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Does War Make States? Military Spending and the Italian State-Building, 1861–1945

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ABSTRACT

We present empirical evidence on the relationship between military spending and the expansion of other government budget items and tax revenues from the unification of Italy (1861) up to the end of World War II. Until 1922, investments in education and social transfers to families mainly moved in step with defence spending. This means that increases in defence spending imply an increase in both education spending and transfers. Moreover, transfers also play a compensatory role during recessions. Increases in defence spending do not crowd out investment in capital expenditure, while disinvestment in defence is associated with an increase in investment in capital. The pro-cyclical behaviour of tax revenues is compatible with the debt-financing dynamic of much government expenditure. Although our analytical narrative is not universally valid, it does support the persistent centrality of external wars in the discontinuous growth and expansion of central government in the Italian state, with some exceptions explained by historical events.

1 | Introduction

It is widely recognized in the literature that warfare often serves as a catalyst for change. Scholars have long been interested in how the costs and preparations for war force states to pursue institutional innovation. This empirical paper addresses two important questions. First, it examines Charles Tilly's influential dictum, 'war made the state and the state made war' (Tilly 1975, 42), which explains the mechanism that was pivotal in the formation of European states. Second, it explores the critical role of mass warfare in the development of redistributive public policies, which have a positive effect on the modernization of a country and lead to the formation of nations in which citizens share sufficient common interests, goals and preferences to not wish to separate from each other.[1]

Previous questions have been studied from various perspectives. In the fields of history and political science, authors such as Tilly (1975, 1985, 1990), Kaspersen and Strandsbjerg (2017), Abramson (2017), Garfias and Sellars (2022) and Cederman et al. (2023) have contributed to the analysis by emphasizing that a primary, if not the primary, imperative of state building has been the suppression of internal rivals and the defeat of external enemies. To remain in power at home and competitive abroad, military preparations have been essential and increasingly costly as military technology has improved. To pay for these seemingly ever-rising military costs, rulers have been forced or encouraged to create and expand their state's bureaucratic-administration apparatus as well.

The second perspective pertains to the field of public finance as discussed by Peacock and Wiseman (1961), Durevall and Henrekson (2011) and Facchini (2018). Under normal circumstances, public spending tends to increase in line with income and tax revenues. Major crises, such as wars, severe depressions, epidemics or natural disasters, necessitate significant public spending commitments and consequently lead to an increase in the tax burden. These extraordinary events often result in an

increased level of tax tolerance among the electorate. Once the crisis subsides, citizens become accustomed to the new taxation level and are unwilling to forgo the public services that have been introduced. Spending then resumes its normal growth trajectory, albeit at a higher level than initially. This phenomenon results in the permanent displacement of the private sector by the public sector, leading to an escalation in both the tax burden and public spending—a concept commonly referred to as the 'ratchet effect'.

The role of the state in the process of economic development is also at the heart of the growing literature in political economy, which is based on the concept of state capacity, as outlined by Besley and Persson (2008, 2009), Johnson and Koyama (2017), Queralt (2019), Alesina, Reich, and Riboni (2020), Dincecco and Wang (2022) and Ezcurra (2024). According to this literature, state capacity, which measures the fiscal and administrative power of states, should be distinguished from both the size and the scope of the state. In this sense, the ability to collect taxes, defend against external threats and enforce law and order is considered a key determinant of economic development.

In this paper, we try to bring these different perspectives together. We present empirical evidence on the relationship between military spending and the expansion of other government budget items and tax revenues from the unification of Italy (1861) up to the end of World War II.

To our knowledge, only a few other works follow this approach. Dincecco, Federico, and Vindigni (2011) use a new database to show that external and internal conflicts in pre-unification Italy had consequences for the demand for military spending, which in turn had significant effects on fiscal policy and the likelihood of institutional reform and the related improvements in the provision of non-military public goods.

Another paper by Beetsma, Cukierman, and Giuliodori (2016) presents interesting results based on legislative, historical, theoretical and statistical evidence for the United States.

The outbreak and persistence of the Great Depression, together with previous expansions of general suffrage, substantially increased the demand from the median voter for redistributive policies, despite the political leaders of the US Congress managing to partially prevent this demand from being translated into active public policies. However, by increasing the tax programme and strengthening the direct taxation mechanism, World War II created the conditions for a new fiscal capacity, both in terms of tax rates and tax collection capacity. Consequently, the post-war decline in defence spending induced a new political equilibrium in which part of the peace dividend was channelled towards greater redistribution and hence growth in welfare spending.

Finally, Aghion et al. (2019) uncovered three new stylized facts. First, there is a positive correlation between investments in mass primary education and military conflicts. Second, if anything, the correlation between such investments and democratization seems to be negative. Third, the impact of military threats on enrolment in primary schools seems to be greater in democracies than in autocracies.

In contrast to these papers, our contribution involves examining individual items of Italian public expenditure over a broader time span to (1) avoid the general problems of cross-country studies by comparing their policies and (2) overcome the greater likelihood of confounding factors when analysing different national politics. Primarily, our empirical results confirm the relationship between defence spending and other budget items, particularly education and social transfers, mainly before 1922. Conversely, increasing capital investment is associated with military divestment.

Despite these empirical findings, a deeper examination of the Italian historical context suggests a consideration of qualitative aspects is warranted to confirm these results. For example, the lagged effects of the Daneo–Credaro educational reform in 1911 or the 337 social policy measures implemented concurrently with World War I (Pavan 2019). Once again, the analytical blend of both quantitative and qualitative aspects remains the most comprehensive way to understand social science phenomena: If econometrics suggests, history inevitably plays a role.

Ultimately, our empirical analysis shows how the wars waged by the Kingdom of Italy from its unification in 1861 until 1921 aided the formation of the state. These conflicts contributed significantly to building the bureaucratic institutions necessary for the functioning of a modern state. In particular, wars facilitated the development of fundamental state capacities such as the provision of public goods, the collection of revenue and the maintenance of law and order.

The paper is structured as follows: Section 2 provides a historical overview of Italy from 1861 to 1945; Section 3 describes the sources and data used in the analysis; Section 4 outlines our prior hypotheses and empirical specifications; Section 5 presents the empirical results, while Section 6 discusses the implications of these results; finally, Section 7 offers our conclusions.

2 | Historical Background

The interplay between warfare, national accounts and social policies changes according to the historical context we consider. Thus, a few words must be spent on Italy's experiences in the decades following its unification, both in terms of managing internal and external conflicts and in terms of developing more inclusive social policies.

In this paper, we deliberately avoid the term 'welfare state'. Given the time span considered, it would not be historically coherent to define specific social reforms as part of an integrated welfare system. The term 'welfare state' first appears in the political context during the 1930s when English social policy scholars used it to contrast the Nazi 'warfare state' (Titmuss 1974). However, it is only after World War II that "welfare state" takes on the broad meaning we consider it to have nowadays, as including all policies that have a direct impact on the wellbeing of citizens. Table 1 identifies the main events related to national

TABLE 1 | 'Internal and external conflicts, 1861-1945'.

Date	Event
1863–65	Pica Law: repression of brigandage
1866	Third Italian War of Independence
1870	Conquest of Rome
1887	Defeat at Battle of Dogali
1895–1896	First Italo-Ethiopian War
1898	Upheavals in Milan
1900	Murder of King Umberto I
1911–12	Italo-Turkish War (over Libya)
1915–18	World War I
1919–22	Anatolian military occupation
1922–24	Tripolitanian War
1925–26	Fascist Laws
1929–30	Battle of Fezzan (Libya)
1928–32	Cyrenaican War
1935–36	Second Italo-Ethiopian War
1940–45	World War II

defence from unification to World War II, including riots, insurrections and conflicts with other countries.

Measuring the impact of each event on a macroeconomic level can be misleading: Many conflicts occur in quick succession, and they can differ greatly in both length and military commitment. However, it is useful to consider a wider group of conflicts according to Italian political history. Thus, the empirical analysis takes into account three groups of events. The first group refers to the period from 1862–1896, covering the years of Right and Left-wing governments, ending with Italy's defeat at the Battle of Adwa and the subsequent resignation of the fourth government chaired by Francesco Crispi. The second group covers the years 1897–1922, including the intensifying social conflict at the end of the century and the so-called 'Giolitti era' that preceded World War I. Finally, the last group, 1922–1945, begins with the March on Rome by Fascist militants and ends with World War II.[2] A brief overview of Italian history is now crucial to explain each result within its political and economic context.

In 1861, the newly formed Italian state inherited all the pre-unification debts of its component states. It took almost 8 years to standardize accounting practices across all regions, which was achieved through the Cambray–Digny Law of 1869. Until 1876, despite the right-wing economic policy focusing on a balanced budget, expenditure remained significant. The public debt to GDP ratio increased from 38.16% in 1861 to 105.05% in 1876 (Osservatorio CPI 2020). On average, around 14% of GDP was spent on expenses associated with interest payments, defence and public order (Ciocca 2020). These expenses remained high following unification due to civil unrest and pressure on the new national borders. In terms of domestic policy, the Kingdom of Italy faced riots breaking out in southern regions as a result of the increasing tax burden and opposition to the power of the landlord class. The repression of brigandage was formally enforced by the Pica Law between 1863 and 1865, but it required almost 10 years of military involvement: By the end of the 1860s, more than half of the Italian army was engaged in fighting against 80,000 brigands (Rochat and Massobrio 1978). As regards foreign military policy, the Kingdom of Italy completed its process of unification over a period of years: In 1866, the treaties of the third war of independence against the Austrian Empire led to the annexation of Veneto, while in 1870, victory over the Pontifical army ratified the conquest of Rome.

The rise of the left-wing party in 1876 changed the focus of political economy. Protectionism became the answer to a growing globalized economy. Moreover, military spending became crucial in the rush to colonialism, reaching one fifth of the total public expenditure by the end of the century (Ciocca 2020), due to ruinous campaigns in Eritrea and the Italo-Abyssinian War. On the domestic side, increasing prices of essential goods and a stagnating economy resulted in riots across the entire country, culminating in the assassination of King Umberto I. Italian governments, from Francesco Crispi's tenure (1893–1896) to Saracco's administration (1900–1901), suppressed domestic uprisings through strong military intervention.

With the turn of the 20th century, Italy confirmed its ambitions on the international stage. The Italo-Turkish war in 1911–1912 in modern-day Libya brought the administration of Tripolitana and Cyrenaica before the outbreak of World War I. During these years, public expenditure increased from 17% (1913) to 40% (1918) of GDP at current prices (Ciocca 2020). It took 7 years (until 1925–1926) to return to the pre-war level of expenditure (Brosio and Marchese 1986). By that time, Italy was already under Fascist control, after the March on Rome in 1922. In the following years, Mussolini strengthened the regime with special laws issued in 1925–1926, which removed the right to strike and strengthened the role of the national police in public control. Pressure from farmers and Fascist propaganda directed Italian foreign policy towards the creation of a colonial empire on the African continent.[3] The results of this attempt led to an alliance with Nazi Germany and the subsequent collapse of World War II. The costs for Italy were huge: almost 450,000 dead, a 40% decrease in GDP and the stock of physical capital below 4% (Ciocca 2020). An entire country needed to be rebuilt.

3 | Data and Sources

We use annual time series data on Italian central government expenditure covering the years 1862–1945. Data on specific economic and functional items of government spending are at current prices and are taken from the series recently made available by Italy's State General Accounting Department (RGS 2011).[4]

In particular, we consider capital spending and transfers among economic categories, as well as national defence, and expenditure on education and culture, excluding religion (hereafter referred to as 'education' only) among functional categories.

Capital expenditure includes goods, machinery and technical-scientific equipment directly paid for by the state. Transfers encompass current transfers within general government, as well as capital transfers to general government, both to enterprises and households.

Spending refers to the total payments made in a year and is obtained from the state's final budget.

From 1884 to 1964, Italy's fiscal year ran from 1 July to 30 June. In our dataset, we adjusted this convention to align with calendar years by adding half of the expenditure made in two consecutive fiscal years and assuming an equal distribution of expenditure over each fiscal year.

All variables are in nominal terms and are calculated as a share of nominal GDP. For GDP at current prices, we rely on the new series of the Italian national accounts provided by the Bank of Italy (Baffigi 2015).

Trends in total government spending are significantly influenced by military expenditure, which up to the First World War accounted for about 20% and was crucial for the completion of the country's unification and its colonial policy. During Fascism, the gap between military and non-military spending was somewhat reduced, with the only exception being during the years immediately before and after World War II.

In general, non-military public spending experienced a slow and steady evolution in the period preceding the First World War, implying significant stability in the tasks carried out by the state and the social equilibrium of the period.

This confirms what other historical studies[5] claim about the country's efforts regarding infrastructure following unification.

Although this cannot imply that public intervention made a decisive contribution to the economic development of the country and its industrialization, it is certainly an important element of the economic policy of the period and confirms the political and social balance achieved at the time. During Fascism, capital investments still represent a significant portion of total expenditure, reaching a peak in 1929, although they do not reach the levels of the period 1884–1889. Moreover, as total public expenditure increases, capital expenditure increases its share of GDP, approaching 5% in 1932.

Expenditure on education grows in real terms between 1862 and 1913 at a compound annual growth rate (CAGR) of 8%, which strongly accentuates its weight with respect to total expenditure (increasing from 1.6 to 4.9%) and to GDP (increasing from 0.2 to 0.8%). The CAGR in constant euros is, instead, 5.5% from 1919 to 1939 and 5.3% from 1926 to 1939. A comparison with other European countries, however, shows a lower public sector commitment over the same period.[6]

Transfers (redistributive expenditure) exhibit an irregular trend. Unlike education, which shows an obvious long-term growth trend, this component experiences periods of decline in real terms, especially during the first decade of the century under right-wing party governments, interspersed with periods of strong growth.

Transfers appear to be responsive to short-term needs. Nevertheless, their overall significance seems to be increasing,

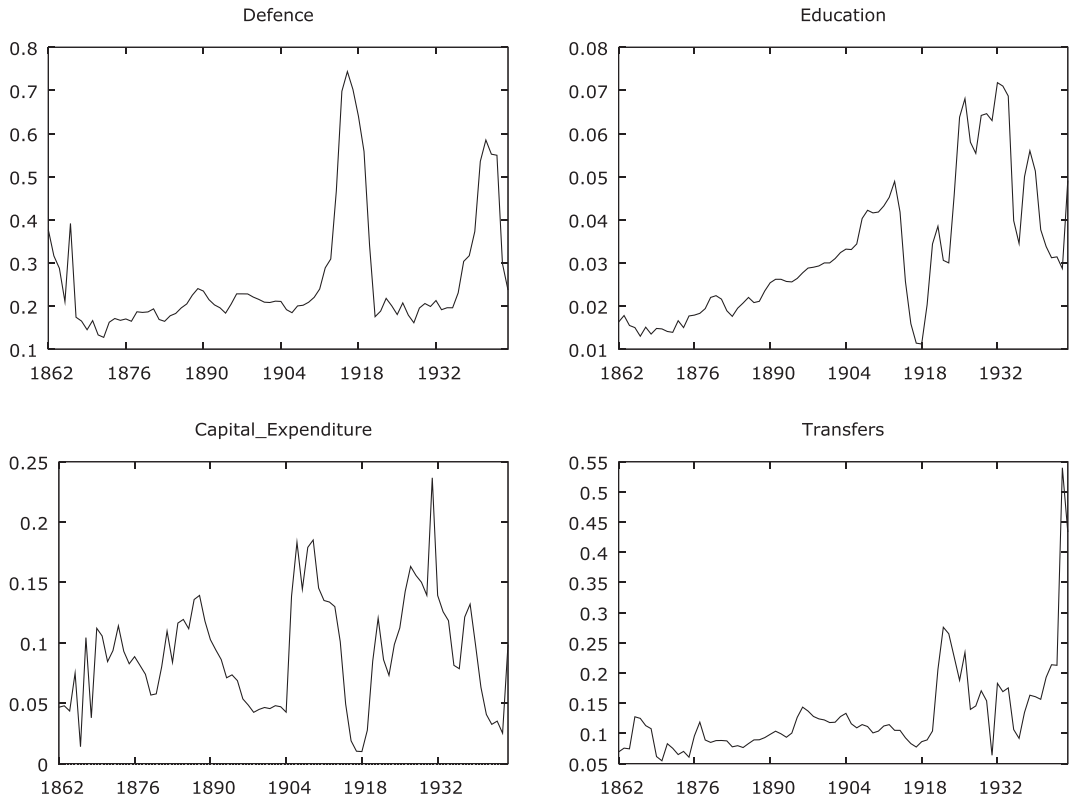

FIGURE 1 | Ratio between individual items of expenditure and total expenditure.

albeit modestly, in 1910 (when they account for less than 1% of GDP). Subsequently, there is a notable spike in redistributive expenditure at the end of the First World War, followed by a robust expansion during the years 1919–22. Thereafter, transfers remain low until 1930 before experiencing renewed growth. A temporary 'displacement effect' associated with the war appears to influence this item (see Figures 1 and 2).

Another variable is tax revenue relative to GDP. The time series has been reconstructed by aggregating data from three sources: From 1861 to 1865, this percentage is calculated based on data from Repaci (1962); for the years 1866 to 1884, the source is Brosio and Marchese (1986); finally, the time series from 1885 to 1945 is taken from Artoni and Biancini (2004).

Figure 3 illustrates the trend in revenues compared to GDP from 1861 to 1945. In this case as well, the time series can be divided into three sub-periods. In the first period, spanning from 1861 to 1914, revenues compared to GDP averaged 9.87. During this period, state revenue stemmed primarily from four groups of taxes:monopolies, consumption taxes, taxes on the exchange of wealth and direct taxes. Direct taxes and consumption taxes contributed the most to the total revenue (Brosio and Marchese 1986). Revenue was ensured by taxes mainly being imposed on the popular masses, with one of the most significant being the tax on land. Introduced in 1868, this tax was calculated based on the volume of cereals ground by mills, thus having consequences for the nutrition of the popular masses.

The second period, which runs from 1915 to 1924, records an average value of revenues compared to GDP of 12.40. A differentiation is made between taxes on income and assets, and indirect taxes. According to Artoni and Biancini (2004) '*The tax system of this period is in a line of absolute continuity with that formed in the post-unification period, which in its structure had certainly not incorporated the important changes in the economic structure of our country that occurred in the Giolitti period*' (p. 321).

In the third period, from 1925 to 1945, there was a reduction in tax revenues compared to GDP, with an average value of 11.81. The tax policy during this period is characterized by the introduction of extraordinary taxes, a practice that has occurred frequently in the history of Italy. During this time, the extraordinary progressive tax on commercial companies' dividends, the extraordinary real estate tax, the extraordinary tax on the capital of joint-stock companies and the extraordinary tax on the

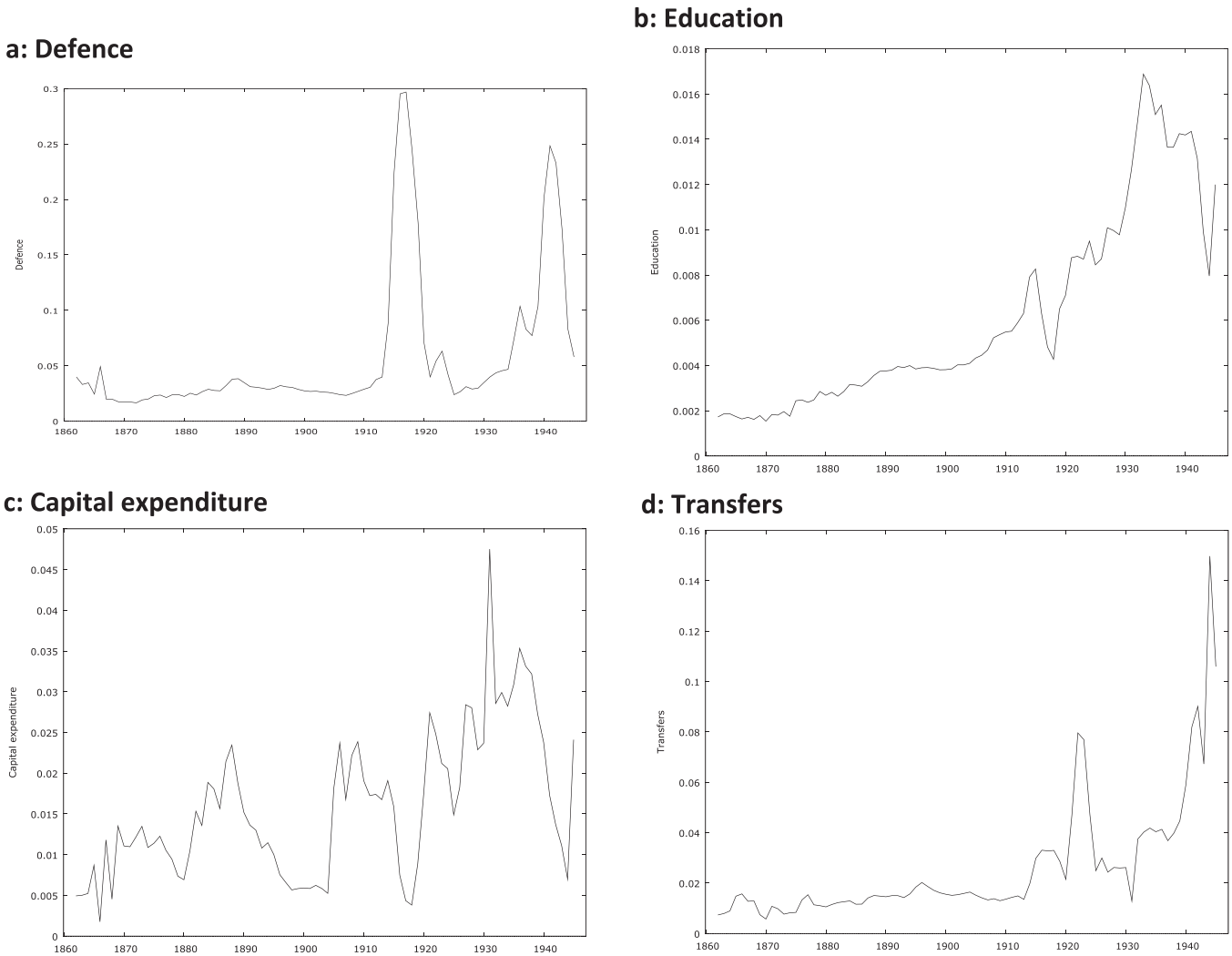

FIGURE 2 | Ratio between individual items of expenditure and GDP. (a) Defence. (b) Education. (c) Capital expenditure. (d) Transfers.

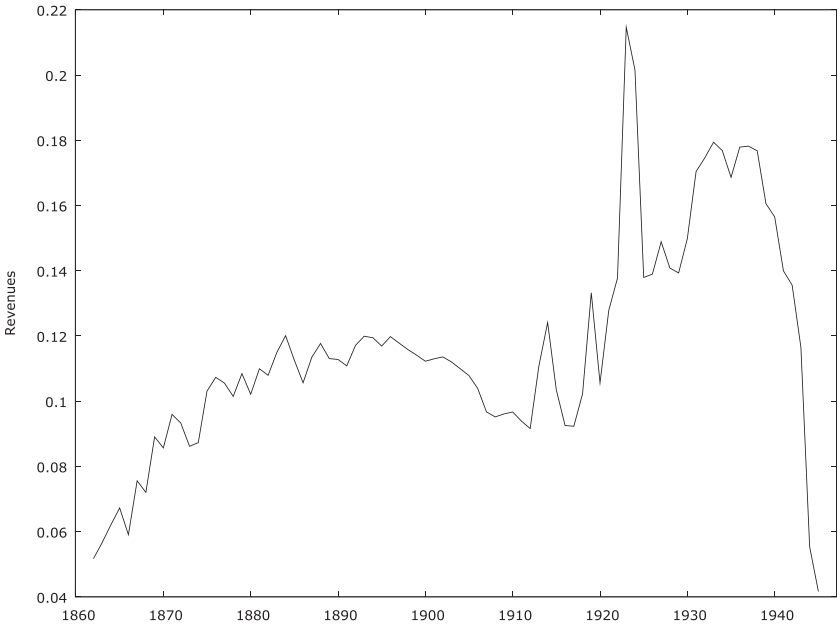

FIGURE 3 | Ratio between revenues and GDP.

capital of industrial and commercial companies were all established. In 1939, an ordinary tax on assets was also introduced (Repaci 1962).

4 | Empirical Strategy

4.1 | Prior Hypotheses

4.1.1 | Transfers—First Hypothesis (H1)

Changes in defence spending have a significant effect on changes in transfers, and this effect is asymmetric, meaning it differs depending on whether defence spending increases or decreases.

An increase in defence spending, in response to the threat of conflict or to prevent conflict, can lead to an increase in social transfers. This may be due to the need to support citizens' welfare during periods of uncertainty and to strengthen social cohesion. However, when the threat decreases and defence spending is reduced, transfers are not proportionally reduced due to the government's commitment to maintaining social stability and economic support. This represents a typical example of ratchet effect (asymmetric effect).

4.1.2 | Capital Expenditure—Second Hypothesis (H2)

Changes in defence spending have a significant effect on changes in capital expenditure, and this effect is asymmetric, meaning it differs depending on whether defence spending increases or decreases.

An increase in defence spending, in response to the threat of conflict, can also stimulate capital expenditure, as part of an integrated approach to improving the country's infrastructure and defence capabilities. The resources allocated may be used to build critical infrastructure supporting both defence and economic development. When the threat of conflict decreases and defence spending is reduced, capital expenditure is not cut proportionally to ensure the continuity of investments (asymmetric effect).

4.1.3 | Education Spending—Third Hypothesis (H3)

Changes in defence spending have a significant effect on changes in education spending, and this effect is asymmetric, meaning it differs depending on whether defence spending increases or decreases.

An increase in defence spending, prompted by the threat of conflict, can lead to an increase in education spending. This argument is based on the fact that investing in education is crucial for preparing a skilled workforce that can contribute to national security and technological development. A reduction in defence spending, when the threat decreases, does not result in a proportional reduction in education spending, as investment in human capital is seen as essential for the country's future (asymmetric effect).

4.1.4 | Tax Revenues—Fourth Hypothesis (H4)

Changes in defence spending have a significant effect on tax revenues, and this effect is asymmetric, meaning it differs depending on whether defence spending increases or decreases.

An increase in defence spending, in response to the threat of conflict, may be associated with an increase in tax revenues. This could result from the need to finance higher defence expenditure through increased taxes or from improved economic conditions due to the fiscal multiplier effect. However, when

defence spending decreases, tax revenues are not reduced proportionally, as governments may maintain high levels of taxation to fund other priorities and maintain fiscal stability (asymmetric effect).

4.2 | Empirical Specifications

We adopt a similar econometric specification as outlined by Beetsma, Cukierman, and Giuliodori (2016),[7] conducting regressions on variables expressed as shares of GDP. We perform the estimation using OLS, with adjustments made for heteroskedasticity and serial correlation. The basic model is thus

$$\begin{aligned}\Delta Y_t &= \beta_0 + \beta_1 \Delta DefUp_t + \beta_2 \Delta DefDown_t + \beta_3 CycleUp_{t-1} \\ &\quad + \beta_4 CycleDown_{t-1} + + \beta_5 \Delta X_{t-1} + \epsilon_t\end{aligned} \quad (1)$$

where ΔY represents the change in the GDP share of various public expenditure items such as transfers, education and capital expenditure, as well as tax revenues, across different specifications; $\Delta DefUp$ equals the change in the share of defence expenditure when this variable is positive and zero otherwise; and $\Delta DefDown$ equals the change in this share when it is negative and zero otherwise, thus testing for the possible existence of a ratchet effect. *CycleUp* and *CycleDown* represent expansion and recession phases of the cycle. We control for change in the total population or in different dependency ratios (X, in Equation 1), allowing us to check whether autonomous forces are contributing to changes in public expenditure and tax revenues, while also reducing any bias associated with potential omitted variables. Specifically, when analysing education and transfers to households, we use changes in the dependency ratio rather than in population alone because this can reveal important trends, such as an ageing population or an increase in the number of children. These trends can have significant implications for the design and adjustment of transfer and education policies and are useful for understanding the overall trend of population pressure on tax revenues.

5 | Results

Tables 2–5 show several regressions of the change in the share of GDP of various items of public expenditure against the change in defence expenditure's share. Specifically, we consider public expenditure in capital, education and transfers. According to the budget constraints imposed on governments, increases in the share of public expenditure have to be accompanied by increases in the share of tax revenues or national debt; hence, we also analyse tax revenue behaviours. Major changes in defence expenditure are associated with wars or threats of war and can be reasonably assumed to be exogenous, as is standard in fiscal policy analysis (e.g., Ramey 2011; Beetsma, Cukierman, and Giuliodori 2016).[8]

The empirical analysis examines three periods which correspond to the different groups of events mentioned in Section 2. All the regressions include a constant, whose estimate we do not report for reasons of brevity. Furthermore, Tables 2–5 do not present the estimated coefficients for changes in population or dependency ratios, as these are consistently not statistically significant. However, these ratios are always included (see the notes of the tables for definitions of the different dependency ratios used).

To test for asymmetric effects of economic expansions and contractions on different items of public expenditure, we introduce one-period lagged Hodrick–Prescott (HP) cycles. Specifically, we use *CycleUp(-1)* for a positive lagged HP cycle and zero otherwise and *CycleDown(-1)* for a negative lagged HP cycle and zero otherwise.[9] Lagged variables are used to reduce endogeneity problems. To verify the possible existence of ratchets or asymmetric effects on the particular item of public expenditure being analysed, we allow the impact of defence expenditure to differ depending on whether defence expenditure's share of GDP goes up or down. Thus, we introduce $\Delta DefUp$ when the change in defence expenditure's share of GDP is positive and zero otherwise and $\Delta DefDown$ when the change in defence expenditure's share of GDP is negative and zero otherwise. F-tests are used to evidence the significant asymmetric effects of defence spending. If the null hypothesis is rejected, that is, the coefficients of the upward and downward movements in the share of defence are equal, we present the regressions for the combined effect (ΔDef). A similar argument applies in testing the asymmetric effect of economic expansions and contractions on capital spending.

Table 2 examines whether defence spending has a statistically significant positive or negative effect on capital expenditure. Columns 1 and 2 suggest a significant inverse relationship over the period 1861–1896 (significance 1% level): When defence's share of GDP goes down, capital's share of GDP goes up, and vice versa. This outcome is weaker (in size and significance 10%) when the whole period is considered (Columns 5 and 6).

The regression in Column 3 repeats the regression in Column 1 for the period 1897–1922. It reveals a significantly negative coefficient for defence when its share goes down (significance at 5% level), implying an increase in the capital share, while there is no significant effect on capital when defence spending goes up. The F-test that the coefficients of the up and down movements in the share of defence are equal is rejected at the 1% level. Moreover, in this period 36% of the variability of total public expenditure on capital is due to the change in defence. These findings support defence exerting a significant asymmetric effect on capital (significance 5%) during the period 1897–1922: Wars do not seem to crowd out investment in capital in this period, while disinvestment in defence induces an increase in capital expenditure.

All these results are obtained controlling for past business cycle fluctuations. Specifically, there is evidence of a positive link between past upturns and downturns and positive and negative change in current capital expenditure. This outcome is coherent with the procyclical behaviour of the revenues documented in Table 4.

Table 3 mainly illustrates a positive relationship between increases in defence and education spending (Columns 3, 4, 7 and 8). This asymmetric relationship is statistically relevant

TABLE 2 | Effects of the defence on capital expenditure. Dependent variable: Change in GDP share of total public expenditure in capital, *ΔGCap*.

	(1)	(2)	(3)	(4)	(5)	(6)
Period	1862–1896	1862–1896	1897–1922	1922–1945	1863–1945	1863–1945
ΔDefence		−0.26***				−0.035*
		(0.066)				(0.020)
ΔDefUp	−0.173		0.026	−0.034	−0.017	
	(0.117)		(0.024)	(0.038)	(0.017)	
ΔDefDown	−0.342***		−0.061**	−0.064	−0.048***	
	(0.039)		(0.026)	(0.084)	(0.019)	
CycleUp(-1)	−0.001	−0.0001	0.018	−0.002	0.023***	
	(0.016)	(0.000)	(0.013)	(0.022)	(0.009)	
CycleDown(-1)	0.019	0.024	0.021	0.017	0.008*	
	(0.018)	(1.37)	(0.016)	(0.013)	(0.005)	
Business Cycle(-1)						0.011**
						(0.005)
R^2	0.29	0.29	0.36	0.08	0.11	0.11
$\overline{R}^2$	0.16	0.17	0.19	−0.17	0.07	0.07
DW	2.2	2.3	2.0	2.2	2.4	2.4
N	33	33	26	24	82	82
H_0: *Test of symmetry for the defence*	$p=0.16$		$p=0.00$		$p=0.30$	
H_0: *Test of simmetry for the business cycle*					$p=0.21$	

Note: All the regressions include a constant and the change in total population at time $t-1$ of which for brevity reasons we do not report the estimate. The past change in population is always not significant. The estimation is OLS with robust standard errors, that is, the HAC correction for heteroskedasticity and autocorrelation in the residuals (in parentheses).
***1% significance level, **5% significance level, and *10% significance level. DW: Durbin Watson test statistic. *N*: number of observations. *Test of simmetry*: We provide the *p*-value for no ratchet or asymmetric effects of defence and economic fluctuations on government spending. That is, coefficients of $\Delta DefDown$ and $\Delta DefUp$ are equal and *CycleUp(-1)* and *CycleDown(-1)* are equal respectively.

TABLE 3 | Effects of the defence on education expenditure. Dependent variable: Change in GDP share of total public expenditure in education, ΔEduc.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Period	1862–1896	1862–1896	1897–1922	1897–1922	1922–1945	1922–1945	1863–1945	1863–1945
ΔDefence						0.007*		
						(0.004)		
ΔDefUp	−0.002	−0.0017	0.025***	0.019***	−0.006		0.009**	0.008***
	(0.005)		(0.004)	(0.005)	(0.009)		(0.004)	(0.004)
ΔDefDown	0.004	0.004	−0.003	−0.001	0.026*		−0.002	−0.0001
	(0.004)		(0.003)	(0.003)	(0.015)		(0.003)	(0.004)
CycleUp(-1)	0.002		0.005**		−0.002		0.003**	
	(0.002)		(0.002)		(0.004)		(0.001)	
CycleDown(-1)	0.002**		0.010***		0.026		0.004***	
	(0.001)		(0.001)		(0.003)		(0.001)	
Business Cycle(-1)		0.002**		0.007**		0.003*		0.004***
		(0.001)		(0.002)		(0.001)		(0.00)
R^2	0.20	0.20	0.63	0.60	0.29	0.23	0.27	0.26
$\overline{R}^2$	0.06	0.09	0.54	0.53	0.09	0.11	0.22	0.23
DW	2.6	2.6	1.92	1.4	1.27	1.23	1.31	1.30
N	33	33	26	26	24	24	88	88
H_0: *Test of symmetry for the defence*			*p = 0.00*		*p = 0.15*		*p = 0.05*	
H_0: *Test of symmetry for the business cycle*	*p = 0.85*		*p = 0.10*		*p = 0.46*		*p = 0.48*	

Note: All the regressions include a constant and the past change in the dependency ratio defined as those aged 0–14 divided by total population of which for brevity reasons we do not report the estimate. The change in the dependency ratio at $t-1$ was always not significant. The estimation is OLS with robust standard errors, that is, the HAC correction for heteroskedasticity and autocorrelation in the residuals. We report *t-statistics* in parentheses. ***1% significance level, **5% significance level, and *10% significance level. DW: Durbin Watson test statistic. *N*: number of observations. *Test of simmetry*: We provide the *p*-value for no ratchet or asymmetric effects of defence and economic fluctuations on government spending, that is, coefficients of $\Delta DefDown$ and $\Delta DefUp$ are equal and *CycleUp(-1)* and *CycleDown* (-1) are equal, respectively.

TABLE 4 | Effects of the defence spending on tax revenues. Dependent variable: change in GDP share of total tax revenues, ΔREV.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Period	1863–1896	1863–1896	1897–1922	1897–1922	1922–1945	1922–1945	1863–1945	1863–1945
ΔDef		−0.321***		0.050		0.163*		0.005**
		(0.071)		(0.115)		(0.100)		(0.002)
$\Delta DefUp$	−0.297		−0.141***		−0.138**		−0.016	
	(0.18)		(0.040)		(0.056)		(0.087)	
$\Delta DefDown$	−0.334***		0.136		0.823		0.235**	
	(0.077)		(0.115)		(0.275)		(0.09)	
CycleUp(-1)	0.072**		0.111***	0.092***	0.100*		0.111***	
	(0.028)		(0.029)	(0.030)	(0.049)		(0.034)	
CycleDown(-1)	0,055		−0.012	0.040	−0.038		0.031	
	(0.036)		(0.018)	(0.032)	(0.047)		(0.021)	
Business cycle(-1)		0.061**				0.059**		0.08***
		(0.016)				(0.015)		0.013
R^2	0.32	0.32	0.37	0.27	0.39	0.29	0.31	0.28
$\overline{R}^2$	0.19	0.24	0.21	0.15	0.22	0.19	0.26	0.26
DW	2.34	2.14	2.14	2.02	1.86	1.93	1.92	1.97
N	33	33	26		29	29	88	88
H_0: *Test of symmetry for the defence*	$p=0.85$		$p=0.05$		$p=0.61$		$p=0.098$	
H_0: *Test of symmetry for the business cycle*	$p=0.75$		$p=0.00$		$p=0.14$		$p=0.093$	

Note: All the regressions include a constant and the past change in the dependency ratio defined as those aged 14–64 divided by total population of which for brevity reasons we do not report the estimate. The change in the dependency ratio at $t-1$ was always not significant. The estimation is OLS with robust standard errors, that is, the HAC correction for heteroskedasticity and autocorrelation in the residuals. We report *t-statistics* in parentheses. ***1% significance level, **5% significance level, and *10% significance level. DW: Durbin Watson test statistic. *N*: number of observations. *Test of simmetry*: We provide the *p*-value for no ratchet or asymmetric effects of defence and economic fluctuations on government spending, that is, coefficients of $\Delta DefDown$ and $\Delta DefUp$ are equal and *CycleUp(-1)* and *CycleDown* (-1) are equal, respectively.

TABLE 5 | Effects of defence on transfers expenditure. Dependent variable: Change in GDP share of total public expenditure in transfers, ΔTR.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Period	1863–1896	1863–1896	1897–1922	1897–1922	1922–1945	1922–1945	1863–1945
ΔDefence		0.056*		0.153***		0.083	
		(0.031)		(0.039)		(0.108)	
ΔDefUp	0.090**		0.134 ***		0.245		0.037
	(0.042)		(0.046)		(0.201)		(0.49)
ΔDefDown	0.033		0.162***		0.036		0.014
	(0.051)		(0.039)		(0.549)		(0.17)
CycleUp(-1)	0.004	0.004	0.113***	0.110***	0.0389*	0.088	0.028***
	(0.008)	(0.008)	(0.029)	(0.029)	(0.019)	(0.075)	(2.84)
CycleDown(-1)	−0.046	−0.044**	0.0161	0.0214	−0.076	−0.077**	−0.049**
	(0.019)	(0.018)	(0.013)	(0.0128)	(0.064)	(0.034)	(−2.06)
R^2	0.19	0.19	0.66	0.66	0.22	0.15	014
$\overline{R}^2$	0.04	0.07	0.57	0.59	0.00	−0.02	0.09
DW	2.01	1.95	1.52	1.50	2.11	2.67	2.57
N	33	33	26	26	29	24	82
H_0: *Test of symmetry for the defence*	$p=0.39$		$p=0.85$		$p=0.77$		
H_0: *Test of symmetry for the business cycle*	$p=0.047$		$p=0.00$		$p=0.11$		$p=0.010$

Note: All the regressions include a constant and the past change in the dependency ratio defined as those aged 0–14 and over 64 divided by total population of which for brevity reasons we do not report the estimate. The change in the dependency ratio at t-1 was always not significant. The estimation is OLS with robust standard errors, that is, the HAC correction for heteroskedasticity and autocorrelation in the residuals. We report *t-statistics* in parentheses. ***1% significance level, **5% significance level, and *10% significance level. DW: Durbin Watson test statistic. *N*: number of observations. *Test of simmetry*: We provide the *p*-value for no ratchet or asymmetric effects of defence and economic fluctuations on government spending. That is, coefficients of *ΔDefDown* and *ΔDefUp* are equal, and *CycleUp(-1)* and *CycleDown* (-1) are equal respectively.

(the *F*-test, where the coefficients of the upward and downward movements in defence's share of GDP are equal, is strongly conducive to a rejection of the null hypothesis), particularly over the period 1897–1922 (Columns 3 and 4). More than 50% of the variability in the expenditure on education is explained by changes in defence spending and business cycle fluctuations (adjusted $R^2 = 0.54$ and 0.53, respectively).

There is a positive link between past business cycle fluctuations and current investment in public education: Past expansionary phases correspond to an increase in the expenditure on education in the subsequent period and vice versa, while wars seem to finance investment in education. The asymmetric effect of defence spending on education is not robust in the subsample 1922–1945: In this period, the symmetrical positive relationship between defence and education is only relevant at the 10% significance level. Furthermore, the relationship appears to deteriorate as the goodness of the model worsens (adjusted $R^2 = 011$, Column 6). This deterioration is also reflected in the regression over the entire period (adjusted $R^2 = 0.22$, adjusted $R^2 = 0.23$ in Columns 7 and 8, respectively). Thus, the sub-period 1897–22 is the main driver of the result over the entire time span.

Table 4 focuses on the effects of defence spending on tax revenues. Over the time period 1863–1945, changes in defence expenditure's share of GDP are positively linked to tax revenues (Column 8) and this result is significant at the 5% level. This seems led by the relevance of the relationship between these two variables in the period 1863–1896 (Column 2), which is significant at the 1% level: Increases in defence spending are associated with a decrease in tax revenues, while this is not statistically significant for decreases in defence spending. This outcome is not robust for 1897–1922 and 1922–1945.

As regards business cycles, revenues are pro-cyclical over the entire period and in the subsamples 1861–1896 and 1922–1945 (Columns 2, 6 and 8), increasing in expansion phases and decreasing in recessive phases (1% significance level). In the period 1897–1822, this procyclicality is asymmetrical: During boom phases, revenues significantly increase (1% significance level) and do not fall in recession phases (Columns 3 and 4).

Table 5 shows that defence spending is positively and significantly related to public expenditure on transfers until 1922 (Columns 2 and 4): When defence's share of GDP goes up (or down), the GDP share of expenditure on transfers goes down. This finding is supported by the *F*-test, which does not reject the null hypothesis that the coefficients of the upward and downward movements in the share of defence are equal (1% level). This link is particularly strong and significant (1% level) in the period 1897–1922, when more than 55% of the variability in transfers is due to changes in defence spending and expansions in economic activity (adjusted $R^2 = 0.57$ and adjusted $R^2 = 0.59$ in Columns 3 and 4, respectively).

Note that transfers increase irrespective of whether the past business cycle is positive or negative. Thus, transfers have a compensatory role during recessive phases over the entire period (Column 7). This outcome is coherent with the procyclical behaviour of the revenues documented in Table 4.

6 | Discussion

After Italy's political unification in 1861, the Italian government had to establish a central administration for the newly created country. This included regulatory aspects, infrastructure development, the creation of a national army and other public policy choices aimed at building a modern state (Plebano 1900).

We present here our analysis of the relationship between military expenditure and other budget items, interpreted in light of the historical context.

6.1 | Capital

Considering the entire period from 1863 to 1945, we find evidence of an inverse relationship between military spending and investments in capital (Table 2). Thus, when the share of GDP allocated to defence decreases, the share allocated to capital increases, and vice versa. Comparing different sub-periods reveals that the effect on capital of a decrease in defence spending is more pronounced in the period up to 1922. Specifically, during the years 1897–1922, increases in defence spending do not significantly crowd out investment in capital spending, while reductions in defence spending are associated with a significant increase in capital investments.

This result supports the prevailing historiographical position (Romeo 1967; Brosio and Marchese 1986) that the Italian liberal ruling classes allocated most available resources to public infrastructure in order to modernize the state, including by reducing military spending in some cases. The 'great leap forward' of the Italian economy, according to Gerschenkron (1955), relied on this new context in which, additionally, the new structure of the banking system (mutual banks) stimulated capital investment in industries such as textiles and mechanics. Moreover, adopting appropriate national policies—such as public subsidies and protectionist measures—fostered capital accumulation within the Italian economy (Ciccarelli and Proietti 2013).

The role of past business cycles is significant throughout the entire period: Past expansionary phases lead to increases in current capital expenditure, while economic downturns lead to a reduction in expenditure.

6.2 | Education

The empirical results (Table 3) reveal a positive relationship between defence and national expenditure on education, especially during the period 1897–1922. These findings confirm those of other authors (Aghion et al. 2019; Obinger and Petersen 2017; Alesina, Giuliano, and Reich 2021) in relation to different countries. However, the causal effects of involvement in war on mass schooling must be discussed with reference to the specific historical context.

According to the 1861 census, the illiteracy rate in the newly unified Kingdom of Italy stood at 78% (Dal Passo and Laurenti 2017). The introduction of the Casati Law immediately after unification simply marked the distinction between

primary and secondary education, without achieving significant improvement: In 1871, 73% of the Italian population remained illiterate. Mass schooling was not on the political agenda. The first attempt to spread education to the masses came with the Coppino Law in 1877. The first 3 years of primary school became compulsory, with sanctions imposed for non-attendance. During these years, investment in education followed the slow building of a centralized state.

The 'Giolitti era' marked a new political course, following violent riots at the end of the century. Socialists and Catholics led the way in discussing the need to reform the national education system. This debate led to the Orlando Law of 1904. This act extended compulsory schooling to the age of 12, including 4 years of primary school and an examination for admission to middle school. Alternatively, an option to attend a 2-year vocational course was introduced. At the same time, the law established night schools and school care for lower social classes. In 1906, the subsequent Law No. 383 enforced compulsory schooling for Southern Italy, including Sicily and Sardinia. Three years later, the parliamentary inquiry led by Camillo Corradini in 1909 underlined the need for more effective public intervention (Dal Passo and Laurenti 2017). Thus, according to the Daneo–Credaro Law of 1911, central government took on the direct management of municipal schools, leaving the direction of schools within metropolitan areas to the regional capitals. In January 1914, before the outbreak of World War I, Law No. 27 defined the first school programs for pre-school education, marking the completion of the set of reforms by Liberal governments before Fascism. The correlation between World War I and expenditure on education can be explained here as resulting from the lagged effects of the rollout of these acts. More generally, these reforms followed the growing industrialization of the country, which generated a need for a new set of mostly technical basic skills.

After World War I, the Fascist party came to power in 1922, emphasizing the process of centralization. Mussolini and his ministers aimed to replace democratic institutions, setting out a new cultural and political course. This affected all institutions, including schools and education. The first result was the reform introduced by the Fascist education minister, Giovanni Gentile, in 1923. Despite extending compulsory schooling to the age of 14, the results were not significant (Dal Passo and Laurenti 2017). However, the reform substantially marked the distinction between high schools (Licei) and vocational schools. High schools became preparatory to university, while vocational schools provided different curricula related to the country's main productive sectors. The Bottai Law which followed in 1940, also known as the Carta della Scuola, regulated vocational schools' curricula both for occupations requiring only basic qualifications and for the skilled labour required by large-scale industry. The outbreak of World War II and the fall of Fascism suspended any kind of intervention in education until the new Constitution was established in 1948.

6.3 | Transfers

Similarly to education, social transfers exhibit a positive correlation with military spending, as indicated in Table 5. Defence spending shows a positive relationship with public expenditure on transfers until 1922. When the share of GDP allocated to defence increases (or decreases), the share allocated to transfers decreases (or increases). This association is particularly pronounced during the period 1897–1922.

In particular, transfers increase during positive past business cycles (showing a positive relation) and decrease during negative past business cycles (negative relation). Thus, transfers play a compensatory role during recessive phases throughout the entire period. This finding aligns with the procyclical behaviour of revenues shown in Table 4.

The causal link between wars and social measures has been evidenced in a strand of recent literature (Obinger, Petersen, and Starke 2018; Moses 2018). Once again, quantitative results must be compared to historical facts to avoid misleading correlations, as seen in the case of education.

Until World War I, unlike other European countries, Italy did not have a structured welfare system. In 1914, only 4.8% of the population was covered by social protection measures, with just 1.56% of government spending allocated to welfare measures (Pavan 2019). With few exceptions, effective reforms were lacking during the initial period considered in the analysis (1862–1896). The care of the poor, recognized as a charitable endeavour, was formally acknowledged in 1862 with Law No. 753, also known as the 'Rattazzi law' after the Minister of the Interior who enacted it. This law allowed municipalities the option to establish charitable associations to support existing 'Opere Pie'. It wasn't until almost 30 years later, with the 'Crispi law' of 1890, that these congregations became mandatory, indicating the slow evolution of the social care system. The Catholic Church remained prominent in this field. The Rattazzi and Crispi Laws, along with the establishment of the 'Cassa Nazionale per gli Infortuni sul Lavoro' in 1883 (an insurance body covering work accidents), constituted the main social care reforms during this period. However, as shown in Table 5, the correlation between military expenditure and this limited set of reforms is not readily apparent.

In contrast, the subsequent period (1897–1922) saw an extensive programme of reforms, especially during the years of the Great War. This is evidenced by the 337 measures related to the social sphere, from old-age pensions to unemployment benefits, issued by October 1919 (Pavan 2019). The first sign of this shift was the establishment of the Ministry of Military Assistance and War Pensions in November 1917. This new authority handled pensions for veterans, financial support for soldiers' families and assistance for the injured and disabled. Following a similar trajectory, in December 1917, the Treasury Ministry under Nitti introduced free life insurance policies for enlisted men, officers, children (both legitimate and illegitimate) and parents. The social measures during these years also benefited segments of the population indirectly affected by the war. In August 1917, the Boselli administration introduced mandatory accident insurance for farm workers, covering about nine million individuals. This marked the first time the Italian government recognized a de jure right for a professional category. After the war, Decree No. 603 of April 1919 made old-age pensions available to approximately 12 million workers, including white-collar workers, shopkeepers and farmworkers (Pavan 2019). By the end of the

same year, the Nitti administration had issued a programme for mandatory unemployment insurance for both agricultural and industrial workers, signalling a move towards a structured and modern welfare state. According to Pavan (2019, p. 864), the Great War 'triggered an acceleration involving a brief but intense series of reforms which [...] brought the country into line with the rest of Europe'.

The advent of Fascism in 1922 altered the trajectory of social policies inherited from previous governments. The abolition of the Ministry of Labour and Social Insurance in early 1923, only 3 years after its creation by the Nitti administration in 1920, symbolized this change. This initiated a series of minor reforms, including the removal of mandatory old-age insurance and disability benefits for sharecroppers, and the suspension of annual contributions to unemployment insurance, thus reversing some of the achievements made by the Liberals. This shift in policy direction may also explain the results of the empirical analysis.

6.4 | Tax Revenues

There is a positive correlation between military spending and tax revenues. However, this relationship is not robust during the period 1897–1922 (see Table 4), where an increase in military expenditure's share of GDP corresponds to a decrease in tax revenues' share.

This finding suggests that to maintain the level of total expenditure, a redistribution in the allocation of expenditure across various items has taken place, with increases in some areas and decreases in others, or that expenditure has been financed through an increase in public debt, as evidenced by the change in the ratio between public debt and GDP. Since 1891, this ratio has remained at around 100%, rising to 119.4% in 1897 and 158.4% in 1921.[10]

This result reasonably indicates the Great War as the primary determinant for the need for revenues, particularly during the recovery years.

Despite fluctuations during the WWI years, the trend in tax revenues is consistent with the trend in public expenditure for most of the years from unification to the turn of the century (Brosio and Marchese 1986). To stabilize the public finances, the early Italian governments aimed to increase tax revenues by collecting up to 10% of the national wealth (Manestra 2010). This objective was inspired by Liberal policies and remained in place until the outbreak of WWI and the Fascist regime's subsequent adoption of a regressive taxation system.

7 | Conclusions

Several studies, primarily based on cross-country data, have demonstrated a link between wartime public spending and state-building. This paper analyses the relationship between military expenditure and the expansion of other government budget items, as well as tax revenues, during the period from the unification of Italy (1861) to the end of World War II. Although the econometric analysis suggests a relationship between defence spending and public spending on education, capital investment and social transfers, the historical context offers valuable insights into the possible explanations for the empirical evidence. Specifically, the adoption of particular economic policies appears to be the most important factor behind the effects captured by the econometric models, confirming the need to focus on individual national cases. This approach helps avoid false interpretations of diverse national contexts and underscores the crucial role of historical descriptive analysis.

Once again, the combination of quantitative analysis and historical reconstruction proves to be the appropriate methodology to avoid simplistic conclusions and misleading interpretations of economic issues. The central thesis of this paper suggests that, in the case of Italy, the war conflicts of the period 1861–1921, which were mainly external conflicts not fought on Italian territory, played a role in social harmonization, the development of the state infrastructure, and, ultimately, acted as a driver of educational innovation among the population. Indeed, the military expenditure incurred during this period generated positive externalities that contributed to the general modernization of the country and its institutions.

These findings are consistent with the theoretical model proposed by Beetsma, Cukierman, and Giuliodori (2007), which highlights that when the size of government is relatively small, as was the case in Italy from the mid-19th century to the early 20th century, both defence spending and civilian public spending tend to increase during wartime shocks. They are therefore closely linked in a complementary relationship. For example, some public goods and nation-building efforts may impact army effectiveness. Certain infrastructure (e.g., roads, railways, better radio communications and the telegraph) can unify a nation and foster a sense of belonging while also being relevant to the war effort. Public social policies have a considerable impact on the wellbeing of military-age men and their families. Free public elementary education serves as a nation-building tool and can also enhance soldiers' productivity by improving their ability to communicate and perform complex tasks. It is interesting to note that military institutions sometimes provided a rudimentary form of education for serving personnel.

The Italian case demonstrates how military imperatives significantly influenced the development of early democratic institutions and economic growth, aligning with the broader political economy literature on state-building through warfare. This line of research could continue in various directions. First, it would be useful to extend the analysis internationally to build a more systematic comparative perspective. By incorporating new data features, the analyses could be enriched and verified to determine whether the results found in Italy are replicable in other countries.[11]

Another area of interest is the study of the dynamics of the post-World War II period, when state welfare systems were consolidated in Europe. This period may offer further insights into how defence strategies might have ultimately influenced the evolution of social policies in different contexts.

Finally, it would be interesting to analyse how Italian military occupations between 1861 and 1945 affected the economic growth and political institutions of the occupied countries. A recent study by Vishwasrao, Schneider, and Chiang (2019)

highlights that transformative occupations, which aim to establish stable institutions, lead to positive long-term economic growth, whereas subdual occupations result in only a temporary increase in growth without lasting effects.

These future directions would not only deepen understanding of the phenomenon under investigation but could also make a significant contribution to the existing literature.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Endnotes

[1]Following the unification of Italy in 1861, Massimo d'Azeglio, a member of the Northern elite that led the unification process, remarked: 'Italy has been made; now it remains to make Italians'; in the United Kingdom, following the extension of the vote, Disraeli said 'We must educate our masters'. Both quotes reflect the challenges and aspirations of nation-building and democratic development during their respective eras.

[2]The proposal of these periods can be further explained through an analysis of how Italy adapted to international contexts and emerging global orders. Between 1862 and 1896, Italy operated within the context of the European Restoration Order and the early phases of Imperialism. From 1897 to 1922, the country was part of the Imperialist Order and the dynamics of European rivalry, which profoundly influenced its internal and external policies. Finally, from 1922 to 1945, Italy was part of the Fascist Order and totalitarian alliances, culminating in World War II, which led to the creation of a new global order. In line with Braumoeller (2019), who asserts that 'war creates orders and orders create war', Italy's historical experience demonstrates how its alliances and international strategies significantly influenced state-building processes and its responses to internal and external crises.

[3]In a recent paper, Acemoglu et al. (2022) provide evidence that landowner associations and the increased presence of local elites played an important role in the rise of Fascism.

[4]From 1862 to 1967, the reconstructions by economic and functional categories are based on the RGS volume (1969).

[5]See R. Romeo (1967) and A. Pedone (1967).

[6]On the comparison between European countries see Pistoresi and Salsano (2020).

[7]Hercowitz and Strawczynski (2004) also use a similar specification.

[8]We tested temporal causality to reinforce the assumption that changes in defence spending are exogenous to total government civilian spending as a proxy for war. This involves testing whether changes in defence spending can be used to predict future changes in total government civilian expenditure, in the sense of Granger causality. This outcome is obtained using a short-run model in first differences of the variables while also controlling for long-run co-movements: Johansen's test shows that there is a long-run relationship between defence and total civilian public spending (deterministic cointegration) and that Granger causality operates from defence to total civilian spending. This result is obtained using a VECM representation with an unconstrained constant in the cointegration vector. Although Granger causality suggests a temporal order in which changes in defence spending precede and influence changes in government expenditure over time, it is prudent to supplement these results with further empirical evidence to gain a full understanding of the specific causal relationships in the context of the study. In fact, in regressions that aim to analyse the relationship between changes in defence and public expenditure (across various items) an endogeneity bias can emerge. This can lead to biased estimates of causal effects, making it difficult to ascertain causal relationships between variables. The potential source of endogeneity is that changes in the defence expenditure share might simultaneously affect changes in the GDP share of public expenditure and be influenced by factors not included in the model that affect both defence expenditure and public expenditure shares. Hence, in order to take these endogeneity issues into account, we also estimated instrumental variable regressions (2SLS) between the change in total civilian spending (Y) and the change in military expenditure (Def) over the period considered. The instruments used for military expenditure are the change in total deaths, male deaths, and violent deaths (ISTAT 2016); the degree of openness (Vasta 2010); and finally, a composite indicator of power in international relations, the national capability index (CINC), which is calculated as an average of the percentages of world totals in annual values of total population, urban population, iron and steel production, energy consumption, military personnel and military expenditure (Correlates of War Forthcoming, National Material Capabilities v6.0). The result from the IV estimation reaffirms the existence of a significant relationship between total civilian spending (Y) and military expenditure (Def). These results are available upon request.

[9]The Italian GDP from 1861 to the present day is a complex time series due to its non-stationarity, long-term trend, irregular cycles and significant historical and economic events. To analyse the cyclical components of this series, it is preferable to use filters like HP, which are better equipped to handle the complexity and variability (Hodrick 2020). Additionally, when explaining changes in the GDP share of public expenditure using a proxy of the business cycle, a smoother filter than the GDP growth rate is preferable. A smoother filter such as HP effectively isolates high-frequency fluctuations in GDP growth rates, enabling clearer identification of medium-term changes in public expenditure shares.

[10]Military spending associated with wars has been major cause of government deficits and debt financing. See recent paper of Smith (2020), for the UK Experience 1700–2016.

[11]Two new data features in Souva (2023) and Becker et al. (2024) can help in this regard.

References

Abramson, S. F. 2017. "The Economic Origins of the Territorial State." *International Organization* 71, no. 1: 97–130.

Acemoglu, D., G. De Feo, G. De Luca, and G. Russo. 2022. "War, Socialism, and the Rise of Fascism: An Empirical Exploration." *Quarterly Journal of Economics* 137, no. 2: 1233–1296.

Aghion, P., X. Jaravel, T. Persson, and D. Rouzet. 2019. "Education and Military Rivalry." *Journal of the European Economic Association* 17, no. 2: 376–412.

Alesina, A., P. Giuliano, and B. Reich. 2021. "Nation-Building and Education." *Economic Journal* 131, no. 638: 2273–2303.

Alesina, A., B. Reich, and A. Riboni. 2020. "Nation-Building, Nationalism, and Wars." *Journal of Economic Growth* 25, no. 4: 381–430.

Artoni, R., and S. Biancini. 2004. "Il Debito Pubblico Dall'Unità ad Oggi." In *Storia Economica D'Italia-3. Industrie, Mercati, Istituzioni. 2. I Vincoli e le Opportunità*, 269–380. Bari: Editori Laterza.

Baffigi, A. 2015. *Il PIL per la Storia D'Italia: Istruzioni per L'uso*. Venezia: Marsilio Editore.

Becker, J., S. Benson, J. P. Dunne, and E. Malesky. 2024. "Disaggregated Defense Spending: Introduction to Data." *Journal of Peace Research*. https://doi.org/10.1177/00223433231215785.

Beetsma, R., A. Cukierman, and M. Giuliodori. 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, no. 4: 1–40.

Beetsma, R. M., A. Cukierman, and M. Giuliodori. 2007. "On the Relationship Between Defense and Non-defense Spending in the US During the World Wars." *Economics Letters* 95, no. 3: 415–421.

Besley, T., and T. Persson. 2008. "Wars and State Capacity." *Journal of the European Economic Association* 6, no. 2–3: 522–530.

Besley, T., and T. Persson. 2009. "The Origins of State Capacity: Property Rights, Taxation, and Politics." *American Economic Review* 99, no. 4: 1218–1244.

Braumoeller, B. 2019. *Only the Dead: The Persistence of War in the Modern Age*. Oxford: Oxford University Press.

Brosio, G., and C. Marchese. 1986. *Il Potere di Spendere. Economia e Storia Della Spesa Pubblica Dall'Unificazione ad Oggi*. Bologna: Il Mulino.

Cederman, L. E., P. G. Toro, L. Girardin, and G. Schvitz. 2023. "War Did Make States: Revisiting the Bellicist Paradigm in Early Modern Europe." *International Organization* 77, no. 2: 324–362.

Ciccarelli, C., and T. Proietti. 2013. "Patterns of Industrial Specialisation in Post-Unification Italy." *Scandinavian Economic History Review* 61, no. 3: 259–286.

Ciocca, P. 2020. *Ricchi per Sempre? Una Storia Economica D'Italia*. Torino: Bollati Boringhieri.

Correlates of War. Forthcoming. "National Material Capabilities v6.0." https://correlatesofwar.org/data-sets/national-material-capabilities.

Dal Passo, F., and A. Laurenti. 2017. *La Scuola Italiana. Le Riforme del Sistema Scolastico dal 1848 ad Oggi*. Roma: Novalogos.

Dincecco, M., G. Federico, and A. Vindigni. 2011. "Warfare, Taxation, and Political Change: Evidence From the Italian Risorgimento." *Journal of Economic History* 71, no. 4: 887–914.

Dincecco, M., and Y. Wang. 2022. "State Capacity in Historical Political Economy." In *Oxford Handbook of Historical Political Economy*, 254–280. Oxford: Oxford University Press.

Durevall, D., and M. Henrekson. 2011. "The Futile Quest for a Grand Explanation of Long-Run Government Expenditure." *Journal of Public Economics* 95, no. 7–8: 708–722.

Ezcurra, R. 2024. "Sunlight, Culture and State Capacity." *Kyklos* 77, no. 2: 285–315.

Facchini, F. 2018. "What Are the Determinants of Public Spending? An Overview of the Literature." *Atlantic Economic Journal* 46, no. 4: 419–439.

Garfias, F., and E. A. Sellars. 2022. "State Building in Historical Political Economy." In *The Oxford Handbook of Historical Political Economy*, 210–230. Oxford: Oxford University Press.

Gerschenkron, A. 1955. "Notes on the Rate of Industrial Growth in Italy, 1881–1913." *Journal of Economic History* 15, no. 4: 360–375.

Hercowitz, Z., and M. Strawczynski. 2004. "Cyclical Ratcheting in Government Spending: Evidence From the OECD." *Review of Economics and Statistics* 86, no. 1: 353–361.

Hodrick, R. J. 2020. *An Exploration of Trend-Cycle Decomposition Methodologies in Simulated Data (WP 26750)*. Cambridge, MA: National Bureau of Economic Research.

ISTAT. 2016. "Serie Storiche." https://www.istat.it/it/archivio/193041.

Johnson, N. D., and M. Koyama. 2017. "States and Economic Growth: Capacity and Constraints." *Explorations in Economic History* 64, no. C: 1–20.

Kaspersen, L. B., and J. Strandsbjerg. 2017. *Does War Make States?: Investigations of Charles Tilly's Historical Sociology*. Cambridge: Cambridge University Press.

Manestra, S. 2010. "Per Una Storia Della Tax Compliance in Italia." In *Questioni di Economia e Finanza—Occasional Papers*, vol. 81. Roma: Banca d'Italia.

Moses, J. 2018. *The First Modern Risk: Workplace Accidents and the Origins of European Social States*. Cambridge: Cambridge University Press.

Obinger, H., and K. Petersen. 2017. "Mass Warfare and the Welfare State–Causal Mechanisms and Effects." *British Journal of Political Science* 47, no. 1: 203–227.

Obinger, H., K. Petersen, and P. Starke. 2018. "Warfare and Welfare." In *Military Conflict and Welfare State Development in Western Countries*. Oxford: Oxford University Press.

Osservatorio CPI. 2020. "I Numeri Della Finanza Publica dal 1861 a Oggi." risorsa online: https://osservatoriocpi.unicatt.it/cpi-archivio-studi-e-analisi-i-numeri-della-finanza-pubblica-dal-1861-a-oggi, *consultata in data 7/09/2020*.

Pavan, I. 2019. "War and the Welfare State: The Case of Italy, From WWI to Fascism." *Historia Contemporanea* 61, no. 1: 835–872.

Peacock, A., and J. Wiseman. 1961. *The Growth of Public Expenditures in the United Kingdom*. Princeton: Princeton University Press.

Pedone, A. 1967. "Il Bilancio Dello Stato e lo Sviluppo Economico Italiano 1861-1965." *Rassegna Economica* 2, no. 1: 285–341.

Pistoresi, B., and F. Salsano. 2020. "Italian Spending on Education: A Long-Term Perspective." *Advances in Management and Applied Economics* 10, no. 5: 1–15.

Plebano, A. 1900. *Storia Della Finanza Italiana nei Primi Quarant'anni Dall'unificazione*. Torino: Roux e Viarengo.

Queralt, D. 2019. "War, International Finance, and Fiscal Capacity in the Long Run." *International Organization* 73, no. 4: 713–753.

Ragioneria Generale dello Stato. 1969. *Il Bilancio Dello Stato Italiano dal 1862 al 1967*. Vol. I. Roma: Istituto Poligrafico dello Stato P. V.

Ragioneria Generale dello Stato. 2011. *La Spesa Dello Stato Dall'Unità D'Italia. Anni 1862–2009*. Roma: Ragioneria Generale dello Stato (RGS).

Ramey, V. A. 2011. "Identifying Government Spending Shocks: It's all in the Timing." *Quarterly Journal of Economics* 126, no. 1: 1–50.

Repaci, F. A. 1962. *La Finanza Pubblica Italiana nel Secolo 1861–1960*. Bologna: Zanichelli.

Rochat, G., and G. Massobrio. 1978. *Breve Storia Dell'esercito Italiano dal 1861 al 1943*. Torino: Piccola biblioteca Einaudi.

Romeo, R. 1967. *Breve Storia Della Rande Industria in Italia*. Firenze: Cappelli.

Smith, R. P. 2020. "Debt, Deficits and Defence: The UK Experience 1700-2016." *Defence and Peace Economics* 31, no. 4: 414–422.

Souva, M. 2023. "Material Military Power: A Country-Year Measure of Military Power, 1865–2019." *Journal of Peace Research* 60, no. 6: 1002–1009.

Tilly, C. 1975. *The Formation of National States in Western Europe*. Princeton: Princeton University Press.

Tilly, C. 1985. "War Making and State Making as Organized." In *Bringing the State Back in*, edited by P. Evans, D. Ruesschemeyer, and T. Skocpol, 169–187. Cambridge: Cambridge University Press.

Tilly, C. 1990. *Coercion, Capital, and European States, AD 990–1990*. Cambridge: Basil Blackwell.

Titmuss, R. 1974. *Social Policy*. London: Allen & Unwin.

Vasta, M. 2010. "Italian Export Capacity in the Long-Term Perspective (1861–2009): A Tortuous Path to Stay in Place." *Journal of Modern Italian Studies* 15, no. 1: 133–156.

Vishwasrao, S., M. Schneider, and E. P. Chiang. 2019. "The Effects of Military Occupation on Growth." *Kyklos* 72, no. 1: 183–207.