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The Fiscal Legacy of War:

U.S. Defense Spending and Redistribution Across  
Booms and Busts

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# The Fiscal Legacy of War: U.S. Defense Spending and Redistribution Across Booms and Busts\*

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## Abstract

This letter examines the impact of U.S. military spending after World War II on fiscal outcomes across economic expansions and contractions. During booms, cuts in military spending were followed by sustained increases in transfers, supported by revenue gains from economic growth. In busts, rising military spending coincided with higher transfers, typically financed through debt. These findings challenge the traditional “guns versus butter” narrative, showing that military and social spending can expand simultaneously in crises, and that macroeconomic conditions—not just voter preferences—play a crucial role in shaping the fiscal legacy of war.

*JEL classification:* E65, H50, H56, N12, N42.

*Keywords:* war, ratchet, defense spending, transfers, taxes, revenues, GDP growth

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# 1 Introduction

Do cuts in military spending automatically lead to greater redistribution? More generally, do changes in defense budgets have the same fiscal effects regardless of the state of the economy? These are key questions for understanding the political economy of war. Yet much of the literature assumes symmetric fiscal responses, often neglecting how economic conditions shape fiscal policy.

[Beetsma et al. \(2016\)](#) show that in the U.S., particularly after World War II, cuts to defense spending led to lasting increases in redistribution. This “redistributive ratchet” emerged as postwar reductions in military budgets created fiscal space redirected to social transfers. According to the authors, this shift reflected both institutional inertia, through the persistence of wartime programs, and a broader political realignment, as the war experience shifted public preferences toward greater welfare provision. However, their model treats economic growth merely as a control variable, implicitly assuming that fiscal responses to defense spending are independent of the business cycle. As a result, postwar redistribution appears primarily as a legacy of war, disconnected from the exceptional growth of the 1950s and 1960s.

We refine this framework by drawing on insights from [Cappella Zielinski et al. \(2017\)](#), who show that military spending responds asymmetrically to economic conditions, falling in downturns but remaining stable in expansions. This suggests that the fiscal effects of defense spending may also depend on the state of the economy. Building on this idea, we extend Beetsma et al.’s empirical model to allow the effects of military spending to depend on the state of the economy. We use a growth-based threshold to distinguish between expansions and declines, and estimate the impact of defense spending on transfers, taxes, and revenues conditional on the phase of the business cycle.

Our results reveal a striking asymmetry: the redistributive ratchet is strongest during booms, when reductions in military spending lead to significant increases in transfers.

During downturns, however, even rising defense budgets often coincide with higher redistribution, challenging the conventional “guns versus butter” trade-off. This suggests that in times of crisis, governments may adopt expansionary strategies combining military and social spending to support demand and preserve social cohesion.

More generally, we show that the fiscal legacy of military spending depends critically on macroeconomic conditions. While previous research focused on political and institutional legacies, we highlight how timing, whether a war ends in a boom or a bust, matters for fiscal outcomes. In doing so, we contribute to debates on state expansion after crises (Higgs, 1987; Ramey, 2011; O’Reilly and Powell, 2015; Hall and Sargent, 2022; Beretta and Colombo, 2025), and engage with more skeptical views on institutional resilience (Bologna Pavlik and Young, 2015).

## 2 Econometric Approach and data

We use annual U.S. time series data from 1931 to 2002, as compiled by Beetsma et al. (2016). The dataset includes defense spending, federal transfers, federal taxes, and revenues from the National Income and Product Accounts; unemployment figures from the U.S. Bureau of Labor Statistics; and population data from the U.S. Census.<sup>1</sup> This historical period is chosen to build on and extend the analysis of Beetsma et al. (2016), with a particular focus on previously undocumented asymmetric fiscal responses to military spending. In particular, we investigate how positive and negative changes in defense spending—corresponding to episodes of rearmament and demobilization—nonlinearly influence federal transfers, taxes, and revenues, depending on the state of the economy.

To identify these potentially asymmetric effects, we propose an econometric specification that includes a dummy variable (BOOM), which takes the value of one when annualized real GDP growth exceeds 1.5 percent.<sup>2</sup> This dummy is interacted with variables capturing

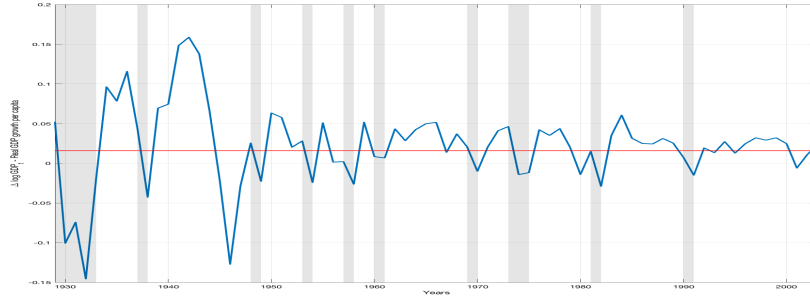
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<sup>1</sup> Available at: <https://www.openicpsr.org/openicpsr/project/114611/version/V1/view>.

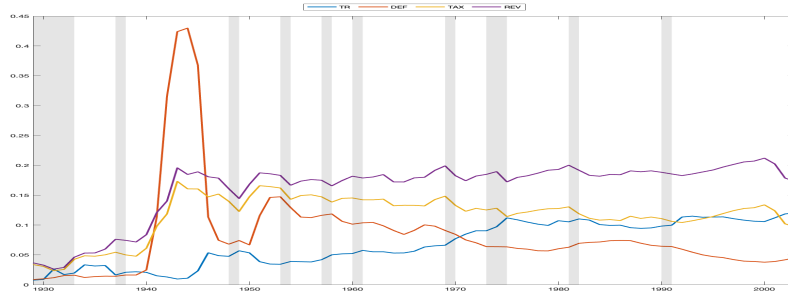
<sup>2</sup> For the U.S. economy, thresholds used to distinguish between economic expansions and declines based on real per capita GDP growth often range between 1.5% and 2%. For instance, Gordon (2017) identifies 1.5% annual growth as a benchmark distinguishing the exceptional postwar expansion from the slower

**Figure 1**

**(a) Real GDP growth per capita**



**(b) GDP shares of federal transfer, defense spending, taxes and revenue**



Notes: Panel (a) shows real per capita GDP growth (1928–2005), with the 1.5% threshold (red line) distinguishing booms from recessions. Panel (b) reports the GDP shares of federal transfers, defense spending, taxes, and total revenues. Gray bands indicate NBER-designated recessions.

positive and negative changes in defense spending. These fluctuations, typically associated with wartime mobilization or responses to geopolitical tensions, are generally considered exogenous to short-term economic conditions, an assumption consistent with standard practice in the fiscal policy literature (e.g., [Ramey, 2011](#)). Our baseline specification is:

$$\begin{aligned} \Delta Y_t = & \beta_0 + \beta_1 \Delta DEF_{Ut} + \beta_2 \Delta DEF_{Dt} + \beta_3 BOOM \\ & + \beta_4 (BOOM \times \Delta DEF_{Ut}) + \beta_5 (BOOM \times \Delta DEF_{Dt}) \\ & + \beta_6 \Delta POP65_{t-1} + \beta_7 \Delta u_{t-1} + \epsilon_t \end{aligned} \quad (1)$$

“new normal” that followed. Similarly, [Summers and Rachel \(2019\)](#) proposes a 2% growth threshold as a minimum standard for satisfactory macroeconomic performance in advanced economies. As a robustness check, we also implement the 2% threshold; the results remain robust (see Online Appendix A1).

Here,  $Y_t$  denotes the dependent variable, which, in different specifications, refers to the change in the GDP share of transfers ( $\Delta TR_t$ ), the change in the GDP share of federal taxes ( $\Delta TAX_t$ ), or the change in the GDP share of federal revenues ( $\Delta REV_t$ ).  $\Delta DEF_{Ut}$  captures the change in the GDP share of defense spending, when the change is positive and zero otherwise, while  $\Delta DEF_{Dt}$ , *idem*, when the change is negative and zero otherwise.  $\Delta POP65_{t-1}$  and  $\Delta u_{t-1}$  represent the lagged changes in the share of the population aged 65 and over and the unemployment rate, respectively. Together, they control for demographic and cyclical factors that may independently affect the dynamics of transfer spending.<sup>3</sup> To estimate the model, we apply ordinary least squares (OLS) with Newey-West standard errors to correct for heteroskedasticity and autocorrelation, assuming an AR(1) error structure.

Figure 1 shows the periods of economic expansion and decline identified by our BOOM dummy, which largely align with those recognized by the NBER. This overlap supports the use of our growth threshold as a valid indicator of the economic cycle and strengthens the robustness of our empirical strategy. Using a binary variable to distinguish between expansion and contraction enhances clarity and interpretability, especially compared to continuous indicators that may correlate strongly with the unemployment rate, which itself serves as a proxy for the economic cycle. This approach allows for more robust inference.

## 3 Empirical Results

### 3.1 Transfers and Defense Spending

Table 1 presents several regression models examining how changes in defense spending affect federal transfers, with and without accounting for interactions with the state of the economy. Column (1) omits asymmetries and shows that defense spending exerts a statistically significant negative effect on transfers, that is when defense goes up, transfers goes down, and vice versa. Column (2) distinguishes between increases and decreases in

<sup>3</sup> See Li and Koustas (2019) for an analysis of the effects of World War II spending on U.S. labor and population.

defense spending. While defense drawdowns ( $\Delta DEF_{Dt}$ ) significantly increase transfers, buildups ( $\Delta DEF_{Ut}$ ) have no significant effect. The F-test confirms an upward ratchet as in [Beetsma et al. \(2016\)](#).

Columns (3)-(6) test whether the effect varies with economic conditions by interacting defense spending with the *BOOM* dummy. In the full sample (1931–2002), the ratchet effect disappears, but it reappears when excluding the Great Depression (1937–2002), indicating the effect is driven by the post-WWII period. Hence, we focus on the results from column (6), as it not only best captures the dynamics between defense spending and economic conditions, but also provides the most robust and significant findings of the analysis.

**Table 1:** Effects of defense spending on federal transfers, ( $\Delta TR_t$ )

	(1)	(2)	(3)	(4)	(5)	(6)
Period	1931-2002	1931-2002	1931-2002	1931-2002	1937-2002	1937-2002
$\Delta DEF_t$	-0.076** (-2.76)					
$\Delta DEF_{Ut}$		-0.026 (-1.21)	0.199 (0.31)	0.583 (1.18)	0.855* (1.74)	0.999** (2.47)
$\Delta DEF_{Dt}$		-0.112*** (-13.33)	-0.099*** (-8.23)	-0.110*** (-15.47)	-0.114*** (-13.26)	-0.117*** (-19.08)
<i>BOOM</i>			-0.002 (-1.17)		-0.001 (-0.47)	
<i>BOOM</i> * $\Delta DEF_{Ut}$			-0.227 (-0.35)	-0.608 (-1.24)	-0.883* (-1.80)	-1.025** (-2.52)
<i>BOOM</i> * $\Delta DEF_{Dt}$			-0.120*** (-3.00)	-0.079** (-2.50)	-0.090** (-2.57)	-0.078** (-2.34)
$\Delta POP_{65t-1}$	0.609 (0.52)	-0.049 (-0.04)	-0.142 (-0.13)	-0.155 (-0.14)	-0.358 (-0.29)	-0.355 (-0.28)
$\Delta u_{t-1}$	0.009 (0.22)	0.036 (0.97)	-0.004 (-0.09)	0.030 (0.81)	-0.002 (-0.02)	0.014 (0.18)
$R^2$	0.24	0.30	0.33	0.32	0.39	0.39
$\bar{R}^2$	0.20	0.25	0.25	0.24	0.31	0.32
DW	1.89	1.91	1.93	1.92	1.81	1.81
$H_0$ : no ratchet		$p = 0.00$	$p = 0.65$	$p = 0.17$	$p = 0.06$	$p = 0.01$

Notes:  $t$ -statistics are reported in parentheses. DW refers to the Durbin–Watson statistic. The last row reports the  $p$ -value of the F-test for the null hypothesis of no ratchet effect. All regressions include a constant term, which is omitted from the tables for brevity. Stars: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ .

During periods of economic expansions ( $BOOM = 1$ ), increases in defense spending have a small but statistically significant negative effect on the share of transfers ( $\beta_1 + \beta_4 = -0.026$ ). This suggests that higher military expenditures slightly reduce the allocation to transfers, indicating a limited reallocation of public resources from social programs toward

defense. In contrast, reductions in defense spending are associated with a much larger negative coefficient ( $\beta_2 + \beta_5 = -0.195$ ), implying a substantial increase in the transfers share. This reflects a strong compensatory response in public spending, whereby cuts to military outlays are redirected toward social transfers, likely to support income stabilization or social welfare. This asymmetry aligns with the upward redistributive ratchet effect described by [Beetsma et al. \(2016\)](#).

During periods of economic decline ( $BOOM = 0$ ), increases in defense spending are associated with a significant rise in the share of transfers ( $\beta_1 = 0.999$ ). This suggests that higher military expenditures do not crowd out transfers, but rather coincide with a broader expansion of public spending directed toward social support. In contrast, reductions in defense spending have a smaller, though still statistically significant, negative effect on transfers ( $\beta_2 = -0.117$ ), suggesting a partial substitution effect: as military spending falls, transfers increase.

The magnitude of the first effect, approximately eight times greater, supports the existence of a distinct redistributive mechanism compared to [Beetsma et al. \(2016\)](#): during recessions, even military build-ups trigger redistribution, as transfers are used for income stabilization.<sup>4</sup> The redistributive effect of postwar defense drawdowns is therefore more pronounced during periods of economic expansion, suggesting that post-WWII growth amplified the fiscal legacy of wartime mobilization. The prosperity of the 1940s and 1950s, driven by industrial reconversion and increased fiscal capacity, created favorable conditions for sustained redistribution. In contrast, during recessions, the stabilizing role of transfers becomes more prominent, even in the context of rising military budgets.

### 3.2 Taxes, Fiscal Revenues and Defense Spending

We now turn to the other side of the budget, analyzing the effect of defense spending on federal taxes and revenues, while accounting for possible asymmetries driven by the state

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<sup>4</sup> The results remain robust when using three-year moving averages to smooth short-run fluctuations and account for delayed fiscal responses, reinforcing the view that our estimates capture persistent dynamics (see Online Appendix A2).

of the economy. Tables 2 and 3 report results for taxes and revenues, respectively, with and without non-linear interactions between military spending and economic conditions.

**Table 2:** Effects of defense spending on federal taxes,  $\Delta TAX_t$

	(1)	(2)	(3)	(4)	(5)	(6)
Period	1931-2002	1931-2002	1931-2002	1931-2002	1937-2002	1937-2002
$\Delta DEF_t$	0.126*** (2.82)					
$\Delta DEF_{Ut}$		0.245*** (5.86)	-2.162** (-2.53)	-2.192*** (-3.13)	-2.228** (-2.29)	-2.009*** (-2.78)
$\Delta DEF_{Dt}$		0.042*** (4.59)	0.041** (2.43)	0.042*** (3.28)	0.032* (1.70)	0.027* (1.70)
<i>BOOM</i>			0.000 (0.09)		-0.001 (-0.49)	
<i>BOOM</i> * $\Delta DEF_{Ut}$			2.415*** (2.80)	2.445*** (3.45)	2.446** (2.51)	2.232*** (3.05)
<i>BOOM</i> * $\Delta DEF_{Dt}$			0.128 (1.10)	0.124 (1.07)	0.153 (1.43)	0.171 (1.50)
$\Delta POP_{65t-1}$	1.624 (0.81)	0.110 (0.06)	0.256 (0.16)	0.257 (0.16)	0.069 (0.04)	0.058 (0.04)
$\Delta u_{t-1}$	-0.036 (-0.37)	0.022 (0.32)	0.070 (0.95)	0.067 (0.91)	-0.077 (-0.64)	-0.050 (-0.45)
$R^2$	0.24	0.37	0.43	0.43	0.47	0.47
$\bar{R}^2$	0.20	0.32	0.36	0.37	0.39	0.40
DW	1.95	1.98	2.00	2.01	2.03	2.02
$H_0$ : no ratchet		$p = 0.00$	$p = 0.01$	$p = 0.00$	$p = 0.02$	$p = 0.01$

Notes: Further, see notes to table 1.

Columns (1) and (1.b) show a positive and significant effect of defense spending on both taxes and revenues, confirming that wartime mobilization is associated with higher fiscal extraction. In columns (2) and (2.b), where increases and decreases in the defense share are treated separately, both coefficients remain positive and significant, but the effect is much stronger when defense spending rises, about five times larger. The F-tests confirm the asymmetry, consistent with a ratchet effect.

Columns (3)-(4) and (3.b)-(4.b) test the non-linear effects of military spending and economic growth on taxes and revenues. Focusing on periods of economic decline ( $BOOM = 0$ ), increases in defense spending are associated with sharp reductions in both taxes ( $\beta_1 = -2.192$ ) and revenues ( $\beta_1 = -1.837$ ). In contrast, decreases in defense spending have a much smaller impact ( $\beta_2 = 0.042$  for taxes;  $\beta_2 = 0.041$  for revenues). This asymmetry suggest that, during recessions, increases in military spending are primarily financed through debt rather than taxation (Barro, 1979).

**Table 3:** Effects of defense spending on federal revenues,  $\Delta REV_t$ 

	(1.b)	(2.b)	(3.b)	(4.b)	(5.b)	(6.b)
Period	1931-2002	1931-2002	1931-2002	1931-2002	1937-2002	1937-2002
$\Delta DEF_t$	0.111*** (2.68)					
$\Delta DEF_{Ut}$		0.217*** (4.74)	-1.626 (-1.61)	-1.837** (-2.20)	-1.744 (-1.47)	-1.652* (-1.87)
$\Delta DEF_{Dt}$		0.036*** (3.79)	0.035* (1.87)	0.041** (2.81)	0.028 (1.24)	0.026 (1.36)
<i>BOOM</i>			0.002 (0.51)		-0.001 (-0.17)	
<i>BOOM</i> * $\Delta DEF_{Ut}$			1.851* (1.82)	2.060** (2.44)	1.926* (1.62)	1.836** (2.05)
<i>BOOM</i> * $\Delta DEF_{Dt}$			0.074 (0.61)	0.051 (0.41)	0.097 (0.78)	0.104 (0.77)
$\Delta POP_{65_{t-1}}$	2.405 (1.18)	1.060 (0.54)	1.154 (0.64)	1.168 (0.65)	0.934 (0.57)	0.930 (0.57)
$\Delta u_{t-1}$	-0.074 (-0.70)	-0.021 (-0.25)	0.037 (0.39)	0.019 (0.20)	-0.147 (-1.02)	-0.135 (-1.01)
$R^2$	0.22	0.31	0.35	0.35	0.40	0.40
$\bar{R}^2$	0.17	0.26	0.27	0.28	0.31	0.32
DW	1.97	1.98	2.00	2.00	2.00	2.00
$H_0$ : no ratchet		$p = 0.00$	$p = 0.11$	$p = 0.03$	$p = 0.14$	$p = 0.06$

Notes: Further, see notes to table 1.

During economic expansion ( $BOOM = 1$ ), the direct effect of rising defense spending is negative and statistically significant ( $\beta_1 = -2.192$  for taxes;  $\beta_1 = -1.837$  for revenues). However, the interaction terms are positive and significant ( $\beta_4 = 2.445$  for taxes;  $\beta_4 = 2.060$  for revenues), effectively offsetting the decline. As a result, the net effect of defense build-ups during booms is positive: increases in defense spending not only fail to reduce public revenues but may actually contribute to an overall expansion of fiscal resources. This pattern likely reflects the government's enhanced capacity to finance transfers without sacrificing revenue, owing to robust economic growth that supports tax collection. In contrast, the coefficients for falling defense spending ( $\beta_2$ ) remain small and positive, and the corresponding interactions are not significant, implying a limited fiscal response when military spending declines. In columns (5)–(6) for taxes and (5.b)–(6.b) for revenues, results for the 1937–2002 sub-period closely mirror those for the full sample, 1931–2002.

## 4 Conclusions

This letter has examined the fiscal consequences of U.S. military spending through the lens of macroeconomic asymmetries, showing that its redistributive and revenue effects depend on the state of the economy. Using U.S. time series data from 1931 to 2002, our analysis reveals two key asymmetries. First, we confirm the existence of a redistributive ratchet following World War II, most evident during economic expansion. During booms, reductions in defense spending are associated with a significant and sustained increase in transfers, taxes and revenues, suggesting that the fiscal space created by military cuts was reallocated to support long-term redistribution, financed by revenue gains from growth. Second, we uncover an alternative dynamic during downturns: defense buildups do not crowd out redistribution but coincide with rising transfers and declining revenues. This suggests that in times of crisis, governments may adopt expansionary strategies on both military and social fronts to sustain demand and preserve social cohesion, even with limited fiscal capacity. These measures are typically debt-funded, underscoring the expansionary stance adopted during economic distress. Our findings challenge the conventional “guns versus butter” dichotomy and emphasize that the fiscal legacy of war depends not only on political or institutional arrangements but also on macroeconomic timing. Future research could explore whether these asymmetries appear in other countries or periods, and how institutions shape the interaction between military spending, cycles, and redistribution. In a time of renewed geopolitical tensions, these questions remain highly relevant

## References

- Barro, R. J. (1979). On the determination of the public debt. *Journal of Political Economy* 87(5, Part 1), 940–971.
- Beetsma, R., A. Cukierman, and M. Giuliadori (2016). Political economy of redistribution in the united states in the aftermath of world war II—evidence and theory. *American Economic Journal: Economic Policy* 8(4), 1–40.
- Beretta, E. and E. Colombo (2025). Comparing the us financing sources during world wars and pandemics (spanish flu vs. covid-19). *Applied Economics Letters* 32(3), 312–315.
- Bologna Pavlik, J. and A. T. Young (2015). Crises and government: Some empirical evidence. *Contemporary Economic Policy* 34(2), 234–249.
- Cappella Zielinski, R., B. O. Fordham, and K. E. Schilde (2017). What goes up, must come down? the asymmetric effects of economic growth and international threat on military spending. *Journal of Peace Research* 54(6), 791–805.
- Gordon, R. (2017). *The rise and fall of American growth: The US standard of living since the civil war*. Princeton University Press.
- Hall, G. J. and T. J. Sargent (2022). Three world wars: Fiscal–monetary consequences. *Proceedings of the National Academy of Sciences* 119(18).
- Higgs, R. (1987). *Crisis and Leviathan: Critical Episodes in the Growth of American Government*. Oxford: Oxford University Press.
- Li, Z. and D. Koustas (2019). The long-run effects of government spending on structural change: Evidence from second world war defense contracts. *Economics Letters* 178, 66–69.
- O’Reilly, C. and B. Powell (2015). War and the growth of government. *European Journal of Political Economy* 40, 31–41.
- Ramey, V. A. (2011). Identifying government spending shocks: It’s all in the timing. *The Quarterly Journal of Economics* 126(1), 1–50.
- Summers, L. H. and L. Rachel (2019). On falling neutral real rates, fiscal policy and the risk of secular stagnation. In *Brookings Papers on Economic Activity BPEA Conference Drafts, March*, Volume 7, pp. 1–54.

# Online Appendix A

## Additional Results and Robustness Checks

### A1. Alternative Threshold for Identifying Booms: 2%

We assess whether our results are sensitive to the specific threshold used to define economic booms. In the baseline specification, we consider years with annual real per capita GDP growth above 1.5% as booms. Here, we implement an alternative definition using a 2% threshold. The results for transfers, taxes, and revenues remain qualitatively unchanged, as shown in Tables 1.A–3.A: the estimated coefficients and significance levels are similar to the baseline, confirming that our findings are not sensitive to the threshold used to identify boom periods.

**Table 1.A:** Robustness: Effects of defense spending on federal transfers ( $\Delta TR_t$ ) using the 2% threshold.

	(1)	(2)	(3)	(4)	(5)	(6)
Period	1931-2002	1931-2002	1931-2002	1931-2002	1937-2002	1937-2002
$\Delta DEF_t$	-0.076** (-2.76)					
$\Delta DEF_{Ut}$		-0.026 (-1.21)	0.344 (0.55)	0.804* (1.72)	1.080** (2.28)	1.298*** (4.04)
$\Delta DEF_{Dt}$		-0.112*** (-13.33)	-0.099*** (-8.21)	-0.111*** (-15.97)	-0.116*** (-13.59)	-0.120*** (-19.08)
<i>BOOM</i>			-0.003 (-1.30)		-0.001 (-0.61)	
<i>BOOM</i> * $\Delta DEF_{Ut}$			-0.373 (-0.59)	-0.829* (-1.78)	-1.109** (-2.34)	-1.323*** (-4.07)
<i>BOOM</i> * $\Delta DEF_{Dt}$			-0.128*** (-3.04)	-0.081*** (-2.63)	-0.097*** (-2.65)	-0.082*** (-2.61)
$\Delta POP_{65t-1}$	0.609 (0.52)	-0.049 (-0.04)	-0.154 (-0.14)	-0.203 (-0.18)	-0.397 (-0.32)	-0.397 (-0.31)
$\Delta u_{t-1}$	0.009 (0.22)	0.036 (0.97)	-0.012 (-0.29)	0.026 (0.72)	-0.014 (-0.18)	0.008 (0.11)
$R^2$	0.24	0.30	0.35	0.32	0.42	0.41
$\bar{R}^2$	0.20	0.25	0.27	0.25	0.33	0.34
DW	1.89	1.91	1.93	1.92	1.79	1.79
$H_0$ : no ratchet		$p = 0.00$	$p = 0.50$	$p = 0.06$	$p = 0.02$	$p = 0.00$

Notes:  $t$ -statistics are reported in parentheses. DW refers to the Durbin–Watson statistic. The last row reports the  $p$ -value of the F-test for the null hypothesis of no ratchet effect. All regressions include a constant term, which is omitted from the tables for brevity. This table reports robustness results using an alternative threshold (2%) to define the dummy variable for economic booms, replacing the 1.5% threshold used in the baseline specification. Stars: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ .

**Table 2.A: Robustness: Effects of defense spending on federal taxes ( $\Delta TAX_t$ ) using the 2% threshold.**

	(1)	(2)	(3)	(4)	(5)	(6)
Period	1931-2002	1931-2002	1931-2002	1931-2002	1937-2002	1937-2002
$\Delta DEF_t$	0.126*** (2.82)					
$\Delta DEF_{Ut}$		0.245*** (5.86)	-1.918** (-2.31)	-1.861** (-2.66)	-1.995** (-2.20)	-1.662** (-2.34)
$\Delta DEF_{Dt}$		0.042*** (4.59)	0.043** (2.62)	0.041*** (3.21)	0.034* (1.82)	0.026* (1.63)
<i>BOOM</i>			-0.000 (-0.18)		-0.002 (-0.86)	
<i>BOOM</i> * $\Delta DEF_{Ut}$			2.167** (2.59)	2.110*** (2.98)	2.207** (2.43)	1.882** (2.62)
<i>BOOM</i> * $\Delta DEF_{Dt}$			0.122 (1.05)	0.129 (1.10)	0.149 (1.39)	0.179 (1.53)
$\Delta POP65_{t-1}$	1.624 (0.81)	0.110 (0.06)	0.390 (0.23)	0.382 (0.23)	0.229 (0.14)	0.187 (0.12)
$\Delta u_{t-1}$	-0.036 (-0.37)	0.022 (0.32)	0.052 (0.71)	0.057 (0.78)	-0.102 (-0.86)	-0.059 (-1.57)
$\bar{R}^2$	0.24	0.37	0.42	0.42	0.46	0.46
$\bar{R}^2$	0.20	0.32	0.35	0.36	0.38	0.39
DW	1.95	1.98	2.00	1.99	2.02	2.01
$H_0$ : no ratchet		$p = 0.00$	$p = 0.02$	$p = 0.00$	$p = 0.03$	$p = 0.02$

Notes: Further, see notes to Table 1.A.

**Table 3.A: Robustness: Effects of defense spending on federal revenues ( $\Delta REV_t$ ) using the 2% threshold.**

	(1)	(2)	(3)	(4)	(5)	(6)
Period	1931-2002	1931-2002	1931-2002	1931-2002	1937-2002	1937-2002
$\Delta DEF_t$	0.111*** (2.68)					
$\Delta DEF_{Ut}$		0.217*** (4.74)	-1.436 (-1.46)	-1.562* (-1.90)	-1.556 (-1.40)	-1.343* (-1.57)
$\Delta DEF_{Dt}$		0.036*** (3.79)	0.038** (2.02)	0.041*** (2.79)	0.029 (1.34)	0.025 (1.32)
<i>BOOM</i>			0.000 (0.32)		-0.001 (-0.44)	
<i>BOOM</i> * $\Delta DEF_{Ut}$			1.657* (1.67)	1.782** (2.15)	1.733* (1.56)	1.524* (1.76)
<i>BOOM</i> * $\Delta DEF_{Dt}$			0.069 (0.61)	0.055 (0.44)	0.091 (0.74)	0.109 (0.81)
$\Delta POP65_{t-1}$	2.405 (1.18)	1.060 (0.54)	1.244 (0.66)	1.263 (0.68)	1.053 (0.61)	1.027 (0.60)
$\Delta u_{t-1}$	-0.074 (-0.70)	-0.021 (-0.25)	0.022 (0.24)	0.012 (0.12)	-0.170 (-1.21)	-0.142 (-1.07)
$\bar{R}^2$	0.22	0.31	0.34	0.34	0.39	0.39
$\bar{R}^2$	0.17	0.26	0.26	0.27	0.31	0.31
DW	1.97	1.98	1.99	1.99	1.99	1.99
$H_0$ : no ratchet		$p = 0.00$	$p = 0.14$	$p = 0.05$	$p = 0.16$	$p = 0.11$

Notes: Further, see notes to Table 1.A.

## A2. Smoothed Specifications: Three-Year Moving Averages

To verify that our main results are not driven by short-term fluctuations, we replicate the regressions from columns (4) and (6) of Table 1 using three-year moving averages of all variables.<sup>5</sup> This approach accounts for political lags and persistence in fiscal responses. We focus on these two specifications because they best capture the interaction between defense spending and economic conditions, with column (6) representing our benchmark model. The results remain qualitatively unchanged: during booms, increases in defense spending are still associated with reductions in transfers, while decreases lead to persistent increases. In downturns, defense build-ups continue to coincide with rising transfers. These patterns therefore reinforce the view that our baseline results reflect persistent fiscal dynamics rather than short-term volatility.

**Table 4.A:** Robustness: Effects of defense spending on federal transfers ( $\Delta TR_t$ ) using three-year moving averages.

	(1)	(2)
Period	1931-2001	1937-2001
$\Delta DEF_{U_t}$	0.509*** (4.04)	0.610*** (3.76)
$\Delta DEF_{D_t}$	-0.079*** (-14.82)	-0.081*** (-12.97)
$BOOM * \Delta DEF_{U_t}$	-0.555*** (-4.35)	-0.668*** (-4.07)
$BOOM * \Delta DEF_{D_t}$	-0.022*** (-3.95)	-0.019** (-3.18)
$\Delta POP65_{t-1}$	0.094 (0.07)	0.579 (0.41)
$\Delta u_{t-1}$	0.023 (0.71)	-0.014 (-0.31)
$R^2$	0.67	0.74
$\bar{R}^2$	0.63	0.70
DW	1.59	1.41
$H_0$ : no ratchet	$p = 0.00$	$p = 0.00$

Notes: This table replicates the regressions from columns (4) and (6) of Table 1 using three-year moving averages of the variables, in order to account for political delays and persistence in policy responses.

<sup>5</sup> The three-year moving average for period  $t$  is calculated as the average of the variable in year  $t$  and in the two preceding years, thereby capturing recent trends leading up to the current observation. For consistency, the  $BOOM$  dummy is also based on the centered three-year moving average of real per capita GDP growth. We use a three-year window because it is long enough to capture delays in fiscal decisions, without being so long that it weakens the connection between defense spending and transfers.

## Highlights

- Focus is on U.S. postwar military spending and its fiscal effects.
- Redistributive gains from defense cuts emerge primarily during booms.
- During busts, military spending and transfers can rise together.
- The findings challenge the classic “guns versus butter” trade-off.
- The economic context shapes the fiscal legacy of war.