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Abstract: Using historical sources, we attempt to unravel and elucidate the economic worldview held by the United States Treasury Department during World War II. We analyze the Treasury's view of taxation, bond sales, and interest rates. We consider whether and in what ways this worldview is compatible with Modern Monetary Theory, finding that, in most regards, the two align closely, the differences being primarily attributable to the peculiarities of war finance. Finding a less clear view of national debt, an interpretation is offered based on Treasury's statements. We also offer evidence that this view had a foothold in the era's news outlets.

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Total War presents unique and extreme problems for government on many levels, including for its financial management. Faced with a perceived survival threat, it is the task of the treasury to coordinate the financial activities of the nation in manners most likely to aid in winning the war. People often learn important lessons when faced with extreme challenges, and since wars can push a financial system to its limits, they have much to teach us about the nature of money and debt.

In this paper, we will look closely at how one particular war treasury, the US Treasury during World War II, came to view its relationship to the financial system. We aim to piece together the economic worldview held by the Treasury during this era by examining publications and statements from its top officials. For each claim, quotations will be presented, drawn from reports, speeches, and other documents. Our cast of characters will primarily consist of Henry Morgenthau Jr., who served as Secretary of the Treasury from 1934 to 1945, and his Under Secretary, Daniel Bell, but we will also hear from several other contemporary voices.

We will begin by asking, what is the job of a Treasury in war time? We will then examine the US Treasury's views on taxation and bond sales, making a brief interlude to illustrate the Treasury's efforts to communicate this view to the public. We will then continue with the Treasury's opinions about interest rates. Finding that the Treasury had a coherent worldview on these topics, we will compare it with that espoused by Modern Monetary Theory, to find that they are largely compatible. We then tackle the topic of national debt, on which Treasury's views appear to be less clear; we will offer an interpretation consistent with Treasury's (and MMT's) views on the topics above.

Finally, we will note a few other pockets in the contemporaneous national consciousness into which the Treasury's view was welcome. Concluding, we argue for optimism regarding attempts to educate the public and make better use of our nation's resources.

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Whither the Money?

In conventional thinking, the Treasury's purpose is to gather in its hands the tax and borrowing receipts of a national government in order to direct them towards spending priorities, and so it might be thought that the Treasury's main challenge, its primary problem to solve, is that of *finding money*. As total war requires mass mobilization of resources in a way that peacetime does not, we might then be tempted to think that the primary charge of the wartime Treasury would be to *find a lot of money*.

However, statements from US Treasury officials during World War II make clear that this was not the primary motivating concern for them. Rather, officials during this era tended to comment on the task of "finding money" as though it was quite easy, and instead focused on other consequences of the manner in which revenue is raised. For instance, writing about a pre-war program of selling savings bonds, Treasury Secretary Henry Morgenthau says:

> The third major objective of the Treasury's borrowing operations during this period was to broaden the base of the public debt by increasing the number of persons holding United States securities...*The purpose of this broadening of the base of the public debt was, not that of raising funds - as these were readily available to the Treasury from other sources* - but that of increasing the number of persons with a direct financial interest in the affairs of the Government, and so promoting an interest in public affairs generally (Morgenthau 1945b, 405, emphasis added).

Commenting more specifically on the financial problems of the war, Morgenthau said:

> ...we cannot hope to finance this war in an orderly manner and without a further serious rise in the cost of living unless our regular borrowing is supplemented by bold and resolute action in many directions, among them in the fields of taxes and savings. *My problem is not simply one of getting more money*. It is a problem of enlisting the taxes and the savings of all the American people themselves. (Morgenthau 1942c, 389, emphasis added).
>
> Our problem has been *something much more difficult than the mere raising of vast sums of money*. The nub of the problem has been to raise these sums in such a way as to strengthen, rather than weaken, the national economy. (Morgenthau 1944b, 330, emphasis added)

In other words, procuring money was not the primary difficulty. In fact, Treasury officials seemed to think even the question wasn't very helpful. Critiquing an essay on German finances, an internal Treasury memo reads, "In general, this kind of 'Where did they get the money?' analysis does not constitute a very meaningful explanation of any system of war economies" (Gass 1941, 3).

Much more important were the effects on the economy and the nation of the way that money was obtained. Treasury officials made clear that their main challenge during the war was to avoid inflation.

> Diverting half of the country's total product to the use of the Government involves problems so vastly different in degree from those of peacetime finance, that they become different in kind also. Inevitably, the first consideration in raising sums of this magnitude must be to avoid inflation (Morgenthau 1945b, 408).

If money was not difficult to procure, and inflation was viewed as the primary problem, then a conventional analysis might be tempted to square this paradox by concluding that the government had resorted to printing money to finance the war, and that the increase in the quantity of money was driving up prices. We'll return to the question of "where did they get the money" below, but we'll note here that the Treasury thought about the inflation problem quite differently:

> The nature of the inflationary pressure inherent in diverting half of the income stream of the country to the government is simple. It is this: The value of all of the production of the country goes to its producers in the form of wages and salaries, rents, interest, dividends, and profits. But only half of this production consists of goods and services which are available to be purchased by these producers. The remaining half goes to the Government for prosecuting the war. The problem is to prevent the people from trying to spend all of their incomes on half of the goods - and so merely bid up prices (Morgenthau 1945b, 408).

In other words, the problem was that US citizens were getting paid to produce goods which were not available for them to purchase, and this excess income, if spent on the limited remaining available products, would cause inflation. The Treasury's task then was to prevent this consumer spending, and it undertook its revenue-raising programs with a focus on that goal.

> We desire - insofar as we are able - neither to create new money nor to activate old money. Noninflationary financing requires that we draw in money that would otherwise have been spent in buying consumers' goods. It is only by drawing in money that would otherwise have been spent in this way that the Government can check whatever tendency to a price rise it may be producing by its own spending program. And it should be noted here that it is total spending rather than borrowing which creates the inflationary effect (Bell 1942, 392).

It was thus clearly recognized that government deficits are net additions to private income, and that the spending of this income constitutes an inflation threat in an economy already at full employment, as a 'total war' economy would be.

> An inflation is only possible when more purchasing power is currently offered in exchange for goods and services than there are goods and services to be had at the then price level. Under such circumstances, if labor and capital are fully employed -- i.e., if production is at capacity -- the additional purchasing power can be absorbed in no other way than by an increase in the prices of the amounts of goods and services then being produced… If, however, additional purchasing power is thrown on the market while substantial amounts of labor and capital are unemployed, its principal effect is to increase the physical quantities of things produced, rather than to increase their prices (Treasury 1940, 4, emphasis in original).[1]

> ...one of the major economic problems now confronting the country is that of "excess" consumer spending power - i.e., spending power in excess of the available supply of civilian goods at present prices. This "excess" spending power is created by the excess of Federal expenditures over Federal taxes; and constitutes, on the one hand, a threat of inflation and, on the other, an evidence of ability to pay additional taxes (Morgenthau 1944a, 4).

The Treasury took the inflation threat very seriously, as demonstrated both by the frequency with which they discussed it, and the grave emphasis in their language. Eg.,

> Inflation has been well described as "the ruthless process whereby sacrifice is imposed inequitably upon a people who have lacked the unity, the courage and intelligence to impose that sacrifice equitably upon themselves." It is for us to show that we have the unity, the courage, and the intelligence to check inflation now (Morgenthau 1942a, 407).

> On March 3, 1942, I appeared before this committee and asked for an increase in revenue of 7.6 billion dollars. I stated that the chief objective of the new Revenue Act was to help check inflation, and pointed out that 'nothing in the economic field can interfere with the war effort as much as an uncontrolled rise in prices, and an inflationary price rise is a source of grave social injustice' (Morgenthau 1943b, 385).

As we shall see, the objective of raising revenue in a manner which would reduce consumer spending applied to both taxation and borrowing efforts. Treasury did evaluate a series of other programs, some of which became important during the war. More well-known ones include direct price controls, credit controls, and rationing. There were also less conventional ideas for fighting inflation proposed by Treasury, such as selling off government agricultural stockpiles, closing tax loopholes, recommending that firms pay out Christmas bonuses in the form of war bonds instead

[1] The Treasury also understood that not all sectors would hit full capacity at the same time, and thus price pressures in particular industries could begin before general full employment was reached. In 1940, the Treasury defined and outlined a procedure to detect these "bottlenecks," and reports were prepared regularly on various industries (Haas 1940). But there was also an attitude that bottlenecks were a technological problem, not a monetary one, and so a general reduction in purchasing power would be the wrong response (Treasury 1940, 4).

of cash, and even a proposal to expand Social Security[2] (Morgenthau 1941a, "Anti-Inflation Taxes" 1941, Treasury 1943b, Morgenthau 1941b,19). But it was the headline tax and bond programs that Treasury viewed as its primary tools, and it is to these that we now turn.

War Taxation

The war Treasury evaluated numerous tax proposals and would make recommendations to Congress. Morgenthau's basic criteria for an ideal tax was that it should be "fair and nondiscriminatory and imposed in accordance with ability to pay" (Treasury 1945b, 400). But the Treasury was also keenly aware of the link between inflation and taxation in the context of a government whose massive defense spending programme was adding to private incomes:

> It seems to me that the basic problem of the taxation of individuals in wartime is really not very complex. Aggregate individual income is higher, and the Government must tax a portion of it away (Bell 1943, 499).
>
> The problem of financing the war without inflation is too grave and too pressing to let any major tax proposal be disregarded without the most serious thought and study (Morgenthau 1942c, 389).

It was also recognized that for the purpose of fighting inflation, some taxes are better than others.

> To make taxation an effective instrument in the fight against inflation requires heavy taxes levied on a broad base. Accordingly, the Treasury recommended successive reductions in individual income tax exemptions and increases in income tax rates. Many of the selective excise tax increases proposed by the Treasury also had anti-inflationary objectives. Consistently, however, I opposed a general sales tax as an inflation preventative on the grounds that it would aggravate rather than curb inflation. My recommendation in 1942 that the Congress enact instead a progressive spending tax directed squarely at the inflation problem was rejected (Morgenthau 1945b, 400-401).

In particular, the Treasury recognized that the individual income tax served well both the goals of social equity and inflation prevention:

> In placing emphasis upon the individual income tax the Treasury took into consideration both tax equity and the need for taxes to help avert inflation. Together with other agencies it had undertaken studies of the magnitude of the inflationary problem and the relation of that problem to the amount and kind of taxes that should be imposed. The individual income tax appeared to be one of the most desirable means of withdrawing purchasing power from income recipients without directly increasing prices and the cost of living, and

[2] Expanding Social Security eligibility would instantly increase payroll tax collections, but only slowly increase government spending on benefits, resulting in a net deflationary force at the time of the expansion.

> thus of accomplishing the primary objective of anti-inflationary taxation (Morgenthau 1944a, 83-84).

And this was the justification for increasing it dramatically, with the top marginal rate moving from 79% on incomes over $5 Million in 1940 to a 94% rate on incomes over $200,000 in 1945. (Tax Foundation n.d., pp. 37, 42).

Given the large inflationary pressures of the time however, and the political difficulty of raising levies,[3] it was also recognized that taxation alone was not sufficient to solve the inflation problem, as Morgenthau noted:

> Taxes cannot, by themselves, win the battle against inflation...Nevertheless, taxation by itself can make the price situation more controllable and less dangerous than it otherwise would be, and it is an essential anti-inflationary weapon that must be used to the utmost (Morgenthau 1942a, 407).

To that end, the Treasury also conducted its borrowing policies with an eye towards fighting inflation.

War Borrowings

To achieve its anti-inflationary borrowing objectives, the Treasury's first principle, though it may seem strange to the modern theorist, was to avoid borrowing from banks. Under Secretary Bell states, "we all realize that a great deal more remains to be done in financing the deficit as far as possible from outside the commercial banking system" (Bell 1942, 393), and Morgenthau concurs, "the policy of the Treasury has been to raise as large a proportion of the borrowed funds it requires from individuals, fiduciaries, trusts, and corporations rather than from the banks; to borrow old money rather than new money" (Morgenthau 1943a, 394).

Why the aversion to selling bonds to banks? Let's explore some possible explanations. The last sentence of the previous quotation offers a clue: these Treasury officials understood that bond sales to banks create bank deposits.

> ...the great wartime expansion in the economy requires - even at a constant price level - a great increase in the available supply of currency and bank deposits; and this increase, under

[3] It's worth noting however that in the context of a high income, full employment economy facing serious inflation, the argument for higher taxes was much more welcome than we might be accustomed to today. As some indicators, both the Washington Post and the New York Times were regularly calling for higher taxes (see eg.,"We have to pay it" 1944, and "TAXES -- OR INFLATION" 1943) and regular Gallup polling on taxes shows that the year when respondents viewed income tax as most "fair" was 1944 (Gallup, n.d.) - when taxes were already extremely high.

> our existing institutions and under wartime conditions, can be supplied only by an increase in Government borrowing (Bell 1943, 497).[4]

The Federal Reserve offers us a little more detail, writing:

> Government expenditures have been enormous by all previous standards and they have been financed in large part by methods which did not curtail private spending to offset the increase in public spending. The pattern is that made familiar in previous wars—expansion of currency and sale of bonds to banks as an offset to new deposits created by public expenditures. War loan accounts were made free of reserve requirements, and as the funds were spent and reappeared in private pocketbooks and bank accounts, new currency and new bank reserves were made freely available by expansion of Federal Reserve credit. Thus the total volume of currency and credit rose without putting any pressure on the banks to restrict private credits. Since the end of 1939 demand deposits...have much more than doubled in volume...Practically all the new money came into existence through Government borrowing…
>
> ...In this process net total saving...was equal to the amount of Government deficit plus the small amount of private investment. It could not be less, since every dollar of the difference between taxes and Government expenditures was reflected in an addition to security holdings either of nonbank investors or of commercial and Reserve Banks. To the extent that the second took place, new bank deposits or currency was created and appeared in someone's unspent balance (Hardy 1946, 8-9).

This helps us understand our previous mystery as to why Treasury officials believed that obtaining funds was easy for the government to do. As Morgenthau notes:

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[4] Why could the circulating medium not be supplied by an increase in private borrowings from banks for investment? Because government was severely discouraging any private investment not necessary for the war. As Bell explains:

> ...the magnitude of our war effort is fixed by our full gross product, rather than by our net national income. This means that during wartime replacements and repair on plant and equipment must be postponed, as far as possible, so that the manpower and materials which they would otherwise have absorbed can be thrown into the war effort. Producers, as well as consumers, are asked by their Government to "Use it up, Wear it out, Make it do, or Do without."
>
> This means that during the war period, the capital assets of most business firms are wearing out more rapidly than they are being replaced, and the depreciation reserves set aside to offset this wear and tear are piling up in cash. At the same time, the accounts receivable of these firms are running down, which results also in piling up cash. These funds are all available to be lent to the Government; but they are not available to be taxed since they represent capital, rather than income, of the firms possessing them, and represent very different proportions of the total capital of different firms, depending on the type of business. A policy of borrowing these funds, rather than taxing them away, is, therefore, clearly indicated (Bell 1943, 497).

> The Treasury, as you know, has attempted to place as large a proportion of its securities in the hands of the people, and not the banks. We have stood foursquare for voluntary savings, pushing aside the temptation to depend entirely upon the easier, if potentially more dangerous, method of bank borrowing (Morgenthau 1942d, 393).

In this way, the Treasury could "easily" enlist the commercial banking system to create money. To the question of why the Treasury sought to avoid selling bonds to banks, this offers us a plausible first hypothesis: perhaps they felt that if the Treasury sells bonds to banks, it would be more inflationary than if Treasury sells to individuals and non-financial firms, because the former creates money (bank deposits) while the latter does not.

While an intuitive hypothesis as to the Treasury's thinking, there is, however, reason to be skeptical of this argument. It's true that selling a bond to a bank creates deposits while selling a bond to an individual or non-financial firm doesn't, but what's to stop that individual or firm from selling their bond to a bank, creating the same quantity of deposits, and therefore the same hypothetical inflation pressure? To the extent that Treasury would sell marketable bonds to individuals and non-financial firms, then these could, through market sales, find their way to a bank, a fact that was not lost on Under Secretary Bell who wrote:

> To the extent that the refunding of demand obligations would have been accomplished by the sale of securities to banks, so also would the marketable securities find their ultimate lodgment in banks, but only after a roundabout journey, probably involving both loss to their original purchasers and a higher interest cost to the Treasury (Bell 1943, 500).

Or, through the reverse channel, individuals might take a loan from a bank in order to buy the bond, creating the same amount of deposits as if the bank had bought the bond.

> Therefore, if you have to borrow money from the bank in order to buy a defense bond, don't buy it. Your loan at the bank will increase deposits and the money supply, just as if the Government had sold the bond directly to the bank ("When To Buy Defense Savings Bonds" 1941, quoting Bell).

Indeed, speaking to perhaps a more financially-savvy audience, Morgenthau offers a more nuanced view:

> The members of the American Bankers Association are acutely aware of the hazards we run if we rely more than is necessary on the sale of Government securities to commercial banks. I often think, however, that the distinction between sale of Government securities to commercial banks and sales to others is over-emphasized. *What we are really trying to do is to sell as large a proportion of our securities as possible in such a way that their proceeds, when spent by the Government, will not constitute a net addition to the total spending of the economy.*

> I think it worth remembering that sales of Government securities to commercial banks do not add to the total spending of the economy if they are offset by decreases in the loans or other investments in banks, or if they are offset by the accumulation of balances in the banks which are genuine savings of depositors.
>
> It is necessary, therefore, that we at the Treasury should go far deeper than the superficial distinction between sales of Government securities to banks and those to others and that we should look closely at the real sources of the funds. The most desirable source of funds is, of course, money borrowed from the current savings of the country. A substantial proportion of the proceeds of all classes of Government securities sold - including some of those sold to commercial banks - comes directly or indirectly from this source (Morgenthau 1942b, 388, emphasis added).

In other words, the real issue is not whether the bonds are bought by banks or non-banks, but whether the funds to purchase them come from the "current savings of the country." Bell offers some clarity on what this means:

> An additional amount of borrowing - over and above the minimum required on economic grounds - can also be accomplished without danger of inflation to the extent that individuals can be induced, for patriotic reasons, to increase their savings. This the Treasury is endeavoring to do by means of the payroll savings plan and the war loan campaigns.
>
> The volume of total savings required is dictated by the size of the deficit and may differ materially from the sum total of savings which would occur from economic and patriotic motives. At the present time the Federal Government is purchasing about one-half of the total volume of goods and services being produced, while the remaining 50 percent is being purchased for private use. Federal taxes, however, are bringing in only about 20 percent of the gross income generated by production, leaving about 80 percent in private hands. There is, thus, a discrepancy equivalent to about 30 percent of the value of total output which makes up the Federal deficit on the one hand and the corresponding necessary private savings on the other hand (Bell 1943, 498).

In other words, the Treasury believed that to prevent inflation, it was necessary to urge citizens to refrain from consuming (or rather, attempting to consume) 30% of GDP's worth of goods and services. This number represented the portion of national (money) income that was being supplied by the government's war purchases but was not being taxed away nor corresponding to any consumer goods available for private purchase.

We note here that rather than a conventional story in which savings provides the funds to be borrowed by investment or government deficits (a loanable funds model), Bell instead presents a view in which government spending adds financial assets to private balance sheets, with inflation determined by whether this financial saving corresponds to "real" or desired saving, or exceeds it. That is, while the "volume of total [saving] required" is indeed dictated by the Federal deficit, this saving is not required to "finance" the deficit, but rather to free up goods and services for the government to purchase. And the consequence of insufficient saving is not rising interest rates, but rather inflation resulting from shortages of productive capacity.

> To the extent that total borrowing exceeds the aggregate amount of savings consciously and intentionally undertaken, we are placing liquid assets in the hands of persons who may use them to put added pressure on price ceilings. It is to aid in immobilizing unstable accumulations, as well as for fiscal and equitable reasons, that the Treasury considers the need for additional taxes so urgent (Bell 1943, 498).

To return to our previous mystery: if the Treasury did not view creation of bank deposits as being the central issue, we must again ask why seek to avoid selling bonds to banks? A second hypothesis might be that it was related to the fact that the Treasury was selling different securities to banks than to individuals and non-financial firms. Banks were encouraged to hold marketable, short-term instruments like Treasury bills, while ordinary individuals were directed to savings bonds, especially Series E. Series E bonds were non-marketable, non-negotiable accrual bonds, redeemable on demand after 60 days (Olney 1971, 57).

But the distinction between marketable and redeemable securities (also called "demand" securities, or demand obligations) is a subtle issue. Since the holder of a redeemable security (after the initial waiting period) can redeem it with the Treasury at any time, from the point of view of the holder a redeemable security is essentially money, but which requires an extra step, an extra hoop to jump through, before it can be spent: if the holder of a redeemable security desires to purchase, say, a car, she can, at any time, redeem her security and then purchase the car. In terms of the purchasing power of the holder, there is essentially no difference between holding cash vs holding a redeemable security.[5]

We might naively suppose then that government spending matched by the issue of redeemable securities would be more inflationary than if matched by non-redeemable securities, because non-redeemable securities cannot be so readily converted to cash by redemption. However, the Treasury recognized that this was not the case, because liquidity in the market serves the same role for marketable securities that Treasury redemption does for redeemable securities:

[5] Other than that the security may pay interest, while paper money typically does not, and bank demand deposit accounts were prohibited from paying interest at this time.

> The Treasury is less concerned with the large volume of demand [redeemable] obligations which is being built up by the sale of savings bonds to small investors than it would be with the only practicable alternative to this course. This alternative would be the sale to small investors of marketable securities payable by the Treasury only after the expiration of a fixed term of years.
>
> The fixing of a definite term on [marketable] securities sold to small investors by no means insures that they will be held by these investors for the full term. By and large, the holders of marketable securities would sell them on the same occasions when the holders of redeemable securities would redeem theirs (Bell 1943, 499-500).

And, in fact, marketable securities have the extra element of price volatility, which could lead to additional liquidations relative to redeemable securities:

> Indeed, there is one important occasion upon which marketable securities would be sold, but redeemable securities would not be redeemed - that is, the fear of a decline in price, from which the nonnegotiable securities are immune (Bell 1943, 500).

We might still be tempted to believe there's a difference in terms of inflation because, although both marketable and redeemable bonds can be converted to cash readily by their holder, in the former case somebody else in the private sector is now holding a bond, unlike in the latter. However, Bell rejects this too:

> Now it may appear, at first glance, that while the Treasury should be properly concerned with redemptions, it should not be concerned with market sales, since it must meet redemptions out of its own pocket; while the market sales will be taken up by somebody else. This type of reasoning would suffice for a private borrower, but it is entirely inadequate for the Treasury since it overlooks the real problem which the holdings of Government securities - whether redeemable or marketable - by small investors will present in the post-war period.
>
> This problem is that the holders of these securities may dispose of them and spend the proceeds on consumers' goods at a time when the supply of such goods will be scarce; and the spending can result only in price rises. This problem would exist, however, whether the securities were payable on demand or were negotiable and payable at the close of a fixed term, and will be somewhat less troublesome for demand [redeemable] securities, because, as I have already pointed out, the liquidation of this type of security will never be precipitated by the fear of a fall in the price of the security itself (Bell 1943, 500).[6]

We can see that the Treasury was aware that market liquidity of the assets it sold played a role in inflationary pressure: to the extent that a liquid market in these assets exists, the assets can always

[6] For a piece that falls victim to the fallacious reasoning which Bell rejects here, see Spero and Leavitt (1942).

be redistributed from people who need cash to make purchases to people who do not. There is, then, no difference between marketable and redeemable securities in terms of purchasing power of the holder. The primary difference lies in the determination of which types of securities are held in the market after the security is liquidated:

> …so far as Government securities are concerned, market sales are essentially the same thing as cash redemptions. Each puts spendable funds into the hands of the same classes of investors, and each involves the absorption of additional amounts of Government securities by other investor classes - which will ultimately be the same in each case. The only significant difference is that cash redemptions permit the Treasury to issue new securities suited to the classes of investors who will hold them; while market sales must involve already-outstanding securities, which may or may not be so suited (Morgenthau 1945b, 412).

Furthermore, as part of its efforts to keep debt service costs down, the Federal Reserve was standing ready to purchase marketable securities at posted prices, and the Treasury understood that this provided a backstop, ensuring liquidity in the market:

> The Federal Reserve System has posted a buying rate… so that any holder of bills knows that he can convert them into cash at any time and at this specified rate. This arrangement has served to increase greatly the flexibility of bills in the money market and has also aided in the more effective use of excess reserves. For all practical purposes, excess reserves can now be invested in Treasury bills without sacrificing liquidity (Bell 1942, 392).

Between Treasury redemptions, the secondary market, and the Federal Reserve's peg, holders of Treasury securities were guaranteed maximum liquidity, and so could essentially treat their bond holdings as cash, which could be spent on goods and services at any time with minimal difficulty (outside of the initial holding period on savings bonds). While this doesn't yet explain the aversion to selling bonds to banks, it does explain why Treasury tended to view the inflationary problem in terms of spending flows rather than the quantity of money - in terms of the purchasing power of the holders, there is essentially no difference between holding cash, bank deposits, or government bonds. Each kind of liquid asset can be either readily spent, or easily converted into something that can be readily spent.

Further evidence on the Treasury's view here comes from 1942. In that year, Congressman Wright Patman proposed a major change to the country's financial system, under which the government would cease selling interest-bearing securities to banks, and instead match any deficit with sales of non-interest-bearing securities to the Federal Reserve (though it would have permitted the sale of interest-bearing securities to non-banks).[7] In commonplace terminology, it was a proposal to reduce or halt most government borrowing, and instead finance future deficits by "printing

[7] For more detail on the proposal and what relevancy it may have for the current era, see Kregel (2014).

money." In an internal memo, Treasury staff summarized and evaluated this proposal, and concluded that, while such deficits would be inflationary, with the proper precautions it would be "no more inflationary than is the present method of borrowing" (Treasury 1942).

> Every dollar borrowed by issuing noninterest-bearing bonds to the Federal Reserve Banks, as Representative Patman proposes, would result in the creation of a dollar of bank deposits. This would, of course, be inflationary, but no more inflationary than the sale of an equal amount of interest-bearing securities to commercial banks (Treasury 1942).[8]

We still have not settled our bank bond sale conundrum. Nor is the reason for maintaining a high degree of liquidity in the bond markets during war time immediately obvious. In fact, it seems outright contradictory: at a time when the government desperately needed consumers to save in order to prevent inflation, why would it go out of its way to ensure that people's savings were highly liquid, and thus could be converted to cash and spent at any time? It is at odds with the wartime goal of curbing consumption - why induce individuals to hold bonds instead of money if holding bonds can't stop consumption (and the Treasury has other ready sources of funds)?

The answer is that, despite voices in government and the press clamoring for a "forced saving" policy,[9] Secretary Morgenthau and President Roosevelt had a commitment to a *voluntary* savings program (Olney 1971, 63), and the war borrowing programs were run to facilitate this.

> Throughout, the program has been conducted on a genuinely voluntary, democratic basis. From the beginning, we were resolved to avoid certain high-pressure sales tactics… It was determined that there should be no compulsion, no hysteria, no slacker lists and no invidious comparisons between those who bought bonds and those who did not. There was to be room in this program for the individual with special burdens and responsibilities who could contribute only in very small amounts - and even for the individual who could not share at all. (Morgenthau 1944b, 329)

We conclude that the war borrowing programs were not primarily adopted to "find money" for the Treasury, nor to forcibly prevent consumption, but rather to persuade citizens to save by offering them a safe and liquid form to hold their savings in. That is, the goal was not primarily to allocate already-saved money to the government, but rather to allocate income to saving in general, and in a voluntary manner.[10]

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[8] To prevent the general level of interest rates from falling, and any inflation that might cause, the Patman plan allowed for issuing interest-bearing securities to non-banks. The Treasury review also indicated that the plan may require a direct subsidy of bank earnings to replace some of the lost interest income.

[9] Some notable voices on this included Vice President Henry Wallace (Olney 1971, 63), and Harry Dexter White within the Treasury (Markwell 2007, 217-218). Much of it was based on "the Keynes plan" as outlined in Keynes (1940a and 1940b), which called for large schemes of deferred pay (compulsory saving) in order to combat wartime inflation.

[10] We note here that by 'savings' we mean something closer to 'net savings,' i.e. the government was also discouraging private investment that wasn't necessary for the war.

> It was important that every means possible be taken to persuade people to hold these funds rather than attempt to spend them, for such an attempt on a large scale would have meant inflation. Direct controls on production, wages, prices, etc. operated on one front to dam up these funds but the Treasury had to operate on another front to see that the funds remained saved. The best way to accomplish this was to get as much as possible of these funds into Government securities (Treasury 1946, 83).

The specific benefit of offering savings instruments as distinct from currency or bank deposits was that United States War Bonds, by virtue of the name printed on the certificate, were an appeal to patriotism and morale. But logically, saving in cash instead of war bonds would work just fine, as would any other form of saving - so long as it involved reduced consumption. To the extent that some consumers increased their saving, the government could then sell bonds to commercial banks without generating inflationary pressure.

> If you have to take savings out of the savings bank to buy the defense bond, don't do it unless you think it will help you, because it won't help the Government. The savings bank can buy government bonds with your deposit,[11] and the economic, or anti-inflationary, effect of your savings is exactly the same in either form...
>
> The same statement can be made about insurance. You are being just as good a citizen when you save money for insurance as when you save it to buy government bonds ("When to Buy Defense Savings Bonds" 1941, quoting Bell).

We can now finally explain the distinction between selling bonds to banks versus individuals: to the extent that the Treasury sells bonds to individuals who have already decided to forgo consumption and are now choosing to allocate their savings into Treasury securities, as is normally the case for bond auctions during peacetime, there is effectively no difference between selling to that individual or selling to a bank. But, through its mass marketing campaigns, Treasury was attempting to sell war bonds to people who would not otherwise be saving their income. They were then using the size of bank securities purchases as an indicator to measure their progress towards this goal.

[11] We note the imprecision of Bell's language here. If "deposit" refers to the bank liability, then of course it is impossible for a bank to purchase a Treasury security with your deposit. On the other hand, if "deposit" refers to the paper cash, then a bank can deposit that cash for a credit to its reserve account at the Federal Reserve, then use these reserve balances to purchase a Treasury security. However, this drains reserves from the banking system, and during this time, Treasury was keen to keep reserves plentiful on the belief that this led to lower interest rates (Wicker 1969). So it would have preferred banks to buy the bonds on a credit to the Treasury's private bank account, if the bank had one, and there is no sense in which this would be "buying government bonds with your deposit."

> While Government expenditures during fiscal 1944 will run at almost $9 billion a month, tax revenues at prevailing rates will amount to something like $3 billion a month and receipts from the sale of Treasury issues to nonbanking investors to about $4 billion a month. <u>This still leaves a difference of almost $2 billion a month to be raised by sales of securities to banks -- and it is precisely this $2 billion "gap" that might be further closed by additional sales of War Bonds and/or additional taxes</u> (Treasury 1943a, 73, emphasis in original).

This is also why, despite criticism, Morgenthau primarily staffed his War Bond organization with experts on promotion and advertising, rather than people with experience in financial markets (Olney 1971, 62). This department crafted an elaborate advertising and persuasion campaign to promote purchase of war bonds in particular, and saving to prevent inflation in general. We now make a few observations about this advertising campaign, which will support our analysis of the Treasury's economic worldview.

Public Education on War Borrowings

Our thesis on borrowing thus far is that Treasury's primary need was not to obtain limited funds, but rather to promote increased private saving to prevent inflation, and Treasury crafted a campaign of mass persuasion to that end. During the War, over $180 million of advertising space was donated to the Treasury to promote its wartime messaging (Duke, n.d.). This included exhortations to save, as well as educational information on why this saving was necessary. Although Cartwright (1949) notes that the messaging was not very consistent, we nonetheless will present a few examples of content produced by Treasury that was in accordance with the view above.

As an example of the kind of themes the Treasury put out, see Figure 1, an advertisement entitled "Mister - You're Getting Paid In Dynamite." This ad informs the reader that the money from his paycheck "is dynamite" because spending it could cause inflation. To avoid inflation, he is cautioned to heed ration rules and price ceilings, but also to save his money. He is presented several options by which to save, one of which is to buy war bonds, but also by starting a savings account, paying down debt, buying life insurance, or simply not buying things.

Figure 1: "Mister, you're getting paid in Dynamite." 1943, War Advertising Council. Source: Duke Ad*Access (https://repository.duke.edu/dc/adaccess/W0001)

Another Treasury media creation, a 15-minute video entitled “The Price of Freedom,” exhorts viewers:

> ...all of us have one big job to do: all of us must save for victory. Deny ourselves the lesser things....
>
> ...more Americans than ever in our history are working today in war production jobs… Into the pockets of Americans, this war production is pouring $100 Million per day. If we are to halt a ruinous rise in the cost of living, if we are to avoid inflation, if we are to win this war, every penny that can be spared must go into war savings stamps and bonds…
>
> Brother, the time to spare the dime is now, while the dollars are rolling in…
>
> Each week more and more American workers… join those who are sparing a dime for freedom. One dime in every dollar. 10% to hold down the rising cost of living. 10% that’ll be there when they need it (Treasury WSS, n.d.).

The dominant view since the Monetarist era has been that the central bank bears sole responsibility for the inflation rate. By contrast, a recurring message of Treasury’s advertising campaign was that every individual consumer can play their part in fighting against inflation.

> Most Americans, I think, are beginning to see that they have a personal stake in the fight against inflation, just as most of them began long ago to see their individual stake in the destruction of the Axis war machine (Morgenthau 1941b, 25).

“The record of your part in fighting inflation speaks for itself...” a Treasury promotion in the New York Times read. “V-I (Victory over Inflation) Day is today and every day you buy more and more Victory Bonds” (“Bonds To Fight Inflation” 1945). To the extent that Treasury could persuade an individual citizen to reduce their purchases of goods and services and instead divert their paycheck into saving (whether it be in war bonds, cash, life insurance, by paying down debt, or some other way), that person aided the country in its fight to keep prices from rising.

We will return below to the question of whether the educational aspect of this campaign was effective, but the adequate wartime containment of inflation shows that the persuasive aspect of the saving campaign was successful. This drive resulted in the mass accumulation of government bonds by citizens of middle and even lower incomes, creating a very different distribution of government bonds than before the war or today. The widespread ownership of government bonds impacted the Treasury’s view of interest rates, a topic to which we now proceed.

Interest Rates

During the war, the government followed a policy of low and stable interest rates, in order to keep interest costs on the public debt small.[12] While today monetary policy is typically conducted through an inter-bank overnight interest rate target, during the war the Federal Reserve instituted a peg of both short- and long-term interest rates on government securities, keeping the rate on short-term Treasury bills at ⅜%, and the rate on long-term bonds near 2½%.[13]

To the modern mainstream macroeconomist, the interest rate is the primary tool for fighting inflation, but the war Treasury did not see it this way. In fact, Morgenthau flatly rejects the notion that high rates of interest during wartime would combat inflation:

> It was formerly believed by some that a high rate of interest was inevitable in wartime; and by others that, if it was not inevitable, it somehow helped to check inflation. Finance ministers in every major belligerent country have learned that neither of these views is true. High rates of interest are not inevitable in wartime, and they do not help check inflation.
>
> Inflation can be checked only by increasing production or reducing expenditure. High interest rates do nothing to increase production, nor do they check either Government expenditure or ordinary consumer expenditure. The only types of expenditure which interest rates can affect are those for capital goods and for housing. These expenditures comprise a very small segment of the wartime economy; and are, in any event, held on short leash by direct controls. To endeavor to control inflation in wartime by raising interest rates is, therefore, like raising a lever which has no machinery behind it (Morgenthau 1945b, 413-414).

Morgenthau believed that low rates would be important for peacetime as well.[14]

> After the completion of the transition from war to peace, the continuation of low interest rates will be a definite factor in the stimulation of full employment. This is because those very sectors of the economy which are potentially sensitive to interest rates - housing and producers' expenditures for capital goods - bear just the reverse relationship to the economy in peace as in war. In war, they are small; and they are limited in amount, not by interest rates, but by the Spartan necessity of conserving our resources for the war effort. In peace, they must be large in order to insure full employment, and will be larger at low

[12] With as large a debt as the government had by the end of the war, it's possible that higher rates would actually have been inflationary - because interest paid by government would be income for bondholders, which they could spend to buy goods and services when the supply of those things was limited.

[13] For a narrative account of how this peg of the yield curve (or as they typically referred to it, "the pattern of rates") came to be, see Wicker (1969).

[14] As Wicker notes, at the outset of the war the Fed was strongly supportive of pegging rates low, but as the war neared its end, and especially in the early post-war period, the Fed began raising strong objections, pushing for higher rates, ultimately resulting in the Fed-Treasury Accord of 1951.

> interest rates than at high ones. The benefits of a low interest-rate policy therefore, will carry through from the wartime to the peacetime economy (Morgenthau 1945b, 414).

The Treasury was quite concerned however that unstable interest rates, and their concomitant effect on bond prices, could lead to panicky liquidations, as noted above, and would anger small citizen investors.

> The most important requirement of the small investor is that the securities which he purchases should be absolutely free from risk. The small investor wants to be sure that he can get back his money when he needs it. He accepts on faith the type of obligation which the Government offers him…
>
> The Government securities sold to small investors during the last World War were marketable. They were consequently subject to price fluctuation. After the war, the prices of Government bonds fell precipitously…
>
> … many small bondholders who sold during the decline were embittered against the Government. They had bought the bonds at the Government's request, and did not understand - and could not be expected to understand - the "normal risks of the market" (Morgenthau 1945b, 410-411).

With the public debt distributed widely within the population, changes in interest rates and bond prices had a more direct effect on citizens' trust and approval of government than they typically do today. This is why Treasury steered small savers to non-marketable, but redeemable, bonds - since these instruments could not be sold on the market, there could be no capital losses. For investors holding marketable securities, the Fed's interest rate peg kept bond prices steady during the war and in the immediate post-war period.

Comparison with Modern Monetary Theory

Before turning to the Treasury's views on national debt, let's compare the war Treasury's view thus far (which we'll denote as WT) with that of Modern Monetary Theory (MMT). Many of the elements of the economic worldview described above are plainly compatible with MMT.

- Both WT and MMT (the latter borrowing from Abba Lerner's Functional Finance) hold that the criteria for evaluating fiscal policy actions is its direct effects on the economy (ie. macroeconomic aggregates and incentives), rather than its independent effects on the budget (see Wray 2015, ch.7.3, 8.1).

- To that end, both doctrines argue that additional spending of any kind represents inflationary pressure in a full employment economy, while taxation can function to prevent inflation (see Wray 2015, ch.5.2).
- The understanding that loans and purchases of assets by commercial banks creates money is compatible with the endogenous money perspective that MMT subscribes to, commonly shorthanded as "loans create deposits" (see Wray 2015, ch.3).
- WT and MMT both see government securities as highly liquid instruments, which do not by themselves prevent holders from purchasing goods and services. Therefore bonds cannot prevent inflation relative to if the bondholders had cash instead, hence a deficit matched by bond sales ("government borrowing") is equally as inflationary as one not matched by bond sales ("printing money"), if interest rates are the same in each case (see Fullwiler 2016).
- Both WT and MMT proponents advocate for stable, low interest rates, while fiscal policy does the primary work of stabilizing the economy at full employment (see Tymoigne 2008).

WT shares MMT's general view of emphasizing real resource constraints rather than financial ones. In MMT, this is sometimes summarized as, "anything that is technologically feasible is financially affordable" (Wray 2015, 292). The Treasury expressed it thus:

> It is on the physical level that major real problems lie, and if these problems can be solved, then the problems on the monetary level are all potentially soluble, and are very unlikely to stand in the way of successful national defense. (Treasury 1940, 355).

WT even shares the view that the cycle of government money begins with government spending, which supplies the funds to the economy that then get used to pay taxes or buy government bonds (see Wray 2015, ch. 4.2). It additionally takes note of the central MMT accounting identity which says that the government deficit is equal to the non-government surplus.

> The Federal Government spent $323 Billion and received in taxes $133 Billion, leaving a deficit of $190 Billion. Individuals and corporations spent $469 Billion but had income after taxes of $651 Billion. The result was a surplus of $182 Billion, and if the $8 Billion surplus of State and local governments is added an exact correspondence with the $190 Billion Federal deficit is obtained.
>
> One of the major goals of Treasury financing was to try to channel back into the Treasury as much as possible of this $190 Billion which people were accumulating as a result of the Federal deficit...

> In analyzing the results of this program, it is convenient to examine the three major-forms of liquid assets held by all nonbank investors combined, namely, currency, commercial bank deposits, and Federal securities. These are the significant ways in which the Federal deficit manifested itself[15] (Treasury 1946, 83).

The WT view is not identical with MMT however, and there are several key differences. Because the Treasury's concern was fighting the war, we've looked mostly into practical and operational aspects. MMT digs deeper than that, for instance by asking fundamental questions about what creates the demand for a currency, arguing that "taxes drive money." We've seen nothing to suggest that the Treasury was thinking in these terms (although, so far, we've found nothing incompatible with the viewpoint either).

Another key difference in approach arises in terms of the language and ontology of money. Modern Money Theorists treat public money as a liability of the state, arguing that state spending creates these IOUs while payments to the state destroy them. The WT view does not use this kind of language, or highlight this ontology,[16] instead referring frequently to Treasury as "obtaining funds" and the like. However, this is not necessarily incompatible with MMT's *operational* viewpoint. The MMT view is linked to its use of the "consolidation hypothesis," in which the balance sheets of the Treasury and the Central Bank are consolidated into a single balance sheet for purposes of policy discussion. But as Wray (2015, 97) points out, while consolidation is a theoretical tool of convenience, one can obtain the same operational results without consolidating. We can therefore see the WT view of monetary operations as closely corresponding to a *deconsolidated* MMT perspective.

There are also policy differences. A common misconception of MMT is that it proposes tax adjustments to fight inflation, but in fact, MMT's preferred approach to countercyclical stabilization is the Job Guarantee. With a JG, the government creates permanent full employment by hiring all willing labor at a fixed wage, which would then act as a buffer stock to help stabilize private wages and prices (Wray 2015, ch.8). Although MMT acknowledges that taxes function to prevent inflation, there is no proposal to actively adjust tax rates in real time as a policy tool in response to inflation. By contrast, in wartime, the primary goal is not countercyclical stabilization, but rather to maximize output in the defense sectors, while minimizing damage to quality of life.

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[15] This is slightly different from the MMT presentation of this concept. Wray states it thus: "When government spends, it creates 'net financial assets' for the nongovernment sector in the form of reserves or treasuries or cash" (Wray 2015, 60). But the two statements are approximately quantitatively equivalent, because, with private lending drastically curtailed, the difference between bank deposits and bank reserves would be about equal to the amount of government bonds held by banks.

[16] Though it's worth noting that Marriner Eccles, Chairman of the Federal Reserve who worked closely with Morgenthau and Bell during the war, did understand that Federal Reserve currency was an obligation of the government ("Direct Purchases of Government Securities by Federal Reserve Banks" 1947, 32). Though it's unlikely that he took this reasoning all the way to its logical conclusions: that tax and bond revenues don't finance government spending.

This necessitated that government actively use tax policy to fight inflation. Whereas the peacetime MMT approach is to allow the size of government to float in order to buffer against inflation, the nature of war required policy to target a certain size government, a government large enough to win the war, and then take other measures to fight the inflation that resulted from this.

All this so far suggests that WT, while not identical with MMT, is perfectly compatible with it. We now turn to the issue of national debt, on which our view will be less clear.

Post-War and the Public Debt

Some statements on the WWII debt from the Treasury sound decidedly mainstream, e.g.

> … a debt of $275 billion is not a burden to be taken lightly. The existence of this debt will be one of the most important facts of the postwar period; and the way in which it is managed will be one of the most important determinants of the character of that period.
>
> … It is my hope that it will be possible to reduce the debt substantially in the years ahead (Vinson 1945, 5).
>
> The present maturity distribution of the public debt was designed to benefit, at once, the investor, the Government, and the economy as a whole…. Its advantages to the Government consist in reducing the risk that any post-war liquidation of Government security holdings might affect adversely the current fiscal operations of the Government and in keeping the interest charge on the debt low - an advantage not to be dismissed lightly by the taxpayer when the debt is in excess of $250 billion (Treasury 1946, 43).

Likewise, Morgenthau dismisses the idea of refinancing government debt into long-term bonds after the war by saying "it would cost the taxpayers more in interest" (Morgenthau 1944b, 333).

Is this consistent with the worldview in previous sections? MMT takes the view that monetarily sovereign debt is sustainable, and therefore adopting a budget position with the intent to reduce debt is not necessary. The logic is that, since government, as the issuer of the currency, can always make its payments, there's no risk of default. If it wanted to reduce debt by buying it back ("printing money")[17] it could do this without fear of inflation, since bonds are highly liquid just like cash (Fullwiler 2016).

What's more, while the public discussion of national debt today sees it as a burden on future generations (see Kelton 2017) MMT rejects this view. Mosler (2010) directly rejects the conventional notion that "higher deficits today mean higher taxes tomorrow" (Mosler 2010, 31),

[17] In the MMT view this presents little financial advantage to the government however, because then it would need to pay a roughly equivalent amount of interest on the money, in order to continue its monetary policy stance.

seeing future resource allocation decisions as something which future generations will decide, separately from resource decisions made today, because goods and services do not travel through time (Mosler 2010, 32).

And indeed, the Treasury seems to have understood this. They correctly understood that these taxes and interest payments are redistribution, rather than an absolute burden.

> ...an internal debt, such as ours will be, serves neither to enrich nor to impoverish a nation - the taxes raised to service the debt being restored to the people by way of interest payments… (Morgenthau 1943a, 395).

And even understood that the cost of the war could only be paid during the war.

> We who fight the war have also the duty of paying for the war. These costs are inescapable. No financial sleight-of-hand can transfer goods and services from the future to the present. And no debt that we might pile up for the future can reduce the sacrifices of goods and services we must make today (Morgenthau 1942d, 393).

> It has come to be generally recognized that the real cost of a war must be paid for while it is being fought. This real cost consists in the labor put forth and the sacrifices endured in order to produce and to use the goods of war. Guns cannot be fired until they and their shells have been made, nor can they be fired with time borrowed from tomorrow. The labor and sacrifice involved in these things must be made today and cannot be postponed...[18] (Bell 1943, 496).

So if labor and payment for the war is its real cost, then what is taxation? The answer is that the Treasury viewed taxation as *allocating* those costs. For example, if the government buys a car, the cost is the sacrifice of a car which went to the government instead of private citizens, and it is borne by the individual who is taxed such that she is prevented from purchasing that car for her own use. The Treasury similarly felt that this applied to government borrowing.

> What then, it may be asked, is the role of war borrowing. The answer must be that war borrowing is a method of postponing, not the cost itself, but the final allocation of the total burden of the war to some future date, when the costs now paid for through the sale of bonds are finally assessed in the form of taxes (Bell 1943, 497).

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[18] This passage continues, "There are, of course, some exceptions to this rule. A war may be fought, in small part, by the use of stocks of goods accumulated before it begins; and, to a much larger extent, by postponing the replacement of capital goods wearing out during its course. With these exceptions, the whole physical cost of a war must be paid for while it is being fought."

> To the extent that borrowing is availed of… those acquiring the bonds… are given claims on the future income of the community… The fundamental difference between taxation and borrowing is that taxation provides a final distribution of the burden as it is being borne, while borrowing leaves its final distribution to a post-war reshuffling (Murphy 1940, 70).

The idea that taxes must be assessed in the future in order to pay down the debt, or that costs paid today can be allocated tomorrow, seems on its face in contradiction to MMT, and in line with the mainstream view. However, given this particular context of war, there may be more to the story.

This comes from the fact, as noted above, that the government was able to run large deficits without causing inflation by actively convincing people to forgo consumption who would not otherwise have been doing so, something not normally done in peacetime. It seems reasonable to assume then that, once the war is over, those citizens who were accepting a lower standard of living as an act of patriotism would cease doing so, and would revise their desired living standards upward. This would be made possible by the fact that they will have accumulated financial savings during the war, particularly in the form of war bonds. After the war, these citizens will take their pent-up savings and spend them.[19]

The Treasury not only understood this latter fact but was counting on it to avoid a post-war depression.

> ...[the] peacetime purpose [of war bonds] is to provide the American people with a backlog of savings that will come in good stead indeed when once again the sword is beaten into the ploughshare. The fact that at the present time there are over 50 million investors in war bonds, and 25 million participants in payroll savings plans alone, is an eloquent tribute to the contribution that wartime financing is making to the solution of post-war problems (Morgenthau 1943a, 395).

In fact, the Treasury's fear was on the opposite side, that in the immediate post-war period, spending these savings would likely constitute an inflation threat.

> Immediately following the end of the actual fighting, we can probably expect a let down in the willingness of people to submit from patriotic motives to a continued reduction in their consumption. There is likely to be a demand for an immediate end of the direct controls… When it is considered that there will be available to be spent currently, in addition to the incomes being received for the production of consumers' goods, not merely the incomes from work in demobilizing the war effort and reconverting private industry, but also the large liquid resources piled up during wartime, it is easy to conjure up the specter of a post-war inflation[20] (Bell 1943, 503).

[19] This was made all the more possible by the removal of rationing and price controls after the war.
[20] In fact, during the demobilization, the Treasury feared the possibility of *stagflation:*

If this inflation threat materialized, then the worldview we have examined thus far would indeed argue for higher taxes, as might MMT. Not only that, but the larger the pent-up savings during the war, the larger and longer the post-war splurge is likely to be; and therefore the larger the taxes might need to be to control inflation. Assuming a long continuation of full employment generated from this (which did in fact happen), then the WT claim that future taxes would be needed to allocate the costs is provisionally correct: future taxes would only not be needed if some people permanently forewent consumption. In a certain sense even, lower interest rates might actually, "save the taxpayer money" in that situation: if interest rates were larger, then this additional government spending on interest would constitute still more private income, potentially leading to higher consumption spending, and therefore still higher tax rates required to control inflation.

It's worth noting that this analysis applies only to debt built up during mobilization or wartime. The key property is that the debt mostly represented savings which citizens would have wanted to spend rather than accumulate, had the government not been persuading them to refrain from consumption. For debts built up during peacetime, governments do not normally try to alter consumer behavior in this way. Government debts amassed during peacetime then *do not* represent pent-up savings, and the MMT view above, that there's no need to pursue a budget to reduce the debt independent of economic conditions, would apply. We suspect that the Treasury would have agreed.

What about the issue of internally versus externally held debt? Once again, the Federal Reserve offers some clarification, in this forceful language by Chairman Marriner Eccles, who worked closely with Morgenthau and Bell during the War:

> Bankruptcy can only be brought about in the case of individuals and corporations. The nation as a whole will not become bankrupt. The public debt will not bring about bankruptcy and the government cannot be bankrupt…

> During the reconversion period, however, while the tools of production for peace goods are being made ready, purchasing power may outrun the goods available for purchase, while wartime measures of control may be relaxed if the people do not recognize the need for continued restraint.
>
> A price inflation is, consequently, one of the hazards of the reconversion period. Stalking hand-in-hand with it goes the hazard of unemployment. Normally, these two are never seen together, since unemployment usually rises from a lack of demand for goods and inflation from a shortage of goods. The unemployment of the reconversion period will be caused, however, not by a lack of demand for the finished products, but because the plants are not yet ready for mass reemployment, and so may go hand-in-hand with inflation.
>
> Once the period of reconversion is over and the tremendous potentialities of the American economy which have been demonstrated during the war period are directed to the production of the goods of peace, the main hazard of inflation will be over" (Bell 1943, 501).

> The idea of thinking that we are leaving a great burden on our children and our children's children is wrong. The mortgage, which is the government's bonds, we are bequeathing to posterity as well as the debt.
>
> If we were getting our funds from abroad in the form of goods and we had to ship goods out of our country and thus reduce our standard of living because of the fact that we had incurred a debt in a foreign country, then that debt would have to be paid by labor and materials that would have to be sent outside of our country. That would be an entirely different story (Eccles 1941, 13-14).

This is a very different argument than often heard today of the dangers of foreign holdings of US debt (see Kelton 2017 again) and it is in fact broadly consistent with Modern Monetary Theory. Government bonds held domestically are both a liability *and an asset* within our nation. Foreigners accumulate assets denominated in our currency when we run a trade deficit with them, and if they were to spend those assets to buy goods from us, then that labor would represent work done by domestic citizens to produce goods consumed by foreign citizens, lowering our standard of living relative to if domestic citizens consumed that output. The debatable claim here would be the implication that a trade deficit today will eventually lead to a trade surplus - though it's worth noting that if this were true, today's commentariat would probably view it as a good thing.

This interpretation of the war Treasury view, if correct, again reinforces that WT is compatible with MMT. To the extent that WT's analysis of the post-war debt is different than MMT's usual analysis of peacetime debt, the difference owes to the differing circumstances, not to a theoretical conflict.

The Treasury View Outside The Treasury: Several Additional Voices

In this section, we'll present a few assenting voices on the Treasury's view of war finance. Our interest is the popular consciousness, and so we will look primarily to citizens and the press.

As noted above, Treasury was running a mass advertising campaign to encourage purchases of war bonds, and saving in general. During and after the war, the Treasury was conducting assessments of the effectiveness of its advertising, and Treasury wanted to determine if citizens understood why Treasury wanted them to buy war bonds. A leader of the survey program, Dorwin Cartwright of the Division of Program Surveys in the Department of Agriculture,[21] was tasked to "help guide policy decisions in the development of a program of inflation control through the sale of Savings Bonds" (Cartwright 1949, 253). He writes:

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[21] Cartwright actually served as assistant to Rensis Likert, who submitted the official reports to Treasury. Likert would become a notable psychologist, who wrote several books on organizational arrangement, and developed the "Likert scale" for attitude surveys (Kish 1990).

> In the course of the research program considerable attention was given to the nature of popular thinking about the functioning of the economy and the role of War Bonds in the prevention of inflation. From this analysis it became clear, for example, why the promotion designed to explain the Government's interest in bond sales as a means of inflation control did not succeed in changing popular thinking. It became apparent that for many people war finance was seen simply as the collection of dollars by Uncle Sam which were then paid by him to the manufacturers of war goods. If Uncle Sam sold the bonds, he could buy equipment; if he did not sell them, he could not get the supplies (Cartwright 1949, 259-260).

While Cartwright clearly understood that the primary purpose of the bond sale campaigns was to prevent inflation rather than to "get money," his results demonstrated that a majority of citizens did not. He continued,

> Asked directly whether failure to sell enough bonds would cause a shortage of military equipment, 49 per cent of those interviewed… said that it would. With such a conception of the nature of the economy it is not surprising that, when asked whether they thought buying bonds would help keep prices down, 54 per cent either asserted directly that bond purchases had no effect on prices or said that they could not see any relation between the two (Cartwright 1949, 260).

To that end, Cartwright seems to view the education campaign as somewhat of a failure, as the distribution of answers to the survey question about why the government was selling bonds was largely unchanged by the end of the war. He does note however that, "examination of the content of this promotion makes it clear that no single explanation of the Government's reasons was universally pushed" (Cartwright 1949, 259).

Though the general public may not have caught on very well, some voices in the media did. To be sure, the publications from this era are by no means universally in accordance with the Treasury's view, and indeed there was quite a lot of confusion and conflicting opinions. However, some authors were picking up on the general ideas of the Treasury's view, if not always all of the nuance. For instance, many in the press understood and supported the idea of inflation-fighting taxes:

> All experts agree that taxation is the most powerful instrument that can be used to prevent inflation; indeed, that if it is not used courageously all other measures are doomed to failure (Lindley 1941b, in the Washington Post).

> The first line of defense against inflation is efficiency in Government expenditures and drastic taxation. The second consists of measures to absorb in Government bonds as much as possible of the real savings of the people. Price and wage control is the third line of defense, which depends heavily upon the maintenance of the first two ("Taxes -- and inflation" 1944, in the New York Times).

> No longer does [Federal Reserve Chairman Marriner Eccles] think that inflation can be dealt with solely by monetary and credit measures. In fact, at this stage of our defense effort he regards such indirect controls as of secondary importance. In his opinion taxation is now the most important single instrumentality in maintaining economic stability - that is, in preventing either general inflation or deflation. He says we must abandon the idea that taxation is 'merely a means of securing revenue' and think first of its effect on the national economy.
>
> With this approach most people nowadays would agree ("Taxation for control" 1941, in the Washington Post).

These outlets also picked up on the monetary operations involved in bank purchases of government bonds:

> When banks buy Government bonds, payment takes the form of newly created deposits to Government account [sic]. These are paid out and redeposited in private accounts ("Good way to save" 1941, in the Washington Post).
>
> The Government has bills to pay every day. If it can't pay them with money borrowed from individuals and business firms it must pay them with money borrowed from commercial banks-and borrowing from commercial banks, as the Book of the Month Club says, 'creates "invisible greenbacks" which can buy anything visible greenbacks can buy' ("Bonds vs. Inflation" 1943, in the New York Times).
>
> The main purpose in fostering bond purchases by individuals is to prevent a major inflation of prices. When commercial banks buy the bonds, deposits are correspondingly increased, and with them the danger of inflation. When investors buy the bonds, deposits are not increased. When individuals, especially persons with small and medium incomes, buy them, Government spending is offset by a reduction in private spending (Lindley 1941a, in the Washington Post).

The media seems to have picked up very well on the fact that bond sales to banks create bank deposits, but only some publications understood that the issue of "real saving" went beyond just the quantity of money. An editor at Barron's grasped it:

> In a good many cases [automobiles, radios, and so forth] are manufactured out of the same raw materials which go to make up airplanes and guns. If productive capacity of some of the raw materials becomes strained by simultaneous orders from the Government and from makers of "automobiles, radios and so forth", prices tend to rise and priorities have to be invoked, which mean a lot of trouble in a great many ways. But if part of the increased wages can be diverted back directly to the Government, armament purchases will meet less competition from civilian needs and desires...

> For this reason the test of whether a citizen should or should not buy a new defense bond is as much a question of economics as it is of patriotism. It will *seem* patriotic, but in reality will not be so, if he buys a government bond in such a way as to cancel the Treasury's purpose of dampening inflation and releasing materials and supplies for the arms program…
>
> The value of the defense bond plan lies in the extent to which people buy the bonds with savings which they otherwise would have spent ("When to Buy Defense Savings Bonds" 1941, emphasis in original).

And there was occasional mention of the accumulation of savings that war bonds represented, and the postwar spending this was likely to produce.

> The more we lend to the Government now the less likely we are to have serious inflation. If we lend enough we need not have any inflation. And if this danger is avoided we can look forward to a safe - even a patriotic - 'spending spree' when the war is over ("Bonds vs inflation" 1943).

Two notable writers who also seem to understand quite well were Jacob Marschak and Walter Lippmann. In a letter to the editor published in the New York Times in 1942, Marschak[22] wrote:

> I wonder how many people realize that the aim of the present Defense Savings campaign is not "to provide money for the government" but to curtail the consumers' demand for goods....
>
> Many seem to believe their duty done when they have invested their usual monthly savings in Defense Bonds, instead of carrying them, as before, to the savings bank… Such actions help, of course, very little toward the goal. The government's main concern is to shift our material and human resources to military uses without causing a rise in the prices of civilian goods. This can only be achieved if civilians deliberately set out to spend less than before. If the public merely reshuffles its savings, but does not increase them, the government's aim is not achieved…
>
> If every family in this country would transform its savings, old and new, into Defense Bonds, but tried at the same time to keep up its old standard of living, no government embarked upon this war could prevent rising prices (Marschak 1942).

[22] Among other contributions, Marschak did early foundational work in econometrics, served as dissertation advisor to Franco Modigliani at The New School, created Team Theory, and directed the Cowles Commission for Research in Economics (Arrow 1991).

In 1941, Lippmann[23] devoted an edition of "Today and Tomorrow," his popular column in the Washington Post, to "The A. B. C. of War Finance."

> While everyone realizes that paying taxes and putting savings into bonds are connected with preventing 'inflation," the Administration has not yet made it clear to the country just what is the connection…
>
> For, as Mr. Eccles explained, the problem is not how to raise "money" for the Government. The Government could raise all the "money" it wants by running the printing presses or letting the banks manufacture "money" for it. But if the Government did this, the money when it got into the pockets of defense manufacturers and workers would cause them to bid up the price of everything. This would be inflation. So the Government's real problem is how to keep private citizens from expending more money than there are goods, at approximately present prices, which are available for sale to private citizens...
>
> What is the cause of this problem? It is that though the people are paid 100 billion dollars to produce goods, 25 billions of their product belongs to the Navy, Army, and air force [sic]. Therefore, the people, though they produced 100 billions of product, must get along with only 75 billions of goods for themselves. But nevertheless, they have an extra 25 billions in their pockets. If something is not done about these 25 billions, the public will try to spend them - thus causing a 100 billion dollar demand for a 75 billion dollar supply. So there exists in the Nation an excess income of 25 billion dollars. *War finance, in the last analysis, consists of measures to prevent the public from spending that extra 25 billion dollars...*
>
> A wise policy will tax to the limit - the limit being not to deprive workers and businessmen of the incentive to produce all out. Beyond that limit it will use voluntary saving to the limit of its practicality and beyond that limit it will use compulsory saving...
>
> Looked at from the point of view of the Government the object of war finance is twofold: to protect the people against inflation and to make sure that the national defense has a first call upon factories, materials, transportation, managerial skill, and labor…
>
> Whatever it does, as to taxes, bonds, priorities, conscription, rationing, the central principle is the same and is very simple. In order to arm the Nation it is necessary to work harder and consume less. For it is impossible to consume 100 billions of goods when 25 billions are for arms. It is possible then to consume only 75 billions. And the task of government finance is to see that the sacrifice or postponement of this 25 billions of private expenditures is made in a just and orderly and efficient way (Lippmann 1941, emphasis in original).

[23] Walter Lippmann was a journalist with a long and storied career. He invented the concept of "stereotypes," and popularized the term "Cold War" (Dyer 2000, Freedman 2010). He won two Pulitzer Prizes and the Presidential Medal of Freedom, and in his obituary the New York Times called him a "public political thinker of towering eminence whose wisdom was pondered by men in high station and low the world over" (Whitman 1974).

To reiterate in the hopes of not being misunderstood: nothing in the above should be construed to imply that this was the universal worldview in the popular media. Our purpose has only been to show that Treasury's view had a foothold in these spaces, and a population among whom it was accepted. We suspect therefore that MMT might have held sway in these spaces as well.

Cause for Optimism

World War II brought enormous changes to the nation and the world, and profoundly altered the lives of every person who lived through it. Some of these changes were death, destruction, and despair, but to other people in other places, the era inspired hope, optimism, and unity.

The world learned many lessons in that short span of time, but sadly, not all of them stuck. Today, in an era of escalating political paralysis, in part brought on by irrational fears of a financial system that our thought-leaders don't seem to understand, we would do well to re-learn some of these lessons.

As Morgenthau understood and Americans generally would come to understand, a mobilization of our nation's economy is reason for optimism. "...the gross national product will have doubled between the fiscal years 1940 and 1944. Most of this change reflects an increase in actual physical production, revealing a productivity of the American industrial and agricultural economy which had hitherto been suspected only by the most optimistic"[24] (Morgenthau 1944a, 3).

The Secretary himself had been among the optimistic. In a speech delivered before the attack on Pearl Harbor, he said:

> ...we are now on the road to an expansion of production which will confound those of narrow vision and little faith who cried, "It can't be done." The capacity of America to produce over the long pull is almost limitless. We Americans can do any job that we set ourselves to do (Morgenthau 1941b, 13).[25]

Moreover, the war mobilization changed the way people understood the economy and their role in it. Perhaps Walter Lippmann put it best:

> What we are seeing, therefore, for the first time, is how far any American has been from realizing the true potentialities of the country once there is a determined effort to draw upon its hidden, neglected and unrealized reserves…

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[24] Another voice expressing the same sentiment as Morgenthau here was Walter Lippmann: "Even as recently as three years ago nobody, not even the boldest thinker or the most enterprising leader, had any conception of what the productive capacity of the country really was" (Lippmann 1944).

[25] Another notably present among those optimistic was John Maynard Keynes, who claimed in 1941 that the United States was "very far from its full potential" ("Keynes Outlines Program", 1941).

> A dog which suddenly grew to be as big as a horse would no longer be treated as a very big dog, and its proud master would find he had to change his ideas and his feelings about dogs.
>
> We shall find that in the presence of this demonstration of American productivity, the change of scale, the new order of the magnitude of things, will compel us to reexamine almost all our common assumptions on such matters as taxes, the national debt, tariffs, international commerce, finance, imports, exports, and investment (Lippmann 1943).
>
> ...somehow it has come to be understood that the capacity to produce is the real wealth of a nation, and that its national debt is not a measure of the Nation's, or even of its Government's, economic position (Lippmann 1944).

And it all happened very quickly. As late as 1939, Morgenthau and the Treasury believed that balancing the budget was the most pressing economic problem facing the government. The deficit, they thought, was stalling private investment because business owners were supposedly uncertain about future taxes (Duffield 1939).[26] Within a year, Keynes's "How To Pay For The War" (1940a) came out, and within two more years, the deficit had ballooned by an order of magnitude. Further work is needed to figure out how the Treasury made this transition, though this author currently suspects that Keynes (1940a and 1940b) was a major influence, a hypothesis which Markwell (2007) provides support for.

But much of it likely came from direct experience. By necessity of bracing the trials of war, the war treasury learned the hard way how the monetary system works. As Fed Chair Beardsley Ruml would write just a few years later, "The war has taught the government, and the government has taught the people" how Federal finance works (1946). Or at least it tried to anyway. Modern Monetary Theory is trying to teach people once again.

In an era when major policy to address climate change is being sought with increasing urgency, the importance of these lessons cannot be overstated. If our citizens and leaders today had a better understanding of the role our monetary system played in WW II, then we could repeat that mobilization, this time not for battle, but to address the existential challenges of our time. Not to wage war but, as Morgenthau might put it, "to wage an active and continuous peace" (Morgenthau 1945a, 218).

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[26] "When the road toward a balanced budget has not been charted, the man who has saved money or who is in charge of a business enterprise may refuse to undertake an ordinary investment or expansion because he expects heavier taxes ahead and he cannot foresee how they will affect him. Because he can not appraise the hazards of the future, he may simply mark time" (Duffield 1939, 12).

Conclusion

In this paper, we examined the economic worldview held by the US Treasury during World War II. We saw that they believed that the challenges of war were real physical challenges. The task of the Treasury was not to beg and plead for scarce dollars, but rather to spend as needed to resolve the crisis, while taking appropriate action to fight any inflation this was liable to cause. They viewed taxes as their most potent anti-inflationary weapon, to reduce consumer spending so that more goods and services were available for government to buy. They also managed to reduce consumer spending through a "mass persuasion" campaign (as Cartwright put it) aimed at promoting increased saving. They believed that interest rate adjustments were an inappropriate tool for the job of managing mobilization inflation, and viewed stable interest rates as conducive to trust in government. While a public debt built during wartime could have implications for future taxes and spending, if our interpretation is correct, then the Treasury would not have viewed a national debt built up in peacetime as a financial impediment to the wealth of a nation.

This view is largely compatible with that promoted by Modern Monetary Theory, the primary differences being attributable to the differing circumstances which each set of policy proposals is designed for. In the current fiscal battle between the deficit hawks and the deficit doves, the WW II Treasury staff would probably have counted themselves next to MMT advocates as "deficit owls."[27]

And this view also made some inroads among the popular press, though it was far from universal, and the general population seems not to have picked up on it.

We would be wise to use the experience of this era to learn these lessons the easy way, otherwise challenges in our own era are likely to force us to learn them the hard way.

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[27] For those not familiar with this terminology, see Matthews (2012).

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