pay all proper expenses within the year would, in case of war, be hard on us. But not so hard as ten wars instead of one. For wars would be reduced in that proportion.

He cursed the

> spirit of war and indebtment, which, since the modern theory of the perpetuation of debt, has drenched the earth with blood, and crushed its inhabitants under burdens ever accumulating,[4]

and claimed that if the English state was not allowed to borrow, it would have placed the English "under the happy disability of waging eternal war."[5]

Naturally, the U.S. government's behavior followed Hamilton's advice. Even Albert Gallatin, whose aversion to public debt was notorious, could not see any way out of relying on loans as the primary method of paying for wartime expenses. When the War of 1812 finally came, the U.S. paid for it mostly by borrowing: out of approximately $70 million in war expenditure, the government funded $64 million, or almost 92%, from the proceeds of loans.[6]

1 Insolvency and the Problem of Commitment

We have already mentioned borrowing in the context of tax farming and venal office-holding, but we now take a closer look at some of the issues that **sovereign** rulers face as debtors. As with many other situations, a ruler is sovereign with respect to some commitment if there is no higher authority that can force him to abide by its terms. Since rulers were traditionally not subject to the legal system, their contracts were not enforceable in

[3] Harold C. Syrett, and Jacob E. Cooke, Eds. 1979. *The Papers of Alexander Hamilton.* New York: Columbia University Press, Vol. 6, pp. 67–72. Included in *The Founders' Constitution*, Vol. 2, Article 1, Section 8, Clause 2, Document 5, `http://press-pubs.uchicago.edu/founders/documents/a1_8_2s5.html`, accessed January 19, 2010.

[4] Letter to John Taylor, November 26, 1798.Andrew A. Lipscomb, Ed. 1904. *The Writings of Thomas Jefferson.* Washington, DC: The Thomas Jefferson Memorial Association, Vol. 10, pp. 64–5.

[5] Letter to John W. Eppes, June 24, 1813. Andrew A. Lipscomb, Ed. 1904. *The Writings of Thomas Jefferson.* Washington, DC: The Thomas Jefferson Memorial Association, Vol. 3, p. 272.

[6] See the table in Henry C. Adams. 1917. "Financial Management of a War." In National Bank of Commerce in New York. *War Finance Primer.* New York: National Bank of Commerce, p. 69. Gallatin's concern was mostly about the interest rate that the government would have to pay to attract private capital. Alexander S. Balinky. 1959. "Gallatin's Theory of War Finance." *William and Mary Quarterly,* 16(1): 73–82.

the way they were for private individuals. Any agreement with the ruler had to be **self-enforcing**; meaning that the incentives for the ruler had to be structured such that he would want to fulfill his obligations under that contract.

Borrowing by sovereign rulers, then, comes with a host of issues that need to be resolved for credit to become readily available, affordable, and the resulting debt sustainable. All of these revolve around the debtor's ability and willingness to service the debt. There are three generic reasons why a debtor might not service the debt. First, he could have problems with **liquidity** — even though he does have the economic assets to repay, he does not have ready access to cash to service the debt when the contracted payment is due. Liquidity problems are temporary, and so lenders are far more likely to tolerate them. Second, the debtor could be **insolvent** — the cost of debt service exceeds the value of his assets. When this happens, he is simply unable to meet his obligations, putting lenders in precarious position with respect to their investment. Third, the debtor could be solvent but **unwilling** to pay — this can happen if he prefers to spend his money on things other than servicing the debt. As we shall see, this can be just as bad as real insolvency for the lenders.

Since liquidity problems are temporary, creditors and borrowers should be able to coordinate on deals that tide the loan over the rough patch and allow debt service to resume. We shall deal with the far more serious problems of insolvency and unwillingness to pay. It is important to realize that when it comes to sovereign borrowers, solvency is a matter of public finance — it refers to the government's ability to raise enough revenue (usually from taxation), not to the country's overall wealth. This means that governments might become insolvent when domestic political turmoil causes their income to decline and they are unable to effectively assert their authority for a period of time. This can happen as a result of rebellion, civil war, or secession, all of which can cause the government to lose important sources of revenue, not to mention that the disturbances can also affect tax receipts by depressing production, consumption, and trade. Governments might also become insolvent due to their involvement in a war. Tax receipts can suffer catastrophic decline when fighting shrinks the volume of trade and when it causes manpower and economic losses that cannot be recovered from in the immediate future. Destruction of infrastructure and resources can be particularly problematic in that regard. Suffering defeat can also exacerbate solvency problems because it might result in the collapse of fiscal institutions, forcible extraction of reparations (by occupying territory and appropriating its income), and outright confiscation of property and territory by the victor. All of these can cause a drastic fall in the tax revenue, which will be especially painful when the government has assumed a large debt precisely in order to fight that war.

When conflict, and especially defeat in conflict, threatens the government with insolvency, lenders might have strong incentives to help the government avoid that outcome. This means that lenders might be willing to provide additional funds if doing so increases the likelihood that disaster will be averted. This means that *wars might be prolonged past the point where an actor would have collapsed from attrition of his fiscal resources because of the financial stakes of his lenders.* It is not that lenders are profiting from prolonging the war, it is that they are interested in propping the government in order to avoid losing their investment. As defeat becomes more certain, these incentives weaken because there is no sense in throwing good money after bad. The government may suddenly find itself cut off from loans, and the war effort can collapse very quickly.

For example, part of the explanation for Habsburg Spain's ability to sustain its long struggle with France during the Thirty Years War despite Castile's great inferiority in resources lies in the readiness of the emphCortes to keep the monarchy afloat, mostly because its members were creditors to the Crown and had a vested interest in its victory despite setbacks and partial defaults, like the 1627 bankruptcy which wiped out the Genovese banking houses.[7]

Insolvency causes an involuntary default on debt obligations, and in this sense is not as egregious as the voluntary decision not to service the debt even though funds are, in principle, available. This can happen when the ruler judges it more important to use the funds to pursue other policies, often for political reasons. For instance, it might make political sense to subsidize actors (e.g., by providing tax relief) on whose support the ruler relies for staying in power at the expense of lenders if the latter are not crucial for that purpose. Placating the armed forces might take precedence over satisfying creditors. Rebuilding defenses or infrastructure destroyed in a war might be of immediate concern, pushing debt service to the back burner. In short, there could be numerous reasons why a ruler, who might have borrowed the money with the best intentions to repay it, can find it preferable not to service the loan, at least for a period of time. This is where sovereignty bites.

When a private individual fails to honor the contractual obligations he has assumed, the creditor usually has a number of legal remedies to enforce his claims. These can range from confiscation of the security (e.g., foreclosure on a home) to seizure of assets (e.g., liens on salary), and to imprisonment (debtors' prisons existed until about mid 19th century in Europe and are still in use in some parts of the world today). The effectiveness of these remedies depends on the enforcement mechanism, and when it comes to a sovereign borrower — whether it is a king or a national government — there is none. There is no entity to compel a sovereign to honor his commitments, which means that lenders must confront potential enforcement problems.

There are two general ways of dealing with a sovereign borrower who seems unwilling to service a loan.[8] First, lenders could **confiscate assets** of the ruler if they can. This might only be possible for foreign creditors, and then only if the ruler has such assets in places where they can seize them. If the creditor is another government, it can confiscate investments in its own jurisdiction, impound ships in its ports, or seize goods in transit. Private lenders have no recourse to these means of enforcement, and so the amount they can recover would be negligible relative to the loan. Domestic lenders, on the other hand, will not have much recourse because using force against the ruler would be tantamount to rebellion. In general, lenders have no means of coercing payments from sovereign borrowers.

Second, creditors can **renegotiate the terms of the loan**. They can simply tolerate arrears hoping that the ruler's incentives will change and he will resume debt service. They can **reschedule** the debt by lengthening the time for service and perhaps freezing the interest charges at the current term level. They can also **restructure** the debt by renegotiating the terms of service (e.g., lowering the interest rates) or providing new loans to finance the repayment of the existing ones. This is a very common way of dealing with non-performing

[7] Ronald G. Asch. 1997. *The Thirty Years War: The Holy Roman Empire and Europe, 1618–48.* New York: Palgrave, p. 168–9.

[8] Jonathan Eaton. 1993. "Sovereign Debt: A Primer," *The World Bank Economic Review,* 7(2): 137–72. Eaton adds the possibility of a bailout by new lenders but we shall not consider this as it was quite rare.

sovereigns because it offers the prospect of recovering at least part of the expected return on investment. Lenders can also **forgive** all or part of the debt by writing it off and absorbing the resultant losses themselves.

Why would lenders agree to roll the debt or forgive it? Without the means to coerce payment from the sovereign, the creditors' best hope is to remain in his good graces until he chooses to make good on his obligations. This means that lenders must cooperate with the ruler when he is in financial distress. Recalcitrant lenders who refuse to accommodate rulers in trouble might find themselves shut off from dealings with him altogether. If and when payments resume, their loan will be the last to be serviced, if at all. Lenders can thus improve their prospects by writing off part of the debt service in exchange for higher expectations of recovering the remainder.

In situations like this lenders also face a **coordination problem** among themselves: if they all agree to hold out until the absence of fresh credit forces the ruler to honor his debt obligations, they will all be better off. However, the ruler can play lenders off against each other: he can offer to service the debts to those who cooperate with him in restructuring the loans and repudiate the debts to those who do not (alternatively, lenders might worry that he might find entirely new sources of credit). Lenders are now in a precarious strategic position. If they could trust each other to maintain unity, they will all benefit. However, for each individual lender this strategy is very risky: if some of his counterparts cooperate with the ruler, that individual lender will be saddled with the worst possible outcome; if that lender, on the other hand, cooperates himself, he will forego the best outcome but will at least guarantee himself some debt service. When the level of trust is low (as it would be with multiple lenders, especially if they do not know each other), any one of them might worry that some would not maintain unity. This increases the risk of being stuck with the worst outcome, and so increases the individual incentive to defect. But because the others are aware of this reasoning, the logic causes them to be alarmed about the possibility of being stuck with the worst outcome, and this increases their incentives to defect. In effect, each lender is afraid that others are afraid of him defecting, and so each becomes more likely to defect. Whatever trust might have existed initially quickly evaporates in this mutual alarm; the prospect for coordination disappears, and lenders end up cooperating with the ruler.[9]

Thus, lenders must expect that under some circumstances the ruler will force them to absorb some losses. The inability to enforce the terms of debt service on a sovereign ruler creates a **commitment problem** for his borrowing. Lending to such a ruler is far riskier and potentially costlier than to an actor that is too weak to renege on the terms of the contract. However, it is also potentially vastly more profitable, especially if these risks can be mitigated or at least accounted for in the loan terms.

2 Interest Rates and Credit Rationing

Lenders can **share the risks** with the ruler by demanding higher interest rates when these risks are high. The obvious danger with this, however, is that by making debt service more expensive, high interest rates might also make default more likely. This is especially prob-

[9]For those interested in these things, the lenders are in a Stag Hunt game, where everyone defecting is the risk-dominant Nash equilibrium even though everyone maintaining unity is the Pareto-dominant one.

lematic because even solvent rulers might strategically default on their debt obligations in order to avoid the high interest charges and obtain better terms at concessionary rates from lenders fearful of losing their investment altogether. Thus, the attempt to share risks with the ruler might backfire because it creates a **moral hazard** problem. The ruler's **reputation** for honoring his debts can serve as some indication about the likelihood that he will succumb to that temptation, but even this mechanism, as we shall see soon, can be imperfect in a world where many creditors stand ready to reap the substantial profits from dealing with sovereign rulers.

When faced with this inability to take full account of the risks of their loans, lenders might respond by **rationing credit**; that is, they can refuse to lend above certain amounts despite promises of attractive interest rates (which they know the ruler might be unable or unwilling to honor). Since it is large debts and high interest rates that put the commitment to debt service in doubt, lenders need to have a fairly decent idea about these before they can determine the need to impose loan ceilings. In other words, for credit rationing to occur, creditors would know to know the total amount of debt the ruler is assuming and the terms under which this is happening. This would not normally be the case — rulers tended to deal privately with numerous lenders with contracts on different terms, and even when the government did know the size of obligations it was assuming, it would not necessarily wish to share that with potential lenders. Because of this asymmetric information, sovereign borrowers might incur unsustainable debt that far exceeds the ceiling the lenders would have wanted to impose if they had access to that information. But creditors must be aware of this, and so some have concluded that this should lead them to withhold credit altogether.[10]

Setting aside the fact that with domestic lenders the ruler has the option of resorting to coercive methods (e.g., demand loans from venal office-holders and threaten to impose fees for their right to the offices or otherwise reduce their benefits; inflate the currency and pay back the debt in depreciated money), let us consider the logic of credit drying up completely. Since the reputational mechanism is supposed to function by denying credit to rulers who have failed to live up to their obligations, this argument also applies to it. Suppose that because of fears that the debt has exceeded the manageable ceiling or because the ruler has broken his commitment to repay, the lenders refuse to provide further loans. To make the argument even clearer, suppose that the ruler cannot force them to and he has no alternative sources of credit. Does this mean that nobody would lend him anything?

No, it does not, and here's why. If nobody is supposed to lend anything to the ruler, the ruler would be desperate for funds. This means that there would be huge profits for the few lenders that step in to provide loans. If the ruler has already defaulted on existing loans, they would obtain first dibs on payments when revenue starts flowing back into the treasury. Since the total amount the few lenders can provide is less likely to reach the debt ceiling that would have provoked default, the investment is less risky. And even if the total debt is not sustainable, these few lenders can expect the ruler to reward them for their cooperation by giving priority to their loans at the expense of those from non-cooperative creditors. But each individual lender is faced with the same incentive, and so the **coordination problem** arises yet again, causing many to provide credit when they are not supposed to. The enforcement mechanism falls apart, and the ruler (again) obtains

[10] Eaton, "Sovereign Debt," p. 152.

access to loans without having to resort to coercion.

Another factor that weakens the incentive to punish rulers by withholding credit is the use of that credit to increase the likelihood of debt service. Although we considered the possibility that high interest rates or large total amounts of borrowing could cause default by inducing a moral hazard problem, we did not consider the possibility that they might decrease the risk of default by making it possible for the ruler to increase his revenue. When loans that are used to finance war, borrowing increases the ruler's ability to fight, and so must drive up the expected payoff. With victory more likely, peace terms will also become more attractive, and the ruler can use the resources extracted from the opponent to repay the war loans. With civil wars or rebellions, the victorious ruler can expropriate the defeated opposition and transfer their wealth to his supporters.

So where does this leave us? It would appear that lenders had neither the coercive means to enforce debt contracts with sovereign rulers nor the ability to coordinate on a credible threat to withhold credit to make these contracts self-enforcing. And yet the credit system more or less worked: credit was mostly available, at varying rates of interest, and rulers did their best to avoid defaulting on their obligations. When such defaults did occur, they were often in the wake of costly wars that did not turn the expected profits, or expensive foreign policies that failed to secure the goals they were designed for, or drastic shortfalls in revenue resulting from economic slumps or civil disturbances. In other words, it appears that rulers mostly kept to their word, and when they did violate the terms of the loans, it was in exigencies where they had strong political or economic incentives to do so. Even though such defaults might bankrupt the lenders sometimes, most creditors made vast profits on their dealings with sovereign borrowers most of the time.

3 Incentives to Honor Debts

Why did rulers try so hard to keep their end of these contracts? We first explore the individual incentives of rulers and then turn to institutional incentives. When it comes to the ruler, we can think of at least two reasons, probably best encapsulated by proverbs: do not kill the goose that lays the golden eggs, and do not bite the hand that feeds you.

The first reason is that the immediate benefit from defaulting on debt service might impoverish the current lenders (in the extreme they might go bankrupt), forcing the ruler to look for new sources of credit. Finding reliable and cooperative creditors can involve significant **transaction costs**, and could be a risky enterprise, especially if there is an emergency that requires ready access to new loans. It is therefore in the long-term interest of the ruler to ensure that the creditors he knows to be reliable — both because they are able to supply the loans he needs when he needs them and because they are willing to cooperate given the policies he wishes to implement — remain solvent. Negotiating with known entities is easier, cheaper, and more predictable than seeking out new ones, risking them being unable to raise the needed funds, and hoping that they would want to support the policies that need financing. These medium-term costs and risks that default might entail can outweigh its short-term benefits, providing rulers with incentives to perform with both established foreign creditors and important members from the domestic elite. (This can also account for why rulers could be tolerate the profits these creditors would obtain — the richer the cooperative lenders, the more credit will they provide, and the better the terms they will offer. It also explains why rulers would prefer to restructure the debt than default on it outright.)

This logic does not work if the default would not seriously threaten the creditors or if there are other lenders that are just as attractive as the current ones. For example, extorting loans and debt forgiveness from from thousands of venal officers or repudiating some of the bonds held by the public at large cannot be prevented by that concern: the amount each individual loses might not in general cause an outright bankruptcy, and with a large enough credit market, there might be enough potential lenders to provide loans even after many have gone under. What is to prevent the ruler from defaulting in these cases?

When the group bearing the costs of this default is also one whose support is important for the ruler politically — e.g., because they are important in tax collection or running the administrative apparatus, or because they are key in securing cooperation for his policies — then imposing costs on its members might have serious repercussions for their willingness to cooperate on other issues. Influential members of the elite cannot be imposed upon with impunity. Their support needs to be cultivated, so when they also happen to be creditors, the ruler's incentives to transfer costs onto them will be correspondingly weaker.

Atomistic lenders are not important enough individually (e.g., members of the bond-holding public) for a threat to behave uncooperatively in policy-making or execution to have any effect. However, since confiscating wealth always causes discontent, doing this on too large a scale can turn discontent into grievances — especially if default appears willful — and grievances can spill over into civil disturbances, riots, and perhaps even revolts, which the ruler has to contain and put down at some cost. More generally, a disgruntled public is more likely to evade paying taxes and support opponents to the ruler. When influential members of the elite are among those whose wealth is being expropriated by the default, it is more likely that widespread discontent will become coordinated, making it even more dangerous. These costs and risks can also outweigh the short-term benefits of default, and so provide enough of a disincentive to engage in it. It also explains why rulers genuinely threatened with insolvency might prefer to restructure their debts rather than repudiate them outright.

We conclude that *rulers are more likely to honor their debt obligations when there are few politically reliable lenders capable of extending loans in desired amounts, and when lenders can impose political or enforcement costs upon default.*

These two arguments further imply that as the credit markets grow and as alternative sources of credit become available, the commitment problem will begin to reassert itself. Rulers without the ability to make promises binding on themselves will find themselves at a serious disadvantage relative to those that do. Moreover, when rulers borrow from their own elites, those that are more dependent on their elites will be less likely to default, and so their promises to honor their debts would be more credible. Political institutions that combine these features would be especially capable of borrowing at low interest rates because they lower the risks of loaning to the ruler (who is, in effect, no longer truly sovereign). Because they also decrease moral hazard, these institutions will also limit credit rationing, increasing the total debt that can be made available to the ruler.

As with taxes, parliaments with control of the purse and some oversight of expenditure (or policy-making) can provide the institutional structure for these incentives to emerge, especially if parliament members are creditors themselves. To see this, consider a situation where parliament controls the purse, and the ruler can only borrow with parliamentary approval. Parliament can then earmark a particular tax (possibly a new levy) to service the state debt, which is called **funded debt** in this case. A tax that is agreed upon at the time the loan is contracted and that is designed specifically to help pay for that loan provides decent security to the lenders. First, they know the source of income that the government will rely on to pay them back. Second, although it is, in principle, possible that parliament will renege on its promises too, this is less likely because many of those sitting in parliament have strong interests in servicing the debt either because they are creditors themselves, or because they are involved in dealings with creditors, and so would be indirectly vulnerable when a default hits those. Third, through its control of the purse, parliament can exercise influence on policy, and thus reduce the moral hazard problem, which decreases the probability that the ruler will engage in behavior that will make default more likely.

The last two reasons do not even depend on the debt being backed with a specific tax security — they operate just as well for the case of **unfunded debt**, which is contracted with only the promise to repay from government revenue, not from a specific source. Thus, a parliament that controls the purse can provide a safer and more predictable environment for lenders, and so borrow at lower rates and with little or no credit rationing. In other words, control of the purse enables parliaments to reduce the moral hazard problem of the ruler while simultaneously committing more credibly to debt service themselves. This opens up the flow of loans and taxes.

To summarize, *parliaments with effective control of the purse (and/or control of ruler's expenditures) can reduce the moral hazard problem of an unconstrained ruler without creating a commitment problem for themselves. This enables rulers to borrow more cheaply and without credit rationing, which in turn requires the higher taxes that these parliaments can deliver.*

With lower risks and the policy continuity provided by these institutions, lenders can also loan for longer periods of time. From short-term loans of half a year to a year, public credit can evolve to long-term loans, then to loans that offer little prospect of redeeming the principal over the lifetime of the lender but that do provide for a secure payment of interest (and with those, the ability to trade the title to the debt), and eventually to permanent debt of indefinite duration but with safely stable interest payments. The shift from short-term to long-term debt also creates vested interests in the stability of the regime under which the debt was contracted because otherwise there would be a risk that obligations would not be honored. In other words, perpetual debt might well help rulers stay in power as long as they reliably continue to service it.