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Could/should Jubilee debt cancellations be reintroduced today? If not, what alternative measures of debt relief and redistribution might be possible?

Michael Hudson and Charles Goodhart

Abstract

In this paper the authors recall the history of Jubilee debt cancellations, emphasizing what their social purpose was at that time. They note that it would not be possible to copy that procedure exactly nowadays, primarily because most debt/credit relationships are intermediated via financial institutions, such as banks, insurance companies, etc., rather than by governments or wealthy families directly. But they argue that the underlying social purpose of such Jubilees – to keep debt within the reasonable ability to be paid without social and economic polarisation – could be recreated via alternative mechanisms, and they discuss the politico-economic arguments for, and against, doing so.

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1 Introduction

In many countries the biggest debtor is the public sector. Such debt will ultimately be paid by the taxpayers of each country, unless it is defaulted or inflated away. But the creditors in many, perhaps most, countries are also primarily locals, for example pension funds holding government debt. We owe the debt to ourselves.[1] This has led to renewed interest in the question whether we could not just cancel such internal debt.

Moreover in the long distant past such debt-cancellation, Jubilees, were not only common, but had a successful social stabilization function. In the first part of this paper this (generally forgotten) history is reviewed. This account summarizes the contents of Prof. Hudson's much longer book "…and forgive them their debts": *Credit and Redemption From Bronze Age Debt Remissions to the Jubilee Year*, scheduled for publication in late August this year (2018). For more detailed discussion see Hudson and Van Mieroop (2002).

The structure of our economies has, naturally, changed greatly over recent millennia. In particular, the relationships between creditor and debtor are no longer usually direct, but much more often intermediated via financial institutions, such as banks, money managers and insurance companies. We argue that this makes straightforward cancellation not (politically) feasible under present circumstances. But this does *not* mean that the objectives of Jubilees, that is a reduction in wealth inequality and debt relief, cannot be attained in other ways. So, the second half of this paper involves an assessment of several mechanisms that could help to achieve such ends.

The idea of annulling debts nowadays seems so unthinkable that most economists and many theologians doubt whether the Jubilee Year could have been applied in practice, and indeed on a regular basis. A widespread impression is that the Mosaic debt jubilee was a utopian ideal. However, Assyriologists have traced it to a long tradition of Near Eastern proclamations. That tradition is documented as soon as written inscriptions have been found – in Sumer, starting in the mid-third millennium BC. [A chronology of such Jubilees is appended to this paper.]

Instead of causing economic crises, these debt jubilees preserved stability in nearly all Near Eastern societies. Economic polarization, bondage and collapse occurred when such clean slates *stopped* being proclaimed.

2 What were Debt Jubilees?

Debt jubilees occurred on a regular basis in the ancient Near East from 2500 BC in Sumer to 1600 BC in Babylonia and its neighbors, and then in Assyria in the first millennium BC. It was normal for new rulers to proclaim these edicts upon taking the throne, in the aftermath of war,

[1] The analysis is more complex where such debt is held by foreigners or denominated in foreign currencies.

or upon the building or renovating a temple. Judaism took the practice out of the hands of kings and placed it at the center of Mosaic Law.[2]

By Babylonian times these debt amnesties contained the three elements that Judaism later adopted in its Jubilee Year of Leviticus 25. The first element was to cancel agrarian debts owed by the citizenry at large. (Mercantile debts among businessmen were left in place.)

A second element of these debt amnesties was to liberate bondservants – the debtor's wife, daughters or sons who had been pledged to creditors. They were allowed to return freely to the debtor's home. (Slave girls that had been pledged for debt also were returned to the debtors' households.) Royal debt jubilees thus freed society from debt bondage, but did not liberate slaves.

A third element of these debt jubilees (subsequently adopted into Mosaic law) was to return the land or crop rights that debtors had pledged to creditors. This enabled families to resume their self-support on the land and pay taxes, serve in the military, and provide corvée labor on public works.

Commercial "silver" debts among traders and other entrepreneurs were *not* subject to these debt jubilees. Rulers recognized that productive business loans provide resources for the borrower to pay back with interest, in contrast to consumer debt. This was the contrast that medieval Schoolmen later would draw between interest and usury.

Most non-business debts were owed to the palace or its temples for taxes, rents and fees, along with beer to the public ale houses and other payments to these institutions. Rulers initially were cancelling debts owed mainly to themselves and their officials. This was not a utopian act, but was quite practical from the vantage point of restoring economic and military stability. Recognizing that a backlog of debts had accrued that could not be paid out of current production, rulers gave priority to preserving an economy in which citizens could provide for their basic needs on their own land while paying taxes, performing their corvée labor duties and serving in the army.

Most personal debts were not the result of actual loans, but were accruals of unpaid agrarian fees, taxes and kindred obligations to royal collectors or temple officials. Rulers were aware that these debts tended to build up beyond the system's ability to pay. That is why they cancelled "barley" debts in times of crop failure, and typically in the aftermath of war. Even in the normal course of economic life, social balance required writing off debt arrears to the palace, temples or other creditors so as to maintain a free population of families able to provide for their own basic needs.

As interest-bearing credit became privatized throughout the Near Eastern economies, personal debts owed to local headmen, merchants and creditors also were cancelled. Failure to write down agrarian debts would have enabled officials and, in due course, private creditors, merchants or local headmen to keep debtors in bondage and their land's crop surplus for themselves. Crops paid to creditors were not available to be paid to the palace or other civic

[2] The history of debt jubilees is summarized in Prof. Hudson's forthcoming book "… and forgive them their debts": Credit and Redemption From Bronze Age Debt Remissions to the Jubilee Year, scheduled for publication spring. For more detailed discussion see Hudson and Van De Mieroop (2002).

authorities as taxes, while labor obliged to work off debts to creditors was not available to provide corvée service or serve in the army. Creditor claims thus set the wealthiest and most ambitious families on a collision course with the palace, along the lines that later occurred in classical Greece and Rome. In addition to preserving economic solvency for the population, rulers thus found debt cancellation to be a way to prevent a financial oligarchy from emerging to rival the policy aims of kings.

Cancelling debts owed to wealthy local headmen limited their ability to amass power for themselves. Private creditors therefore sought to evade these debt jubilees. But surviving legal records show that royal proclamations were, indeed, enforced. Through Hammurabi's dynasty these "*andurarum* acts" became increasingly detailed so as to close loopholes and prevent ploys that creditors tried to use to gain control of labor, land and its crop surplus.

Fast-forward to today's world. The most recent financial clean slate was the 1948 Allied Currency Reform of Germany. Basic business debts were left in place, along with employer debts to employees. The population was allowed to keep minimum working balances. But the residue of debts was cancelled, on the logic that most were owed to former Nazis. Applauded as a "free market," Germany's economy was freed from the postwar debt legacy that had shackled it after World War I. The aftermath in 1948 left Germany's economy effectively debt-free, paving the way for the Economic Miracle that followed.

3 Social purpose of Debt Jubilees

The common policy denominator spanning Bronze Age Mesopotamia and the Byzantine Empire in the 9th and 10th centuries was the conflict between rulers acting to restore land to smallholders so as to maintain royal tax revenue and a land-tenured military force, and powerful families seeking to deny its usufruct to the palace. Rulers sought to check the economic power of wealthy creditors, military leaders or local administrators from concentrating land in their own hands and taking the crop surplus for themselves at the expense of the tax collector.

By clearing the slate of personal agrarian debts that had built up during the crop year, these royal proclamations preserved a land-tenured citizenry free from bondage. The effect was to restore balance and sustain economic growth by preventing widespread insolvency.

Babylonian scribes were taught the basic mathematical principle of compound interest, thereby increasing the volume of debt exponentially, much faster than the rural economy's ability to pay,[3] an argument recently revived by Thomas Piketty (2014). That is the basic dynamic of debt: to accrue and intrude increasingly into the economy, absorbing the surplus and transferring land and even the personal liberty of debtors to creditors.

Debt jubilees were designed to make such losses of liberty only temporary. The Mosaic injunction (Leviticus 25), "Proclaim liberty throughout the land," is inscribed on America's

[3] For a repertory of how writers have shown the impossibility of compound interest being paid, starting with Babylonian scribal training texts in mathematics, see Michael Hudson (2015).

Liberty Bell. That is a translation of Hebrew *deror*, the debt Jubilee, cognate to Akkadian *andurarum*. The liberty in question originally was from debt peonage.

To insist that all debts must be paid, regardless of whether this may bankrupt debtors and strip away their land and means of livelihood, stands at odds with the many centuries of Near Eastern clean slates. Their success stands at odds with the assumption that creditor interests should always take priority over those of the indebted economy at large.

In sum, the economic aim of debt jubilees was to restore solvency to the population as a whole. Many royal proclamations also freed businesses from various taxes and tariff duties, but the main objective was political and ideological. It was to create a fair and equitable society.

This ethic was not egalitarian as such. It merely aimed to provide citizens with the basic minimum standard needed to be self-sustaining. Wealth accumulation was permitted and even applauded, as long as it did not disrupt the normal functioning of society at large.

4 How well did Debt Jubilees succeed?

Creditors sought to avoid these laws, but Babylonian legal records show that the debt cancellations of Hammurabi's dynasty and those of his neighbors were enforced. These proclamations enabled society to avert military defeat by preserving a land-tenured citizenry as the source of military fighters, corvée labor and the tax base. The Bronze Age Near East thus avoided the economic polarization between creditors and debtors to anywhere near the extent that ended up imposing bondage in classical Greece and Rome.

In the 7th-century BC, Greek populist leaders called tyrants (at that time with no original pejorative meaning) paved the way for the economic takeoff of Sparta, Corinth and Aegina by cancelling debts and redistributing the lands monopolized by their cities' aristocracies. In Athens, Solon's banning of debt bondage and clearing the land of debts in 594 BC avoided the land redistributions to the rich and powerful that much of the population had feared.

So popular was the demand for a debt jubilee that the 4th-century BC Greek general Aeneas Tacticus advised attackers of cities to draw the population over to their side by cancelling debts, and for defenders to hold onto the loyalty of their population by making the same offer.[4] Cities that refrained from cancelling debts were conquered, or fell into widespread bondage, slavery and serfdom.

That ultimately is what happened in Rome. Its historians describe how disenfranchising indebted citizens led to the hiring of mercenaries (often debtors expropriated from their family homestead), as wealthy creditors concentrated land in their own hands, along with law-making

[4] In Chapter XIV of his book, On the defence of fortified positions, Aeneas Tacticus (c. 357─356 BC) makes suggestions for securing loyalty: "it is of primary importance to win over the mass of the citizens to a spirit of loyalty … and in the case of the debtors by a reduction or complete cancellation of interest, and, in cases of especially danger, of some part of the principal, or even all of it when necessary; for such men as these are the most formidable adversaries. Adequate provision must also be made for those who are in want of the necessities of life." (translated by W. A. Oldfather, Loeb Classical Library, London and New York, 1923, p. 17.)

power and control of state religion. What, instead, threatened the security of widely-held property and ultimately led to collapse was the financial oligarchy's ending of the power of rulers to restore liberty from bondage and to save debtors from being deprived of land tenure on a widespread scale.

Plutarch's lives of Sparta's kings Agis and Cleomenes shows a problem of cancelling mortgage debts other than those owed by owner-occupants. A land speculator had bought property on credit, and hoped to have his debts annulled along with those of smallholders who were supposed to be the nominal beneficiaries. One can well imagine cancelling today's mortgage debts of investors who have bought their real estate on credit, with the loan to be paid out of the rent. Instead of the bankers or the tax collector receiving the rental value, the landlords would be by far the greatest windfall gainers. Plutarch's narrative shows that if all property debts were cancelled, it would be necessary to adjust the tax system to collect the appropriate rental value of such properties in the tax base, in order to prevent a windfall gain. Otherwise, absentee owners would gain instead of the actual occupants and users of the economy's debt-financed real estate.

5 Why did debt Jubilees fall into disuse?

Throughout history a constant political dynamic has been maneuvering by creditors to overthrow royal power capable of enforcing debt amnesties and reversing foreclosures on homes and subsistence land. The creditors' objective is to replace the customary right of citizens to self-support by its opposite principle: the right of creditors to foreclose on the property and means of livelihood pledged as collateral (or to buy it at distress prices), and to make these transfers irreversible. The smallholders' security of property is replaced by the sanctity of debt instead of its periodic cancellation.

Archaic restorations of order ended when the forfeiture or forced sale of self-support land no longer could be reversed. When creditors and absentee landlords gained the upper political hand, reducing the economic status for much of the population to one of debt dependency and serfdom, classical antiquity's oligarchies used their economic gains, military power or bureaucratic position to buy up the land of smallholders, as well as public land such as Rome's *ager publicus*.[5]

Violence played a major political role, almost entirely by creditors.[6] Having overthrown kings and populist tyrants, oligarchies accused advocates of debtor interests of being "tyrants" (in Greece) or seeking kingship (as the Gracchi brothers and Julius Caesar were accused of in Rome). Sparta's kings Agis and Cleomenes were killed for trying to cancel debts and reversing

[5] Arnold Toynbee, *Hannibal's Legacy* (1965), as well as Livy's *History of Rome*, emphasize the monopolization of Rome's land, above all by creditors and political insiders disenfranchising smallholders.

[6] For a modern analogue, see Acemoglu et al. (2017).

the monopolization of land in the 3rd century BC. Neighboring oligarchies called on Rome to overthrow Sparta's reformer-kings.[7]

The creditor-sponsored counter-revolution against democracy led to economic polarization, fiscal crisis, and ultimately to being conquered – first the Western Roman Empire and then Byzantium. Livy, Plutarch and other Roman historians blamed Rome's decline on creditors using fraud, force and political assassination to impoverish and disenfranchise the population. Barbarians had always stood at the gates, but only as societies weakened internally were their invasions successful.

Today's mainstream political and economic theories deny a positive role for government policy to constrain the large-scale concentration of wealth. Attempting to explain the history of inequality since the Stone Age, for instance, Stanford historian Walter Scheidel's (2017) book *The Great Leveler* downplays the ability of State policy to reduce such inequality substantially without natural disasters wiping out wealth at the top. He recognizes that the inherent tendency of history is for the wealthy to win out and make society increasingly unequal. This argument also has been made by Thomas Piketty (2014) and based largely on the inheritance of great fortunes (the same argument made by his countryman Saint-Simon two centuries earlier). But the only "solutions" to inequality that Scheidel finds at work are the four "great levelers": warfare, violent revolution, lethal pandemics or state collapse. He does not acknowledge progressive tax policy, limitations on inherited wealth, debt writeoffs or a replacement of debt with equity as means of preventing or reversing the concentration of wealth in the absence of an external crisis.

The Book of Revelation (6:12–14, 8:6–13 and 9:1–2) forecast plagues as punishment for the greed and inequity into which the Roman Empire was falling. By Late Roman times there seemed no alternative to the Dark Age that was descending. Recovery of a more equitable past seemed politically hopeless, and so was idealized as occurring only by divine intervention at the end of history. Yet for thousands of years, economic polarization was reversed by cancelling debts and restoring land tenure to smallholders who cultivated the land, fought in the army, paid taxes and/or performed corvée labor duties. That also would be Byzantine policy to avoid polarization from the 7th through 10th centuries, echoing Babylonia's royal proclamation of clean slates.

Within Judaism, rabbinical orthodoxy attributed to Hillel developed the *prosbul* clause by which debtors waived their right to have their debts cancelled in the Jubilee Year. Hillel claimed that if the Jubilee Year were maintained, creditors would not lend to needy debtors – as if most debts were the result of loans, not arrears to Roman tax collectors and other unpaid bills.[8] Opposing this pro-creditor argument, Jesus announced in his inaugural sermon that he had come to proclaim the Jubilee Year of the Lord cited by Isaiah, whose scroll he unrolled. His congregation is reported to have reacted with fury. (Luke 4 tells the story). Like other populist leaders of his day, Jesus was accused of seeking kingship to enforce his program on creditors.

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[7] Plutarch's Lives of the Noble Grecians and Romans tells these stories in dramatic form.

[8] For Hillel and the Prosbul, see Jewish Encyclopedia (1906) cites the mishnah sources: http://www.jewishencyclopedia.com/articles/12390-prosbul. See also Drake (2014).

Subsequent Christianity gave the ideal of a debt amnesty an otherworldly eschatological meaning as debt cancellation became politically impossible under the Roman Empire's military enforcement of creditor privileges. Falling into debt subjected Greeks and Romans to bondage without much hope of recovering their liberty. They no longer could look forward to the prospect of debt amnesties such as had annulled personal debts in Sumer, Babylonia and their neighboring realms, liberating citizens who had fallen into bondage or pledged and lost their land tenure rights to foreclosing creditors.

The result was destructive. The only debts that Emperor Hadrian annulled were Rome's tax records, which he burned in 119 AD – tax debts owed to the palace, not debts to the creditor oligarchy that had gained control of Rome's land.[9]

A rising proportion of Greeks and Romans lost their liberty irreversibly. The great political cry throughout antiquity was for debt cancellation and land redistribution. But it was achieved in such classical times only rarely, as when Greece's 7th-century BC tyrants overthrew their cities' aristocracies who had monopolized the land and were subjecting the citizenry to debt dependency. The word "tyrant" later became a term of invective, as if liberating Greek populations from bondage to a narrow hereditary ethnic aristocracy was not a precondition for establishing democracy and economic freedom.

A study of the long sweep of history reveals a universal principle to be at work: The burden of debt tends to expand in an agrarian society to the point where it exceeds the ability of debtors to pay. That has been the major cause of economic polarization from antiquity to modern times.

6 Why the Jubilee, debt cancellations, cannot now be replicated exactly

During the millennia reviewed earlier, the main credit/debt transactions initially were undertaken directly between the (ultimate) creditor and (ultimate) debtor. The largest credit relationship was between the government and taxpayers. Nowadays a very large proportion of all financial transactions are intermediated via financial institutions. Any attempt to cancel some

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[9] In 119 AD, Emperor Hadrian issued a bronze sestarius coin showing him burning the tax records in Trajan's Forum, recognizing that these taxes were politically uncollectable. "Moreover, he [Hadrian] used every means of gaining popularity. He remitted to private debtors in Rome and in Italy immense sums of money owed to the privy-purse, and in the provinces he remitted large amounts of arrears; and he ordered the promissory notes to be burned in the Forum of the Deified Trajan, in order that the general sense of security might thereby be increased. He gave orders that the property of condemned persons should not accrue to the privy-purse, and in each case deposited the whole amount in the public treasury. He made additional appropriations for the children to whom Trajan had allotted grants of money." *Historia Augusta, The Lif of Hadrian (I.7.5-8)*; also Dio (LXIX.8.1). Cited in http://penelope.uchicago.edu/~grout/encyclopaedia_romana/romanforum/plutei.html

See also Birley (2011, p. 98: "At Rome, the Senate and People jointly erected a monument in the place where the ceremonial burning had taken place. On the base Hadrian was honoured as 'the first of all *principes* and the only one who, by remitting nine hundred million sesterces owed to the *fiscus*, provided security not merely for his present citizens but also for their descendants by this generosity.' The coins would in due course celebrate the act again: 'nine million HS of outstanding debts cancelled' ran the legend, and a lector is shown setting fire to a pile of tax-records. Watched by three gratified taxpayers."

category of debt, say government debt or personal mortgages, would immediately drive those financial intermediaries holding such assets, e.g. banks, pension funds, investment trusts, into insolvency.[10] This is not the place to discuss why financial intermediation, via specialised financial institutions, is economically and socially beneficial. On the maintained assumption that the elimination of financial intermediation is unthinkable, then the simple annulment of almost any category of modern debt is just not possible,[11] (we shall discuss student debt at greater length in Section 8).

The main creditor then in most cases was the King himself (very few Queens), and/or institutions closely aligned with the monarch, i.e. the palace, temples and their officials. It was relatively easy for the King to renounce debts owed directly to himself or the royal institutions, or even [as described earlier in Section 3] to a sometimes substantial proportion of wealthy creditors.

Nowadays, however, governments of our democratic societies are almost invariably large financial debtors, often the economy's most highly indebted sector. There is no likelihood of this reversing; indeed, most long-range fiscal forecasts show a worsening trend. Thus, if the State is to reduce the indebtedness of certain groups in the population (while maintaining its own fiscal solvency), it can do so only by redistributing wealth from the wealthy and powerful. The greater weight of such redistribution in any modern simulacrum of debt cancellation is bound to evince strong opposition from those at the receiving end.

We cannot now exactly replicate the Jubilees of prior millennia. But we can review the social objectives and purposes of such Jubilees, and see if they can be achieved in a revised form. As recorded in Section 3, there were good reasons for a King, especially when first ascending the throne, to proclaim a debt-cancelling Jubilee. What he lost in immediate payment, in grain or silver, he got back by encouraging the maintenance of a landholding peasantry who could, and would, pay future taxes, provide the backbone of the army, and be prepared for some corvée infrastructure building labour (see Section 3). Moreover, rivals to the Crown, foreign enemies or internal upstarts, could foment rebellion by threatening to cancel debts themselves, if the new Monarch did not do so first. Particularly after a bad harvest, the only way that the peasantry could repay their debts would be by selling their land, and/or themselves, as bond-servants, to the wealthy nobles, merchants and landowners. That would change the structure of the State from having a strong centre supported by a wider stratum of small peasant land-owners, to one with a weak centre with a group of separate, subsidiary power centres and a growing substratum of serfs/slaves. History suggests that the second structure is far more unstable than the first, more prone to rebellion, revolt, populism and war.

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[10] An exception is sometimes made with respect to the Central Bank. Since its liabilities are legal tender, it cannot become legally insolvent. So why not just cancel the government debt held by it? Following the adoption of QE, Central Banks hold a lot of such debt! That would put such Central Banks into massive negative equity. Apart from the protests of Central Bankers, the fact that the Central Bank is part of the public sector means that the net indebtedness of that sector would remain effectively unchanged, while the credibility of the Central Bank, and of monetary policy to maintain price stability, would be damaged, perhaps severely.

[11] Some forms of direct debt relief may still be possible, especially in emerging economies, see Kanz (2016) and Dobbie and Song (2015).

Now, as then, powerful underlying forces seem to be conspiring to hollow out the middle of our societies, benefiting the rich, skilled and powerful while the Welfare State partially protects those at the bottom. Society is becoming more polarised. Semi-skilled jobs, both blue and white-collar, are being automated and robots are coming. Drivers will go the way of secretaries, and prostitutes will go the way of law-clerks. There has been, in most advanced countries, little or nothing in the way of increased real earnings for a few decades. In order to maintain demand and to hit their inflation target, Central Banks are encouraging households and corporations to go ever further into debt. They do so by lowering interest rates and flooding the system with liquidity, thereby increasing the value of assets overwhelmingly owned by the already rich. While Central Banks argue, with much justification, that such policies have reduced income inequality by bringing down unemployment, the effect has been to exaggerate wealth inequality.

Such polarisation, in wealth, power and prospects, is unhealthy. What can be done about it?

7 A better alternative

Debt cancellation was almost never intended to be purely redistributive, to take from the wealthy to give to the poor. Instead, the idea was social, to achieve a property-owning class of stakeholders in the society and the economy, who would be prepared to defend it and its institutions. The aim was not just an occasional handout to the poor, sick and needy, but rather to provide the basis for hard-working families to get (or stay) on the property ladder and to develop (and maintain) an on-going business, and, when necessary, a citizens' army.

The redistributional aspect of debt cancellation would be more attractive to those on the left politically, and abhorrent to libertarians and those on the right, who decry social engineering taxation. But the support for a property-owning democracy and small businesses would be more popular with those on the right politically. So, if it was well designed, a modern version of a debt-cancelling Jubilee might have some attractions across most of the political spectrum, with the exception of Libertarians, who would denounce the whole concept of social engineering.

We start the next Section by discussing four possible uses for funds, raised by Jubilee finance, for (first-time) housing, for finance for Small and Medium-sized Enterprises (SMEs), for student loans, and for other purposes. One key factor of our recommendations is that the allocation of such funds should take the form of equity finance (State participation) rather than the cancellation of debt finance. An equity participation (sharing) is morally superior to debt finance, which requires a fixed payment irrespective of success or failure. Existing debt contracts have been taken up (excluding Student Loans) voluntarily, without expectation of any *deus ex machina* in the guise of debt cancellation. So writing them off when they could be repaid seems, in a sense, unfair to the creditors, while causing resentment by those who have indeed paid.

The key problem to be explained is why debt financing ever was used in the first place. The reason why most early financial contracts with traders and other entrepreneurs took the form of debt rather than equity was asymmetric information: The creditor could not easily discover exactly how profitable the debtor's business was. So creditors (initially headed by the palace

and temples in Sumer as the major and paradigmatic creditors) developed debt contracts, with a fixed payment. This arrangement ultimately was backed by an ability to seize land and labour in the case of failure to pay.

Nowadays, however, the availability of big data, and much more accurate information makes the problem of information asymmetry much less of a concern. The continuing preference of many classes of borrowers for debt rather than equity finance is based largely on debt's tax favoritism. The fiscal distortion encouraging debt over equity should be urgently removed – but that is another story, which we will not pursue here.

8 The use of funds

We shall consider four main categories for support by the use of funds raised by a Jubilee.

A property owning democracy.

We no longer live in an agrarian society. The modern analogy to the agricultural small-holdings of past millennia is an affordable dwelling, whether a flat/apartment or house, within reasonable distance of the work-place. One of today's main problems is that housing prices have risen so far that, unless the Bank of Mum and Dad can help or one inherits (housing) wealth, it has become almost impossible to get onto the lower rungs of the housing ladder, at least in major urban areas and in the earlier years of one's working life. Young adults are polarised into a large group who cannot afford to buy housing (on the basis of sensible loan-to-value mortgage ratios), and the wealthier, who can.

We propose a widespread extension of the prior policy of the UK Conservative Government's 'Help to Buy' scheme. In our view this should take the form of an equity participation, along the lines set out in the book by Mian and Sufi (2014, Chapter 12). The State should be prepared to advance up to 15% of the value of the house to first-time buyers, with a cap to the amount advanced – say, 15% of the value of the median value of all houses sold in the prior year. With mortgage providers offering mortgages with an LTV (loan to value) ratio of not more than 80 to 85 percent, the hurdle of needing to accumulate a saved lump sum before becoming a property owner would be drastically reduced.

Since the State would have an equity participation as sleeping partner, when the dwelling came to be sold (or transferred into another name), the State would have the contractual right to demand back 15% of the sales price (or valuation on transfer). The State could insist on maintaining its equity if it believed that the sales price (transfer valuation) had been artificially lowered. Equally the original help-to-buy owner could ask the State to rollover its participation into a new purchase, (subject to the same cap as before), with the understanding that such a request normally would be honored.

The standard criticism of 'help-to-buy' policies is that their main effect is to push up house prices when supply is constrained, *e.g*. by planning regulations. So the benefit to prospective buyers aided by such a scheme is limited, and other prospective buyers would be made worse off. In our case, however, as discussed in the next Section, the funding of the Jubilee would

come mostly, perhaps entirely, from a land and/or property tax. This latter would reduce housing prices, perhaps sharply. The balance between the effect of a broader and more generous 'help-to-buy' scheme on one hand, and its funding via a land/property tax base on the other, would depend on detailed modalities of the scheme beyond the scope of this broad paper. Our expectation, however, is that such a scheme would reduce property prices and keep them more reasonable, especially in urban centres.

Finance for Small and Medium Enterprises (SMEs)

SMEs are risky. A large proportion fail after a few years. That is why banks and other financial intermediaries do not lend to them, except at very high interest rates – unless they can post collateral, usually in the shape of the entrepreneur's own house. Our proposed extended 'help-to-buy' exercise would help with that. Beyond that, however, SME entrepreneurs need outside funding to enable them to accumulate additional capital, finance inventories, and ride out the inevitable but unforeseen setbacks to cash flow.

Equity finance is almost always preferable to debt finance, though some (risk-loving) entrepreneurs would not wish to dilute their ownership. Our proposal is to establish a public sector equity fund to take participatory shares in SMEs seeking additional equity funding. This would be an equity fund, not a public-sector bank as currently envisaged by the UK Labour Party.

For creditors, one of the problems of debt finance is that the up-side is limited to the contractual payment of interest and principal. The key aim of such creditors is to limit risk. That is a basic reason for trying to bail-in such creditors in future bank resolutions. It is far from clear why a public sector bank would be better than a private bank in such risk assessment. However, if the purpose of the exercise is to allow the State to encourage highly risky but potentially valuable start-ups, particularly in high-tech and innovatory fields, then financing (by the State) should take an equity, not a debt, format. But again, one should ask why a public-sector equity fund would do better than private sector equity?

There are several possible reasons why. In many countries there is presently too little private sector equity funding. Also, a public-sector equity fund could take broader social issues into account, as well as taking on higher risk/higher returns projects. It might be cheaper to run and could become more diversified.

But it would be absolutely essential to keep the management of any such fund at arms-length from any form of political control or pressure. Moreover, if the bottom-line of profit maximisation is relaxed, there is a tendency towards inefficiency. The mandate of any public-sector equity fund would need careful drafting, and the choice of management would be crucial. If such management was to become a rest-home for political hacks, the outcome would be disastrous.

Perhaps the key question is whether the private sector provides such insufficient equity funding for SMEs that it is worth going down the admittedly dangerous route of establishing a public sector equity fund for SMEs?

Student Loans

The provision of higher university education is expensive. Such education provides the more gifted and better educated group in each cohort with further skills and human capital. This enables them to raise their incomes, relative to the lesser skilled. There are numerous studies showing the diverging paths of the income of the highly skilled relative to the unskilled and less academically gifted.

Until a few decades ago university tuition was free in most instances. While the State wants its members to be highly skilled, it now requires those who are not rich enough – or whose parents are not – to pay up front with borrowed credit. They then must assume on graduation a severe debt burden, which will hang around their necks for a long, long time. But there was little choice. So it is not surprising that the UK Labour Party proposal in the 2017 election to remove future student debt loads, and even perhaps to cancel prior student debts, was so popular, above all with the young.

Any proposal for a Jubilee debt cancellation therefore must review student loans. There are several ways to cope with the deepening problem of student debt. We hope to generate discussion by suggesting some new twists, applying our equity participation approach to today's debt overhang. Our opinion is that requiring the highly skilled and high earning to repay the State for its public participation in imparting such skills, was correct in principle. The problem was the financing mode. It should have been an equity participation, not debt finance. To reflect its equity character, every student should have to pay a given, calculated share of future incomes, which could not be avoided by paying for tuition up front. So those who would be rich from inherited assets in any case would face a difficult problem: whether to go to university and pay a skill-tithe on the income from inherited assets, or not. This policy might reduce income inequality and assortative marriage.

One of the problems with student debt currently is that it can be fairly easily evaded by disappearing abroad. This would be just another form of tax evasion. What should be done everywhere is to finance university tuition by equity participation. Suppose that all countries require the taxpayer to state their university education on their income tax form. Anyone failing to report, and pay, their university participation equity tithe would be subject to tax evasion penalties, in exactly the same way as tax evasion is handled in other cases.

Another advantage of a student equity participation format is that the upside is not capped. If one of the students founds a new Facebook, the State gets to share, *e.g.* of Zuckerberg's billions. Universities should also, partially, have the objective of creating wealth. It would improve teaching incentives if some (smallish) proportion of the equity participation funding of students was returned directly to the universities where they studied.[12]

Our bottom line is that student loan financing be shifted from debt finance to equity finance. The plan described above is simply an illustration of how this principle might be applied in practice.

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[12] This might discourage theological and classical courses where expected subsequent incomes are low. Would it be good, or bad, to make finance students more plentiful (and cheaper?) and theologians and classicists rarer (and more expensive)?

Other Uses of Funds

In view of the near impossibility of replicating the debt cancellations of prior millennia in the modern context, we have re-interpreted the prior objective of seeking to sustain a property-owning democracy in terms of equity participation by the State to enable any (young) person to afford the down-payment for a home, to finance a start-up business, and to benefit (if academically gifted) from tertiary education. One side benefit of this approach via equity participation is that, in theory and after a long time lapse, such equity participation should provide the State with net funds. So long as the population grows, and becomes richer, real house prices should on balance rise. A public sector equity fund should, if run properly, make a small profit. Equity participation in the subsequent incomes of those going to university should be calibrated at least to break even.

This would not be the case in the early years of such schemes, with a negative cash flow. But over time either the funding/tax imposition could be lowered, or other uses of funds to achieve a more equal property-owning democracy could be considered.

One such idea would be to allocate a lump sum of capital to all babies born in one's country. This would be inalienable in all circumstances, so that no one else, e.g. parent, guardian or trustee, could touch it. It would vest, perhaps 50%, at age 18 to help university or work-related subsistence, and the rest at 25 to help with buying a dwelling. The initial lump sum would be invested in a default portfolio of half blue chip shares (a public sector ETF) and half indexed gilts, unless a case was made (to an independent ombudsman) for a differing portfolio. No connected lending, *e.g*. to a family firm, would be entertained. The sum would be withdrawn if the beneficiary was found guilty of a criminal act prior to vesting (and over the age of 11); this would be a worthwhile disincentive to bad behaviour. It also would be withdrawn if the recipient ceased to be normally resident in their country of birth, with loopholes for military and diplomats posted abroad. There would need to be consideration for families who went temporarily abroad for business reasons, but clearly intended to remain permanently domiciled in their country of birth.

If these schemes were managed well, the lump-sum initial allocation could rise over time. No doubt there are other possible imaginative proposals for sustaining a property-owning democracy. But even if the other three prior equity participation schemes became ultimately self-financing, such lump-sum capital allocation would always need financing.

9 The source of funds – taxing unearned "free lunch" income

In one respect a modern Jubilee could be like that of past millennia. Once societies became agrarian, land ownership became the main source of power and wealth. That continued largely unchanged until the Industrial Revolution. Even though power and wealth have now become more broadly distributed towards human, financial and technological capital, land ownership remains a key index of one's standing in society. Real estate also remains by far the economy's largest asset – so large that it absorbs about 80 percent of bank credit in many countries, with

such credit thereby raising housing and other real estate prices, adding to the economy's debt overhead.

Unlike other forms of wealth, land is fixed, not mobile. The disincentives arising from taxation in reduction of effort, transfer abroad, etc. that apply to most other forms of wealth do not apply to land. With a few exceptions (*e.g*. polders in Holland), land unlike other forms of wealth, was not created by human labor. There is also an ethical case for land taxation that does not apply to most other forms of wealth (at least, not to the same extent). A large proportion of any site's land value is created by beneficial externalities. Most of these result from public spending, e.g., on transportation, parks, schools and other amenities, as well as investment by private developers in the neighborhood.

In particular the State provides peace and security via law, defence and police. Without these services, as Hobbes (Leviathan, 1651) noted, not only would life be brutish and short, but land values would be low and uncertain. Again, the State provides a wide range of services, *e.g.* the value of a property and neighborhood depends on the quality of the above-mentioned schools, hospitals, road and rail transport. Finally, land value depends on the degree to which others want to live and work in the area.

As Adam Smith,[13] John Stuart and other great economists have explained for over two centuries, the owner of urban or raw undeveloped land has done little or nothing to create the bare land value on which a building may be placed. As Mill (1848, Book V. ch II §5) pointed out, the landlord enjoys a rising rental income and hence market price for property "in his sleep."[14] And, of course, there is Henry George (notably *Our Land and Land Policy* (1871). However, capital investment in construction and related development entails a real expense, and as such is less appropriate than land as a subject for taxation. Taxing the bare land value rather than an overall property tax (*i.e*. land plus building) would provide an incentive to develop and supply new housing more rapidly.

The same argument cannot be used for rural land. The shape and appearance of the countryside is a man-made artefact. It would be idiotic to place a tax on national public parks. What could be done would be to assess the broad social value of different forms of rural land usage so as to qualify the land tax. This may sound difficult and bureaucratic, but it would only be an extension of the subsidy procedures for agriculture already in place in many countries, (*e.g*. the Rural Payment Agency, RPA, in the UK). In so far as farm land prices did fall, this could enable a younger and more diverse set of farmers to come into the profession. Estimating bare land values would be difficult, but no more so than for many other objects of value, e.g. art collections.

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[13] "Landlords love to reap where they have not sown, and demand a rent even for its (the land's) natural produce" (Wealth of Nations, Book I, Ch. 6, §8). Landownership privileges "are founded on the most absurd of all suppositions, the supposition that every successive generation of men has not an equal right to the earth … but that the property of the present generation should be … regulated according to the fancy of those who died … five hundred years ago," that is, the Norman conquerors (Book III, Ch. 2, §6).

[14] In Principles of Political Economy, with Some of their Applications to Social Philosophy (1848), Book V, ch. II §5, Mill described rent-yielding properties as enabling their holders to demand payment from society "without any exertion or sacrifice on the part of the owners … Landlords … grow richer, as it were in their sleep, without working, risking, or economizing. What claim have they, on the general principle of social justice, to this accession of riches?"

So our preference would be for a land tax based on pure land values, with a property tax as a fall-back.

A great public benefit of such a tax is that it would immediately lower market prices for land, and hence for housing and commercial properties. Since the threat of such a levy would distort and disrupt valuations and transactions, it might seem logical to impose an initially affordable but steadily rising tax on (bare) land (or property) values, rather than an immediate stochastic jump. A regular low tax rate applied to such land valuations would require such valuations to be kept up-to-date, and would therefore be bureaucratically onerous, but far less so than trying to introduce a broader wealth tax. And because land is immobile, it would have less distortionary effects on the economy, while redistributing wealth from the rich and powerful to a property-owning democracy.

The debt cancellation Jubilees of prior millennia were introduced most typically, as set out in Section 2, immediately upon the succession of a new sovereign. This could be done because most such debts were owed to the royal King himself. It would neither be possible, nor constitutionally acceptable and democratic, to levy a land (or property) tax without prior notice. The legislature would have to agree to it, and the process of valuation undertaken. This means that unless there is a general financial crisis, the path of least resistance to the land tax advocated by most classical economists would have to be gradual, but steadily rising.

10 Arguments for and against

Debt-cancelling Jubilees in prior millennia were a form of social engineering (Sections 2 and 3). They worked well to maintain peace, prosperity and stability, holding inequality in check (Section 4). Their disappearance played a role in ushering in darker ages (Section 5).

We cannot now replicate such Jubilees in a single stroke, because most financial contracts are intermediated via financial institutions, and the Sovereign has mutated from chief creditor to main debtor, (Section 6). But we can try to replicate the former *objectives* of such social engineering. We argue that we can do so best by having the State provide an equity participation in housing, SME financing and tertiary education, (Sections 7 and 8). Ultimately we propose that all young citizens be endowed with a capital stake in the country at birth, (Section 8). Funding for all this should, we believe, be provided a regular tax on (bare) land valuation (or perhaps property tax) as the best way to transfer funds from the wealthy and powerful to construct a property owning democratic society (Section 9).

For some other current proposals in a somewhat similar vein, see Posner and Weyl (2018), and Resolution Foundation (2018).

Those who reject social engineering out of hand will dismiss this. Those who would bear the extra tax would be strongly opposed – since they are, virtually by definition, rich and powerful. They will seek to make such proposals unlikely to get through. This means that a broad public discussion of the issues we have raised needs to be undertaken and popularized.

Fortunately, there is a counter-wave of support for a more fair and efficient fiscal policy. A combination of globalisation, demographic forces and technology has led to widening income

inequality while restraining real wages for the average worker. To offset the deflationary forces these trends have engendered, Central Banks embarked on unprecedented monetary expansion. That had a modest effect of limiting income inequality, but a very great effect on exacerbating wealth inequality, by inflating asset prices vastly more than incomes, perhaps particularly eroding the position of the middle class.

Society has become so polarised between haves and have-nots that this is endangering the stability of our democratic system. This can and should, we believe, be countered by a modicum of social engineering with the aim of recovering the social objectives that underpinned the Jubilees of earlier millennia.

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Appendix

A Chronology of Clean Slates and Debt Revolts in Antiquity

Mesopotamian Debt Cancellations, 2400–1600 BC

The third-millennium Mesopotamian city of Lagash, in southeastern Sumer, is the best documented. Its ruler Enmetena (2404–2375) achieved suzerainty over southern Mesopotamia by defeating neighboring Umma and its allies. After his victory c. 2400 he inscribed the earliest known amargi law cancelling agrarian debts and obligations.

A half-century later Urukagina (2351–42) reformed economic relations. Upon becoming war-leader (*lugal*) in his second year to defend Lagash against Umma, his "reform text" cancelled agrarian debts (2350).

During his reign Lagash and the rest of Sumer was conquered, first by Lugalzagesi of Umma and Uruk (2351–2327) and then by the northerner Sargon of Kish, who ruled Mesopotamia as a military overlord from the new capital he built at Akkad.

In the revival after the collapse of the Akkadian dynasty, the Lagash ruler Gudea restored broad trade relations between Sumer and Egypt, Ethiopia, Anatolia and the Taurus range, Dilmun (the island of Bahrain) and Elam. He has left many inscribed statues, and one of his cylinders contains the longest surviving Sumerian poem (1400 lines), commemorating his rebuilding of the city-temple and how he restored order by cancelling the land's debts at the festival celebrating this occasion c. 2130.

The neo-Sumerian Third Dynasty of Ur (2112–2004 BC) was founded by Ur-Namma (2112–2095). After defeating Lagash and killing its ruler Namhani (Gudea's brother-in-law) in battle in 2112, Ur-Namma led a great extension of trade and installed provisional governors in Elam (Susa), Ashur and Mari. He drew up an extensive body of legal rulings and cancelled debts with a nig.sisa act c. 2100.

His son Shulgi (2094–2047) consolidated Sumerian domination over Mesopotamia. He inscribed the laws of his father and seems to have proclaimed his own debt cancellation.

In the city of Isin the ruler Ishbi-Irra (2017–1985) founded a dynasty comprising fifteen rulers in 223 years. Ishbi-Irra was an Amorite subordinate of Ur's last ruler, breaking away when related Amorite tribesmen and Elamites invaded the land. Many debt cancellations of the Isin rulers survive, starting with the nig.sisa acts of the third Isin ruler, Iddin-Dagan (1974–1954) at the start of his reign c. 1974, and by his successor Ishme-Dagan (1953–1935), probably upon taking the throne in 1953.

Lipit-Ishtar (1934–1924) left a body of legal rulings that, like that of Ur-Namma c. 1923, led off with a nig.sisa debt cancellation in 1934.

During his rule an Amorite dynasty in Larsa established itself with Elamite backing. Its first ruler was the Amorite chieftain Naplanum (2025–2005). The city became a dominant power a century later under Gungunum (1932–1906), who defeated Lipit-Ishtar of Isin. Larsa reached the peak of its influence a century later under two Elamite brothers, Warad-Sin (1834–1823) and Rim-Sin (1822–1763). Rim-Sin reasserted palace authority over the private sector, which had been growing steadily since the demise of Ur III's centralized economy. He "purified the foreheads" of the land's debt-servants c. 1800. After six decades of rule, in 1763, he was defeated by Hammurabi of Babylon.

In the city of Assur, Ilushuma and Erishum proclaim *andurarum* c. 1900, emulated in the 19th century BC by local leaders cancelling debts in the Cappadocian trade colony, Karum Kanesh. This act applied to tariff debts owed on trade, as well as to agrarian debts owed to the palace.

The Amorite dynasty of Babylon comprised eleven rulers in three hundred years (1894–1595). Benefiting from the city's upstream position, its dynasty was founded by Sumaubum (1894–1881), but the actual ruler in Babylon itself was Sumulael (1880–1845), who cancelled debts with a *mîšarum* act. The dynasty's fifth ruler, Sin-muballit (1812–1793) oversaw the first great assertion of Babylonian power. He declared *mîšarum* debt cancellations in 812, 1803 and 1797. His son Hammurapi (1792–1750) headed an alliance that carried Babylon to the height of its power. He declared *misharum* acts in the year of his accession (1792) and in 1780, 1771 and 1762 after defeating Rim-Sin of Larsa.

Hammurabi's son Samsuiluna (1749–12) declared *mîšarum* to restore order upon taking the throne, and again in 1741. Abi-eshuh (1711–1684) likewise declared *mîšarum* upon taking the throne. Ammiditana (1683–1647) likewise cancelled agrarian debts upon his succession, and again in 1662 and 1647. Ammisaduqa (1646–1626) declared *mîšarum* upon his accession, and again in 1636. His *mîšarum* act is the longest and most detailed of all such proclamations. It also is the last Babylonian act on record. In 1595 the city was raided by the Hittites, and then occupied for 370 years by the Kassites, a tribe from the Iranian highlands.

The Old Babylonian period (2000–1600) rulers of many other cities also proclaimed *mîšarum* acts. In Hana (near Mari on the Euphrates) the rulers Kastiliiash, Ammirabih and Sunuh-rammu cancelled debts. In Eshnunna, Abi-madar, Naram-Sin and Ipalpiel (or Dadusha) proclaimed *mîšarum*. In Der, Nidnusha appears to be the first Mesopotamian ruler to use the term *mîšarum* to signify a debt cancellation, replacing *nig.sisa* and the Assyrian term *andurarum*, used by Assur's rulers Ilushuma and Erishum in the 19th century BC, and by contemporary rulers in Asia Minor with which Assur had established trade relations. This term *andurarum* evolved into the Hebrew *deror*, which was to underlie the Old Testament debt cancellations and Jubilee Years called for in Leviticus and Deuteronomy.

Debt Cancellations in Canaan/Israel/Judah , 1400–131 BC

c. 1400 BC: The Amarna Age. Abdi-Ashirta leads *hapiru* attacks on Canaan's mountainous area, bidding for local support against the large landowners who have reached an accommodation with Egyptian puppet rulers. Many *hapiru* are uprooted fugitives from debt pressures in their native lands.

1200: End of the Bronze Age, beginning of the Dark Age through a combination of folk-wanderings and natural disasters, including a little Ice Age. The "Sea Peoples" settle the coast of Palestine. Drought in the Hittite kingdom.

1250–1150: Reported time of the Exodus from Egypt.

926: Following the death of Solomon, the northern kingdom of Israel (926–722) withdraws from the southern kingdom of Judah ruled by Rehoboam.

845–817: The cult of Baal is suppressed and the followers of Omri and his son Ahab (who married the Phoenician, Jezebel) are eliminated. Leading the Jehovah counter-movement, the prophet Elijah is followed by Amos and Hosea who identify the Jehovah religion with the ideal of protecting the poor from the increasingly powerful landed aristocracy. Israel's destruction is predicted if it fails to maintain social

equity. Tribute-levying Assyria is represented as the Lord's tool of vengeance against the resented oligarchy.

722: Sargon defeats Israel and incorporates it as an Assyrian province, resettling many of its citizens in Mesopotamia and Media.

740–700 (possibly later): Isaiah preaches social justice. (However, the Biblical book of Isaiah took its present form only after the exile ended in 537.)

639–609: Josiah ascends the Judean throne at age eight. In 610, in the process of renovating the temple at Jerusalem, the Deuteronomy scroll is found and becomes the basis for Josiah's reforms. These are made in conjunction with the preachings of Jeremiah.

626–604: The prophet Jeremiah denounces usury, much as did his contemporary Greek "tyrant"-leaders in Corinth, Megara, and Sicyon.

597: When the Babylonian king Nebuchadnezzar prepares to attack Judah, Zedekiah frees the Jewish slaves, cancelling the debts which bind them in servitude. (See Jeremiah 34:8–19, 2 Chronicles 32 and 2 Kings 25.) First deportations to Babylonia occur.

587: Jerusalem is captured by Nebuchadnezzar.

586–516: The "Babylonian captivity." Judah's inhabitants are resettled in Babylonia, much as Sargon resettled Israel's inhabitants in Mesopotamia and Media after 722.

516: Rebuilding of the Temple in Jerusalem, marking the end of the "Babylonian captivity."

539: The Median-Persian Cyrus (559–529) defeats Babylonia. Persia permits the Jews to resettle their homeland. (In 538 Judah becomes a province of the Persian Empire.)

458: In the seventh year of Artaxerxes' reign (465–425), some exiles returned with Ezra.

444: Nehemiah, cup-bearer to Artaxerxes, makes his first visit to Jerusalem to become the first great reformer of the post-exile school.

432: After his second visit to Jerusalem, Nehemiah leads the second "return from exile," resettling the Babylonian Jews in their homeland. The land is returned to its former as well as existing families (we don't know the details of which lands reverted to pre-exilic holders), freeing them from the debts owed to local creditors and landlords. Ezra the scribe and others compose the Torah (Pentateuch) in their modern form.

350: The Jews once again are carried away to Babylonia, probably because of a renewed revolt against the Persians.

131: The Hasmonians liberate Israel from the yoke of debts and taxation marking the beginning of a new era under Simon the high priest. (I Maccab. 13–14.)

Debt Crises in Classical Antiquity, 663 BC–425 AD

Egypt

663–609: Bocchoris/Psammeticus cancels consumer debts, freeing the debt-servants.

196: The 13-year old new Pharaoh Ptolemy V proclaims a fiscal debt amnesty, apparently recalling normal Egyptian pharaonic practice. Commemorated by the Rosetta Stone.

Greece and Rome:

650–580: Popular reformers ("tyrants") come to power in Corinth, Megara, Sicyon (under Cleisthenes) and other Greek cities, overthrowing landed aristocracies (often including their own relatives), redistributing their lands and cancelling the debts.

594: When Athens succumbs to a similar debt-polarization crisis, Solon is given powers to act as *archon* ("premier"). He cancels the debts, bans personal debt-servitude for Athenians and alien landownership (thereby preventing foreign creditors from foreclosing), but avoids the more drastic land redistributions carried out in other cities.

500–450: Rome's secessions of the plebs over the debt issue. Indebted Romans refuse to fight until their debts are cancelled and economic polarization mitigated.

450 (443?): Rome's XII Tables set interest rates at $8^{1}/3\%$ ($1/12^{th}$) per annum, but this tradition and its fourfold penalty was repeatedly violated by creditors, and had to be reiterated (*e.g*. in 357). Meanwhile, the law permitted debt-servitude (the *nexum* institution).

367: After an impoverished thirty years, plebeian legislation permits debtors to deduct interest payments from the principal and to pay off the balance in three years instead of all at once.

357: A public commission is appointed to lend Roman funds to save bankrupt debtors from slavery and loss of their lands (revived in the 217 Punic War emergency).

347: Rome's legal interest rate is cut in half, to $4^{1}/6\%$ ($1/24^{th}$) and a moratorium is declared on existing debts, which are to be paid off in four equal installments. To ameliorate matters further, the war tax and levy are lifted.

342: The plebeian tribune Lucius Genucius moves to ban outright the charging of interest.

326: After popular riots, Rome's Poetillian-Papirian laws ban *nexum* debt-servitude.

264–241: First Punic War with Carthage, followed by a second war in 218–201.

220–200: Sparta's kings Agis, Cleomenes and Nabis cancel the debts, seeking to return to the legendary Lycurgan golden age with its egalitarian ethic. The objective is to restore a freely land-tenured peasant-army. But Sparta is defeated when oligarchic cities call in Roman aid. Greece passes into the Roman sphere of influence after the Peace of Apamia in 188.

204: After Rome defeats Carthage and levies huge reparations, wealthy contributors to the war effort in 216 demand repayment, representing that their pledges actually were loans. The money is to be paid in three installments.

200: With its treasury bare after paying two installments, Rome has only the public land to turn over, above all the rich Campagnia. Instead of being settled by war veterans as had been customary, this land is turned over to wealthy war-contributors in lieu of reimbursement. It is to be taxed at only a nominal rate. Beginning in 198, foreign slaves are imported en masse to cultivate the resulting *latifundia*.

193: The Sempronian law extends the XII Tables' $8^1/3\%$ interest-rate ceiling to cover non-Romans within the expanding Republic as Greece and other regions are absorbed.

133: Attalos III of Pergamum bequeaths his kingdom to the Romans. In 129 it becomes a Roman province. Aristonicus, the local claimant, mobilizes the population against Rome, promising to cancel their debts and establish a "Kingdom of the Sun" (Heliopolis), a political ideal probably influenced by the Stoic philosopher Blossius. Rome defeats local armies by poisoning the water supply. After looting local temples, it burdens Asia Minor with huge reparations debts, paving the way for over half a century of warfare. Regular tribute starts in 126.

133–30: Rome's domestic Social War is fought largely over the debt issue. In 133 the brothers Tiberius and Gaius Gracchus sponsor land reform (in particular to limit the extent of large estates) on the public domain. They also sponsor a general financial reform, creating a class of *publicani* "knights" to act as creditors and financiers, so that senators will not perform this function. Tiberius Gracchus is murdered by oligarchic senators in 133, the first tribune to be killed. A decade later, in 123, his brother Gaius and his supporters are defeated when they occupy the Aventine, and Gaius has a slave kill him in 121.

111: The oligarchic Agrarian Law declares all occupied public domain to be the property of existing holders, thereby defeating plebeian hopes for land reform.

100: The tribune L. Apuleius, supported by the Consul Marius, sponsors a land-settlement reform, but the Optimates oppose it, and repress a popular revolt.

89: The praetor Asellio is murdered for sponsoring restoration of the XII Tables law punishing creditors fourfold for charging excessive interest (over $8^1/3\%$). In the ensuing riots, debtors agitate for "new account books," that is, a Clean Slate debt cancellation.

88: The Vespers of Ephesus: As many as 80,000 Romans are killed in Asia Minor in retaliation against Roman tax farming and moneylending. During 88–84 Mithridates of Pontus turns what had began as a local war in 92 into a region-wide war by Asia Minor against Rome.

86: The Valerian Law remits three-quarters of the debts of all Romans. Publican financiers and senators join forces in the face of their common fear that demagogues might bid for popular support by endorsing a general debt cancellation and land redistribution.

86–85: The Roman general Sulla sacks Asia Minor and imposes a huge tribute, forcing many cities and much of the population into debt to Italian bankers. This helps make Sulla the richest man in Rome in 83. His army takes over the city and he kills many of his opponents during his dictatorship of 82–79.

73–71: Slave revolt led by the Thracian war-captive Spartacus.

70: Rome declares a moratorium on Asia Minor's war tribute, which had multiplied six-fold from the 20,000 talents imposed by Sulla in 84 to 120,000 talents, despite the fact that Asia Minor already had paid 40,000 talents (not including the looted treasure of Asia Minor's temples). The local Roman general, Lucullus, sets a 12% interest rate and decrees that where interest payments have exceeded the original principal, the debt is to be considered paid. Debt service is limited to a quarter of the debtor's income.

63–62: Catiline and some three thousand supporters are killed in battle. A major plank of their program (which Cicero called a "conspiracy") is a cancellation of debts.

60: In the ensuing civil war, Pompey, Crassus and Caesar form the First Triumvirate. The next year, in 59, Julius Caesar becomes Consul.

49: Caesar marches on Rome and defeats Pompey and his supporters. In the turmoil he allows debtors to deduct interest payments from their principal, and introduces Rome's first bankruptcy law, but it alleviates debt pressures only on the wealthy. His *cessio bonorum* saves them from having to sell off their property under distress conditions by letting them turn over real estate at pre-Civil War prices. To support collapsing land prices, Caesar also directs that two-thirds of all capital assets must be held in the form of Italian real estate.

This is not much help to the landless and smallholding population at large. Demagogues such as Caelius (Rufus) and Milo are killed after leading a popular insurrection. In 47, Cneius Cornelius Dolabella likewise advocates cancellation of debts, and is killed for leading riots in the Forum. This is the final defeat for Rome's indebted poor. Henceforth, lending is concentrated mainly among the wealthy.

45: Caesar becomes dictator, but is killed the following year by members of the Senate.

31 BC-AD 235: The Roman Principate: Twelve emperors in 266 years. In 27, Octavian is crowned as Emperor Augustus, inaugurating the Roman Empire.

AD 33: A financial crisis results from emperors hoarding coinage in the imperial treasury, aggravated by private hoarding and a drain of bullion to the East (largely to purchase luxuries). Tiberius re-imposes the traditional 8 $^{1}/3\%$ interest-rate ceiling, and Caesar's decree that two-thirds of all personal capital be invested in Italian real estate. This leads to widespread foreclosure on mortgages as lenders convert their financial claims into land. Tiberius decrees that debtors are obligated only to pay two-thirds of debts that are called due, but his measures nonetheless aggravate the general financial crisis.

AD 325: The Council of Nicea bans the practice of usury by members of the Christian priesthood.

AD 118: Hadrian burns the tax records.

AD 178: Marcus Aurelius emulates Hadrian's burning of the tax and debt records.

AD 425: Charging interest is banned for the lay population generally.

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The Editor

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