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New quantitative estimates on long-term military spending in Spain (1850-2009)

Oriol Sabaté Domingo

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ABSTRACT

The substantial resources devoted to warfare in modern times might explain the increasing relevance that military spending has acquired in social sciences. In this regard, the so-called *defence economics* has extensively studied the main determinants of military spending and its main consequences in terms of economic performance and institutional transformations. However, one of the main problems for comparative analysis on the causes and effects of military spending is the lack of long-term homogeneous and comparable data in international panel datasets. This paper contributes to fill in this gap by providing new military spending data on Spain from 1850 to 2009 based on the NATO methodological criterion. It provides total military spending estimates as well as economic and administrative disaggregated figures for most of the period. The data allows reliable international comparisons while also provide new quantitative evidence to better understand the military history of Spain in modern times.

Subjects: armies-costs; military spending; Spain-military history-economic history

RESUM

Els quantiosos recursos destinats al finançament de les guerres contemporànies han donat lloc a una creixent rellevància de la despesa militar dins de l'àmbit de les ciències socials. Entre elles, l'anomenada *economia de la defensa* ha estudiat extensament els principals determinants de la despesa militar, així com les seves principals con-

seqüències a nivell econòmic i els seus efectes en termes de transformacions institucionals. Tanmateix, l'absència de panells de dades internacionals suficientment homogenis i comparables a llarg termini ha limitat l'abast de les anàlisis comparatives. L'article que aquí es presenta contribueix a cobrir aquesta mancança mitjançant la presentació de noves series de dades de despesa militar a Espanya des del 1850 fins al 2009. Basades en el criteri metodològic de la OTAN, les noves series proveeixen estimacions de la despesa militar total espanyola, així com de les respectives desagregacions econòmiques i administratives de bona part del període. Les noves series permeten realitzar comparacions internacionals més fiables, alhora que proporcionen nova evidència quantitativa que pot contribuir al millor coneixement de la història militar contemporània d'Espanya.

Descriptors: exèrcits-costos; despeses militars; Espanya-història militar

RESUMEN

Los cuantiosos recursos destinados a la financiación de las guerras contemporáneas han dado lugar a una creciente relevancia del gasto militar dentro del ámbito de las ciencias sociales. Entre ellas, la llamada *economía de la defensa* ha estudiado extensamente los principales determinantes del gasto militar, así como sus principales consecuencias a nivel económico y sus efectos en términos de transformaciones institucionales. Sin embargo, la ausencia de paneles de datos internacionales suficientemente homogéneos y comparables en el largo plazo ha limitado el alcance de los análisis comparativos. El artículo que aquí se presenta contribuye a rellenar ese vacío mediante la presentación de nuevas series de datos de gasto militar en España desde 1850 hasta 2009. Basadas en el criterio metodológico de la OTAN, las nuevas series proveen estimaciones del gasto militar total español, así como de las respectivas desagregaciones económicas y administrativas de buena parte del período. Las nuevas series permiten realizar comparaciones internacionales más fiables, a la vez que proporcionan nueva evidencia cuantitativa que puede contribuir al mejor conocimiento de la historia militar contemporánea de España.

Descriptorios: ejércitos-costes; gastos militares; España-historia militar

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1. INTRODUCTION *

Military spending has been one of the most important public expenditures in Europe in modern times. The new kind of military mobilization and the industrialization of war that emerged in the nineteenth century demanded substantial resources to fund the armies both in times of peace and war. Even higher pressure on public funds arose during the Cold War era, when the two blocs led by the United States and the Soviet Union were trapped in a relentless armaments race. The downfall of the Soviet Union gave place to substantial reductions in the military burden during the 1990s, although recent military policies have put the world military expenditures in a growth trend once again. All in all, and although the relative weight of military spending within national budgets has diminished in favour of productive and social expenses since the nineteenth century, it has remained substantial both in absolute and in relative terms.¹

These substantial resources devoted to warfare might explain the increasing relevance that military spending has acquired in social sciences. The clearer expression of that interest is the so-called *defence economics*, born in the context of the high military burden ratios achieved during the Cold War. Its authors have addressed the consequences of military spending on economic growth and development by exploring both the multiplier effects of public consumption and its

* This paper is part of my PhD dissertation project under the supervision of Alfonso Heranz and Sergio Espuelas, to whom I am most grateful for their valuable advice. I acknowledge the financial support from the Catalan International Institute for Peace and the Catalan Department of Economy and Knowledge, as well as the Research Project ECO2012-39169-C03-03. I want to specially thank Stein Aaslund and Perlo-Freeman for their generous help with the NATO figures and methodologies on military spending, and the staff of the archive of the Spanish Ministry of the Finance and Public Administration for their kindness attention. I am also in debt with Pere Ortega and the staff of the Study Center for Peace J.M. Delàs for their useful help with recent Spanish military spending figures.

1. Cardoso and Lains (2010), Eloranta (2008).

opportunity costs in terms of other public expenditures.² In this regard, the trade-off between military and civil spending has been analysed in several international panel datasets and case studies focusing on the potential relations between social and military expenditures.³ Similarly, the determinants of military spending have been widely analysed in the short and long-term, paying special attention to its strategic, political and economic driving forces.⁴

Beyond this set of analyses, the economic historian Jari Eloranta argues that military spending can be helpful to understand various essential aspects of modern and ancient political and economic history, such as the burden of conflicts, the creation of nation states or the development of modern institutional systems.⁵ In this regard, the theoretical and empirical analyses carried out by Aidt and Jensen (2009), Dincecco and Prado (2012), Scheve and Stavage (2012) and others, suggest that the resources devoted to warfare were a driving force for the modern fiscal innovations. Other authors such as Tilly (1992), Belsey and Persson (2009) and Dincecco (2009) have also observed a close relation between the amount of resources devoted to war objectives and the development of new fiscal and parliamentary institutions during modern and early-modern times.

Provided that most of these analyses and approaches are based on international comparisons, one of their main limitations is the lack of long-term homogeneous data on military spending at the international level. Although there are several projects and institutions aimed at compiling international data, they either provide short term data or are based on a range of non-homogeneous sources. In order to contribute to fill in this gap, in this paper I present new estimates on military spending in Spain from 1850 to 2009,

2. See, for instance, Pieroni (2009) and Dunne and Mehmet (2009).

3. See, for instance, Narizny (2003), Whitten and Williams (2011).

4. See, for instance, Dunne and Perlo-Freeman (2003), Fordham and Walker (2005), Goldsmith (2007).

5. Eloranta (2008).

which are based on the North Atlantic Treaty Organization (NATO) criterion. This is widely used internationally, since it provides one of the most comprehensive international definitions on military spending. This new dataset allows for reliable comparisons between different historical periods, while contributing to construct an international homogeneous and comparable database on long-term military spending.

The data presented here also include the economic and administrative composition of military expenditure, which allows exploring in more detail the evolution of resources devoted to the army. Disaggregated figures of military expenditure are very difficult to find in international compilations, even though they might be crucial to interpret the evolution of total military spending. In order to provide clear and comparable figures, the economic disaggregated series on Spain are also based on the NATO classifications. Other specific data, such as the weight of north-African colonial expenditures during the early twentieth century or the personnel expenditures on chiefs and officials before the Spanish Civil War (1936-39), are also provided. This new quantitative information also allows for a better understanding of the military history of Spain from the mid-nineteenth century to the present, unlike previous estimates on Spanish military expenditure, which were either based on short-term periods or did not provide long-term homogeneous disaggregated series.

The paper proceeds as follows. Section 2 presents the methodological framework on the construction of the military spending series, while section 3 describes their main historical trends and compares the data with previous estimates on Spanish military expenditure. Section 4 presents some international comparisons, and Section 5 concludes.

2. METHODOLOGICAL FRAMEWORK

The construction of historical series of public military spending involves several conceptual problems due to the lack of a commonly accepted definition of military spending. According to Brzoska (1995), military expenditures are «the cost of maintaining a military establishment in war and peace», accounting basically for «the aggregation of payments for soldiers and other persons concerned with the regular armed forces of a particular country, for goods purchased by the armed forces, and services bought from civilians». However, due to the unclear limits of the military functions and aims, governments and international institutions provide diverging criteria to determine which kind of expenditures should be considered as «military» and which ones should be placed within the civil field.⁶

2.1. INTERNATIONAL DEFINITIONS OF MILITARY SPENDING

Brzoska (1995) highlights three main standard definitions as the most widely used internationally, namely the North Atlantic Treaty Organization (NATO), the International Monetary Fund (IMF) and the United Nations (UN) definitions. Table 1 summarizes the main items considered by each of them. Although the three criteria share the main features, some relevant differences may be observed, such as the inclusion or not of civil defence and military pensions. NATO does not consider civil defence as a military activity, but as part of the civilian response to armed aggressions, unlike the IMF and the UN, which include it among military activities. On the other hand, military pensions are included in military spending by NATO and the UN but not by the IMF accounts (which include them in social protection accounts). Additionally, NATO includes within military spending the

6. Brzoska (1995), Sköns (2002).

UN peacekeeping missions, the procurements on credit and the humanitarian and disaster reliefs carried on by the army. The IMF only includes the first two items, while the UN excludes all of them. On the other hand, the three definitions exclude the payments for veterans' benefits and the service of war debts.

TABLE 1. MILITARY SPENDING DEFINITIONS: ITEMS INCLUDED

Items	Definitions		
	NATO	IMF	UN
<i>Personnel expenditures</i>			
Salaries of military forces	X	X	X
Salaries of civil personnel for support	X	X	X
Social benefits to military forces and civil personnel (including relatives)	X	X	X
Pensions to military forces and civil personnel	X		X
<i>Operational expenditures</i>			
Operation and maintenance	X	X	X
Procurement expenditures on equipment	X	X	X
Procurement on other goods	X	X	X
Procurement on credit	X	X	
Infrastructure construction	X	X	X
Military research and development	X	X	X
Social and medical services	X	X	X
Military aid to other countries	X	X	X
Contributions to international organizations	X	X	X
UN peacekeeping missions	X	X	
Humanitarian/disaster relief	X		
<i>Other forces</i>			
Paramilitary forces ^a	X	X	X
Border/Customs Guards ^a	X	X	X
Civil Defence		X	X

Notes: a) when trained, equipped and available for military operations.
Sources: own elaboration based on Brzoska (1995) and Sköns (2002).

Other differences can be noticed when comparing the disaggregation provided in their datasets. The IMF obtains his data from questionnaires on general public expenditure designed on the basis of the COFOG (Classification of the Function of Governments) guidelines and sent annually to governments, while the UN (concretely the UNODA, the United Nations Office for Disarmament Affairs) and NATO send their own specific questionnaires on military expenditure. The UN questionnaire divides expenditures in personnel, operating and maintenance expenses, procurement and construction, and research and development costs. Fairly similar, the NATO questionnaire provides information on personnel (including the military pensions), operating and maintenance expenses, equipment and infrastructure costs. The main differences between them are the treatment of the ammunition and research and development expenditures. While the UN includes ammunition expenditures in the procurement field, NATO includes it in the operation and maintenance category, leaving the equipment field (similar to the UN procurement one) just for new major equipments and research and development expenditures. On the other hand, the UN isolates research and development expenditures in a separate section.⁷ Differently, the COFOG classification used by the IMF distinguishes five military expenditure sections, namely, military defence (including personnel, operational and investment expenditures), civil defence, foreign military aid, research and experimental development related to defence and administration costs.

The three definitions include only flows of resources, generally on an annual basis, and do not consider accumulated stocks. As any public expenditure, military spending must be treated as an input measure, as it does not provide information on the results of public actions, but on the resources devoted to them. Therefore, military spending cannot be considered as a reliable indicator of the military power of

7. Unlike the other criteria, the NATO criterion is not clearly specified by the Alliance. I thank Stein Aaslund, Head of NATO Data Analysis, for kindly providing me information about the NATO methodology.

countries. A measure of military capability would need, among others, information on military stocks and other aspects that are not necessarily reflected in the military expenditure figures (such as the available military technology, the military strategies of the commanders, or the efficiency in the budgeting process and in training). Indirect costs, such as the use of civilian infrastructure for military purposes, the environmental impacts of military activities, and some opportunity costs, such as the costs of using conscripts instead of professional soldiers, are also excluded. This implies that military spending figures should be complemented by other measures if the economic consequences of military activities are to be analysed.

My new series on Spanish military spending are based on the NATO criterion. As CEPAL (2005) argues and may be observed in Table 1, it probably provides the most comprehensive definition in order to obtain a complete picture of the financial military effort made by the government. Additionally, NATO currently offers a complete dataset on military spending for all its members from 1949 to the present (the starting year depending on the entrance in the alliance of each member country); whereas the UN figures start mostly in the 1980s (although the rate of answer to the questionnaires has been historically low).⁸ The NATO dataset also provides disaggregated figures for some countries since 1971 and fully disaggregated data since 1987. NATO data on Spain start in 1984, although the disaggregated figures are not available before 1987.⁹

Moreover, the NATO criterion is used by several international institutes and organizations that compile international military expenditure data, such as the Stockholm International Peace Research Institute (SIPRI), the Arms Control and Disarmament Agency (ACDA, now part of the US Department of State) and the International Institute of

8. The NATO database is available in his webpage www.nato.int/ The UN database can be also found in the webpage of the UNODA <http://www.un.org/disarmament/>

9. NATO also provides an aggregate figure of Spanish military expenditure for 1980, and the percentage of equipment expenditures within the total in 1984-86.

Strategic Studies (IISS).¹⁰ The ACDA and the IISS data are used, in turn, in the broader database provided by the COW (Correlates of War) Project. Initiated in 1963 by J. David Singer, the COW Project offers military expenditure figures for almost all countries from 1816 to the present (the majority of non-OECD countries begin their series in the 1960s), and is broadly used by researchers. However, its data should be used cautiously as its sources of information are pretty diverse and not always clearly specified (particularly for the nineteenth century).¹¹

2.2. SOURCES AND METHODOLOGICAL DISCUSSION ON THE SPANISH DATASET

The main data sources used for the period 1850-1986 are the *Presupuestos Generales del Estado* (the Spanish national budgets) and the *Cuentas Generales del Estado* (the final accounts of the national budget execution). The *Cuentas* register the three fundamental tiers of all government revenue and expenditure flows: 1) budgeted revenue and expenditure, 2) recognized and settled amounts, and 3) actual payments and receipts. On the basis of the NATO criterion, and as in previous historical estimates (IEF, 1976; Comín and Díaz, 2005), I use the figures corresponding to the second stage, i.e. recognized and settled expenditure. Budgeted expenditures are not used, as they can significantly change during the fiscal year of its execution, while the final payments are also left aside as they do not reflect the moment when the expenditure was recognized by the government. The *Presupuestos* register, on the other hand, more detailed information that makes it possible to estimate the composition of the expenditure. The

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10. CEPAL (2005). The SIPRI probably provides the broadest military spending dataset for present times, compiling military spending data for 172 countries since 1988. Its sources are diverse: data from NATO countries comes from the NATO dataset; data for some developing countries comes from the IMF; and data for other countries comes either from questionnaires sent annually to each country, from expert analyses or from other secondary sources. Its dataset is available in its webpage <http://www.sipri.org/>
11. Its dataset is available in its webpage <http://www.correlatesofwar.org/>

data from 1987 onwards is taken from the NATO database (as this is the first year with disaggregated NATO data on Spain).

Military expenditures are mostly managed by military ministries. The three military ministries in Spain since the mid-nineteenth century were the Ministry of War, the Ministry of Navy and the Ministry of Air. The Ministry of War was the state department in charge of the military policy of land forces throughout the major part of the period. Coming from the former Secretary of War, it was in charge of the infantry, the cavalry, the artillery, the engineers, the general staff, and all the related strategic, logistic and required training services. It also managed military auxiliary corps such as the health service, the justice, ecclesiastical and administrative staff, the prison system, the veterinary service and the musicians. After the Spanish Civil War, the new military regime changed its name to Ministry of the Army, although its functions remained unaltered.¹² On the other hand, the Ministry of Navy was in charge of the navy's military policy. Coming from the former Secretary of the Navy, it managed the naval military corps and its auxiliary corps, while assuming the strategic, logistic and training-related services. The authority of both ministries was spread to the whole Peninsula, the Balearic Islands, the Canary Islands, the North African protectorate and the overseas colonies.

In addition to these two former ministries, the Ministry of Air was created in 1939 after the Spanish Civil War, at a time when air forces were becoming more prominent in European military strategies (and after being widely used during the Civil War).¹³ It was in charge of both the civil aviation and the military air force, holding therefore more civil competences than the other military ministries. Some of its main duties were the building and maintenance of aerodromes and airports (civilian and military), the management of air navigation

12. This name was also used from 1929 to 1931 (between the last years of the Primo de Rivera's dictatorship and the establishment of the II Spanish Republic).

13. *Boletín Oficial del Estado* (Official State Bulletin, from now on BOE), September 5th 1939.

(again for both purposes) and all the military tasks related with the enhancing of the air forces (in line with the Ministries of War and the Navy). The three military ministries were unified under the Ministry of Defence in 1977. Although the three military armies remained independent, the new ministry centralized their common strategic, logistic and administrative services (while losing the civil air services of the Ministry of Air).¹⁴

As has been said before, the NATO criterion excludes those expenses that do not directly enhance the military establishment and its activities (regardless of their administrative dependency). In this regard, the three Spanish military ministries (War, Navy and Air) managed several expenditures that should not be considered as military, such as non-military organizations (both cultural and scientific), civil public works, merchant navy services, civil aeronautical services, etc. In the case of the Spanish paramilitary forces, namely the *Guardia Civil* and the *Policía Armada* (during Franco's dictatorship), they should be considered as military only if they were trained, equipped and available for military operations. Despite both corps have been largely treated as part of the military throughout their history,¹⁵ their major activities (and therefore their training and their equipment) have been historically associated to police functions. The *Guardia Civil* was created in 1844 to preserve security and property rights in the countryside, carrying out the repression tasks and the continuous surveillance required by the new liberal regime.¹⁶ Additionally, Fran-

14. BOE, July 5th 1977 (Royal Order 1558/1977) and BOE, November 5th 1977 (Royal Order 2723/1977).

15. The *Guardia Civil* was even considered a specific branch of the army in the Constitutive Law of the Army of July 12th 1889 and in the Military Justice Code of 1945; similarly, the Police Law of 1941 and the Military Justice Code of 1945 treated the *Policía Armada* as a military corps. Even today, the *Guardia Civil* still depends on the Ministry of Defence for their promotions and their participation in military actions. See, for instance, Ballbé (1983) and López Garrido (1982).

16. The first article of the Royal Order of October 16th 1844 indicates that «The *Guardia Civil* corps depends on the ministry of War in the issues of organization, personnel, discipline, material and salaries». However, the general regulations of this same Royal Order pose that «This corps, with different functions that the other troops of the army,

co's dictatorship entrusted it with the tasks previously assumed by the *Carabineros* board guards in 1940 (through the unification of both corps) and with traffic duties (which were taken from the *Policía Armada*) in the 1960s. On the other hand, the *Policía Armada* was active during Franco's dictatorship as responsible for police and repression tasks, and also traffic duties during the 1940s and the 1950s.¹⁷ Because of these primary civil tasks (and despite their unambiguous militarization), neither the *Guardia Civil* nor the *Policía Armada* have been included in the series.

2.3. ECONOMIC DISAGGREGATION OF THE SPANISH MILITARY EXPENDITURE DATASET

In line with the NATO accounts, the new Spanish military spending series provide total military spending estimates as well as disaggregated figures on personnel, military investment and operational expenditures on the basis of the NATO classification. My series additionally provide another further disaggregation by isolating the pensions received by the militaries and their families, which are usually included by NATO within the personnel budget. This differentiation allows identifying an expenditure item that is not aimed to enhance present military capabilities, but to sustain the military establishment itself. Personnel expenditures involve the payment to chiefs, officials, troops and auxiliary civil and military personnel, including administrative, healthcare, ecclesiastic, justice and technical personnel in the three military ministries.¹⁸ Additionally, and according to the NATO criterion, allowances and employer's contributions to retirement funds are also included.

except for the periods under state of siege, never will be considered as part of the cantonments where it is placed, and consequently it will not do any other service than the one specifically assigned to it».

17. López Garrido (1982), González Calleja (1998).

18. As has been said before, the personnel costs of the *Guardia Civil* and *Carabineros* have been excluded from the military expenditure.

Military investment costs include military equipment and infrastructure expenditures.¹⁹ According to the NATO definition, equipment expenditures include the acquisition or production of new military equipment. It mainly involves major equipment such as missile systems, aircraft, artillery, combat vehicles, engineering equipment, weapons and small arms (including hand and shoulder weapons), machine guns, mortars, transport vehicles, ships and harbour craft, and electronic and communications equipment. Additionally, it includes R+D related with major equipment. Munitions and maintenance of equipment are not considered equipment but maintenance costs. On the other hand, infrastructure costs include fortifications, military buildings (including military hospitals) and communication infrastructure.²⁰ Finally, operational expenditures cover all other goods and services not accounted for within the former two categories and the military pensions. They mainly include items such as food, clothes, office materials, water, maintenance services for equipment, etc., and other operational costs such as fuel, munitions, electricity, etc.

19. NATO provides disaggregated figures on equipment and infrastructure expenditures. I present instead an aggregated series for these two items due to the lack of specific data in the original sources in the long-term.

20. The NATO dataset (used in my series from 1987 to 2009) seems to exclude the new financial tool used by the Spanish governments since 1995 to account for expenditures on weapon acquisitions. The Ministry of Industry (recently called Ministry of Science and Technology and Ministry of Industry, Tourism and Commerce) agreed with the Ministry of Defence to grant credits to the Spanish military industry in order to set up new production programs on military equipment. These credits, granted without interests since 1995 to nowadays, should be returned to the Ministry of Industry once the Ministry of Defence had bought the new equipment to the producers. This mechanism ensured the implementation of several weapon programs without increasing immediately the resources managed by the Ministry of Defence. According to the data managed by the NATO, the Alliance does not seem to account these credits as military spending; they are instead accounted for as such only when the Ministry of Defence pays the procurements to the producers. Provided that these credits have not been returned by now, all this public resources aimed to strength military endowments do not appear yet in the current military spending series. See, for a longer discussion, Valiño Castro (2001), Oliveres and Ortega (2007), García Alonso (2007).

3. THE SPANISH MILITARY SPENDING (1850-2009)

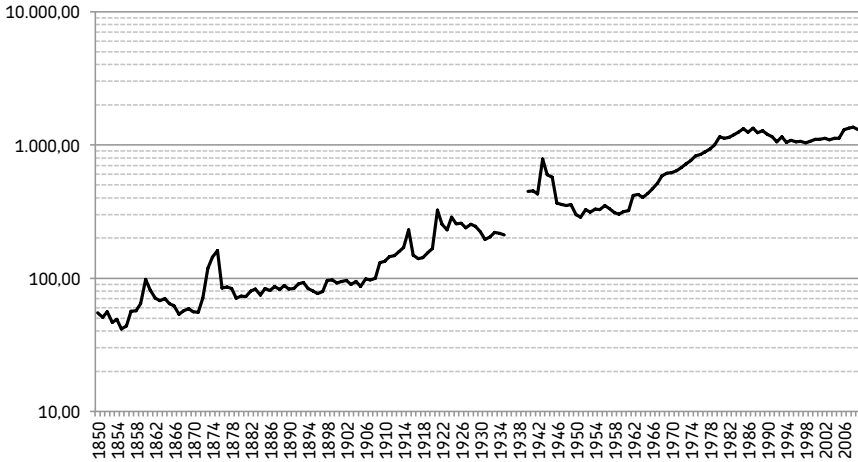
This section describes the evolution of Spanish military spending from 1850 to 2009 on the basis of the new dataset and compares it with previous Spanish military spending estimates. Before that, however, I must clarify that my series only account for the military expenditures managed by the Spanish Treasury. Provided that major overseas Spanish colonies of the nineteenth century (Cuba, Puerto Rico and Filipinas) managed their own colonial budgets (although the Spanish government had the authority over all of them), it has not been possible to include overseas colonial military expenditures in the series.²¹ Therefore, external military interventions such as the military expedition to Mexico (1861-62), the war in Santo Domingo (1865), the Ten Years War in Cuba (1868-1878)²² and the independence wars in Cuba, Puerto Rico and Filipinas (1895-1898)²³ are not reflected in the Spanish military spending figures.

3.1. DATA ON TOTAL MILITARY SPENDING (1850-2009)

Figure 1 presents the evolution of Spanish military spending from 1850 to 2009 in billions pesetas of 1995. Leaving aside the short-term fluctuations and its clear slowdown since the mid 1980s, the series shows a clear long-term increasing trend, with a yearly average growth rate of 2.06 per cent.

-
21. See Roldán (1997a,b) for the available figures on overseas colonial military expenditures.
 22. The Ten Years War in Cuba was almost entirely financed by the Cuban Treasury, although the increasing financial troubles in the colony obliged the Spanish government to hire debt for 15 millions of pesos (warranted by the metropolis) in order to cover the military expenditures (placed anyhow in the Cuban budget). See Roldán (1997a).
 23. The wars of independence of Cuba, Puerto Rico and Filipinas were almost entirely funded by debt issued by the peninsular Treasury (in the form of advances to the colonial Treasuries); however, war military expenditures were included in the colonial budgets (Roldán, 1997a).

FIGURE 1. MILITARY SPENDING IN SPAIN, 1850-2009
(BILLION PESETAS OF 1995)

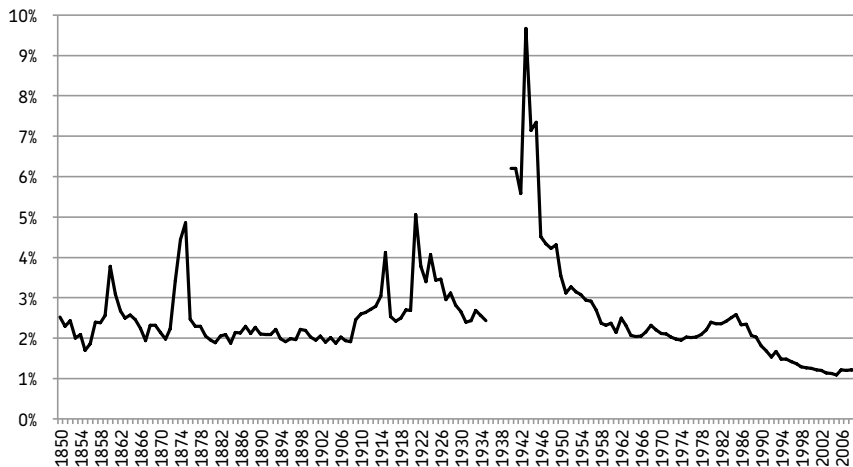


Sources: from 1850 to 1986, my own data (see text). From 1987 on, NATO database.

Notes: figures on military expenditure could not be estimated for the Spanish Civil War period (1936-39) due to the lack of available data.

Figure 2 presents the evolution of Spanish military spending as a percentage of GDP (military burden). The series shows some severe fluctuations during the period before the Civil War of 1936-39, such as those of the mid 1870s and early 1920s, in which the military burden reached levels close to 5 per cent of GDP. After the war, the military burden achieved its historical maximum, near 10 per cent of GDP, which was followed by a rapid decrease during the 1950s and the 1960s. The lowest ratios of the whole time period were reached in the 1990s and the 2000s, when they stabilised at a level well below 2 per cent of GDP.

FIGURE 2. SPANISH MILITARY SPENDING/GDP (1850-2009)

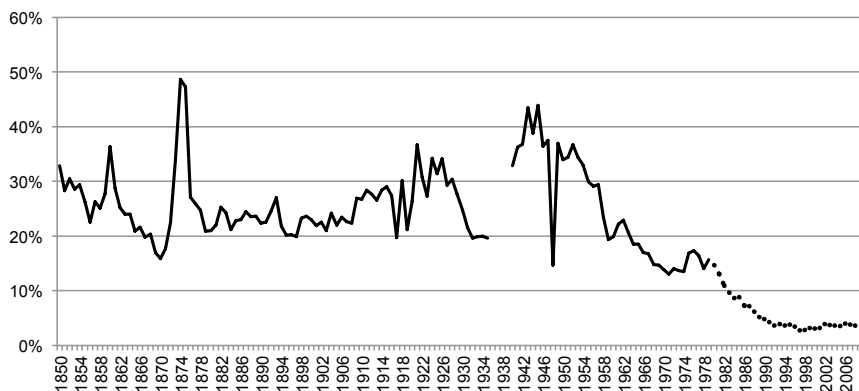


Sources: military spending from 1850 to 1986, my own data (see text); from 1987 on, NATO database. GDP data for the period 1850-2000 from Prados de la Escosura (2003); for the period 2001-2009 from *Instituto Nacional de Estadística* (INE) (<http://www.ine.es/>).

The priority of military spending within the total public budget can be seen in Figure 3. The series shows similar patterns than the former ones, although the decreasing path initiated in the late 1950s appear to be much more intense. It reflects the priority given to other public expenditures during the second half of the twentieth century, due to the development of the Spanish Welfare State.²⁴

24. In line with Figure 3, Comín (2004) argues that the development of the Welfare State in Spain pushed down the weight of defense spending within total public budget to its lowest levels in history. See Espuelas (2013) for a discussion on the development of social spending and the Welfare State in Spain from 1850 to 2005.

FIGURE 3. SPANISH MILITARY SPENDING/
TOTAL PUBLIC SPENDING (1850-2009)



Sources: military spending from 1850 to 1986, my own data (see text); from 1987 on, NATO database. Total State's spending from Comín and Díaz (2005), and total public spending (including autonomous regions, but excluding councils and local governments) from Comín and Díaz (2005) and from *Intervención General de la Administración del Estado* (IGAE) database (<http://www.igae.pap.minhap.gob.es/>). Total public spending is used instead of total State's spending from 1980 onwards, as the State started to transfer competencies to autonomous regions.

3.2. PREVIOUS ESTIMATES ON SPANISH MILITARY EXPENDITURE IN MODERN TIMES

Before describing in more detail the evolution of military spending in Spain throughout the period, this subsection presents a comparison with previous estimates on Spanish military spending in modern times. Comín and Díaz (2005) provides the most comprehensive long-term series on total military spending (although not disaggregated by spending categories), which offers an extended version of the estimates of Spanish public expenditures previously provided in *Instituto de Estudios Fiscales* (1976) and Comín (1985). Table 2 compares my new series with that of Comín and Díaz (2005). Despite both series show similar levels and tendencies, the ratios presented by Comín and Díaz (2005) are systematically lower than mines (except for the first half of the 1940s and the early 1990s, when their ratios are a bit high-

er), mostly due to their exclusion of military pensions. The main differences are found from the mid-1920s to the mid-1930s, when my estimates are eventually higher than their ratios by more than 20 per cent. These differences might be due to the extraordinary budgets passed from 1926 to 1929, which do not seem to be included in the IEF (1976) series (and therefore in the series compiled by Comín and Díaz). Additionally, the sharp growth in military pensions at the beginning of the Second Republic (1931-1939) may also affect the increasing differences of the first half of the 1930s.

Olmeda (1984) and Pérez Munielo (2009) provide the two most complete available series on military spending during the Franco's dictatorship. However, none of them use the spending accounts provided by the *Cuentas*, but the *Presupuestos*, which only offer information on the accepted budget but not on the final recognized and settled expenditure. They may therefore underestimate military spending when extraordinary funds are recognized after the approval of the *Presupuestos*, and overestimating it when some items are finally cancelled. This could explain the main differences between Pérez Munielo's estimates and my own during the 1940s and the 1950s, when the initial approved budgets were eventually surpassed by the final recognized accounts. Additionally, the authors do not use the NATO criterion but the expenditures managed and accounted by the military ministries. More specifically, Pérez Munielo (2009) does not include military pensions and does not exclude some civil expenditure of military ministries, what can also explain that his ratios are systematically lower than mine throughout the period.

By contrast, the higher ratios provided by Olmeda (1984) could be partially due to the different GDP estimates used by the author, what make comparisons difficult. Additionally, the author considers the resources devoted to the police and paramilitary forces as military, which clearly increases his estimates in comparison to the other series (he also includes military pensions within his figures). Finally, the Study Center for Peace J. M. Delàs provides data on military spending

TABLE 2. ALTERNATIVE ESTIMATES ON SPANISH MILITARY
BURDEN (1850-2005) (% OF GDP)

	Comín and Díaz (2005)	Pérez Munielo (2009)	Olmeda (1984)	Centre Delàs (2012)	My data
1850	2.0				2.5
1865	2.2				2.5
1880	1.7				2.0
1895	1.6				1.9
1910	2.3				2.6
—					
1925	3.1				3.4
1926	2.7				3.5
1927	2.3				2.9
1928	2.4				3.1
—					
1933	2.1				2.7
1934	1.9				2.6
1935	2.0				2.4
—					
1946	4.5	3,2	5.6		4.5
1960	2.2	2,1	3.2		2.4
1975	1.6	1,6	3.0		2.0
1990	1.4	1,7			1.8
1995	1.1	1,2		2.5	1.5
2000	1.0	1,0		2.2	1.3
2005		0,8		2.0	1.1

Sources: see text. The military spending estimates provided by Comín and Díaz (2005), Pérez Munielo (2009), Study Center for Peace J. M. Delàs (available in <http://www.centredelas.org/>) and my own have been divided by the GDP estimates provided by Prados de la Escosura (2003) for the period from 1850 to 2001. The GDP data from 2002 to 2005 comes from the INE database (<http://www.ine.es/>). Olmeda (1984) provides directly its military burden estimates for the whole period.

for the 1990s and the 2000s based on a more extensive military spending definition. Although the authors take the NATO methodology as a criterion for their estimates, their figures appear to be clearly higher than those provided by the Alliance. This is mainly the result of the inclusion of Spanish paramilitary forces (Guardia Civil) and the aforementioned credits provided by the Ministry of Industry (both excluded in the NATO accounts).

Pérez Munielo (2009) additionally provides data on the economic and administrative composition of military expenditure. As can be seen in Table 3, his figures on investment expenditures are generally higher than mines, while operational costs are lower. These differences are particularly noticeable during the 1980s, when investment expenditures suffered a major increase. It probably reflects the different definition of investment expenditures, as in my case (and in accordance with the NATO methodology) it only accounts for investments in major equipments and infrastructure (excluding therefore the expenditures devoted to other fields but accounted as investments in the national accounts). By contrast, Pérez Munielo's personnel expenditures estimates appear to be lower than mines during the 1950s, while higher from the early 1960s to the early 1990s. This could be due again to the different sources used in both series.

TABLE 3. ECONOMIC EXPENDITURE COMPOSITION/GDP (1850-2005)

	Pérez Munielo (2009)			My data		
	<i>Personnel</i>	<i>Investment</i>	<i>Operational</i>	<i>Personnel</i>	<i>Investment</i>	<i>Operational</i>
1947	1,6	0,9	1,5	1,7	0,8	1,6
1955	0,9	0,6	1,2	1,2	0,5	1,2
1965	1,0	0,2	0,4	1,0	0,2	0,6
1975	1,0	0,4	0,2	0,9	0,3	0,6
1985	1,1	0,8	0,3	1,0	0,5	0,7
1995	0,6	0,4	0,2	0,7	0,2	0,3
2005	0,5	0,2	0,1	0,4	0,3	0,2

Sources: see Table 2.

3.3. A PERIODIZATION OF THE EVOLUTION OF SPANISH MILITARY EXPENDITURE

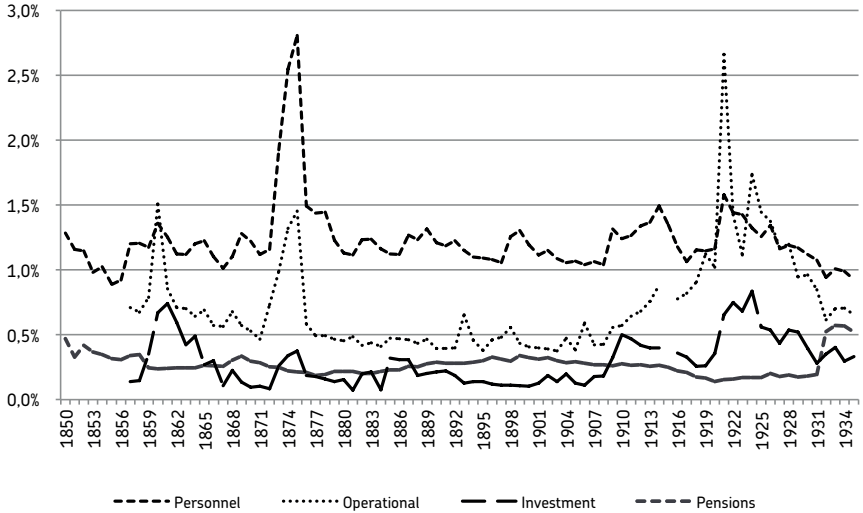
The main stages of the evolution of Spanish military expenditure and their political and military context are shown in the next subsections. I also present information on military expenditure composition, in order to identify its major features. Disaggregated figures are mainly shown as a percentage of GDP, in order to capture the relative financial effort made on every military item in terms of total resources available in the economy. It is probably the measure that better captures the opportunity costs of public expenditure in terms of other economic activities.

3.3.1. 1850-1876

As shown in figure 2, the period from 1850 to 1876 shows several short-term fluctuations that rose military burden close to 5 per cent of GDP. Its first peak is to be found in the late 1850s and the early 1860s, and reflects the new military policy undertaken by the Liberal Union Government (1858-1863) during the monarchy of Isabel II (1833-1868). The Liberal Union set up an expansionist policy mainly based on military interventions in Latin America, North Africa and South-east Asia. As has been stated by Vilar (2009), this contrasts with the former military policy of the so-called «moderate decade» (1844-1854), when Spanish governments kept its neutrality in major international conflicts (such as the Crimean War in 1853-1856). Provided that overseas colonial expenditures (which financed the wars in the American territories) are not accounted for in the series, this first peak seems to be mainly due to the military intervention in Morocco (1859-1860), in which the Spanish government tried to ensure (and expand) its North African settlements. It might additionally reflect the military expedition to Southern Vietnam from 1857 to 1863, where the Spanish army (both the navy and land forces) fought together with the French armed forces against the Kingdom of Annam.

As can be seen in Figure 4, this peak was led by operational and investment expenditures, which fits with the international nature of

FIGURE 4. SPANISH ECONOMIC EXPENDITURE COMPOSITION/GDP
(1850-1935)



Sources: my own data (see text).

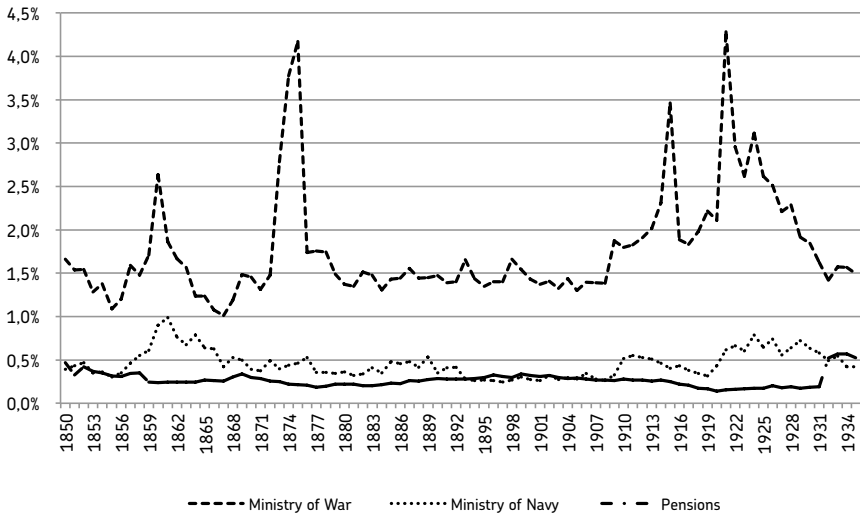
Notes: figures on military expenditure composition (except for personnel and pensions) could not be estimated for the period 1850-56 due to the lack of disaggregated information in the original sources. Figures on investment and operational expenditures for 1915 could not be estimated for the same reasons.

those military interventions. Investment expenditures were mainly financed through extraordinary budgets from 1859 to 1866, and were mostly aimed to construct and arm new warships. Therefore, those historically high ratios achieved during wartime reflect the financial efforts made by the Liberal Union Government to endow the army with better equipment for its military expansionist policy. As is shown in the next subsection, this clearly contrasts with the lower resources devoted to military endowments during the following decades.

The second major peak of the series is found in the mid-1870s, and is associated to the increasing resources demanded by the *Third Carlist*

War (1872-76) initiated during the latest year of the Revolutionary Period (1868-1874). Unlike the former peak, in this case personnel and operational expenditures accounted for most of the increase in spending. This probably reflects the domestic nature of the war, which

FIGURE 5. SPANISH ORGANIC EXPENDITURE COMPOSITION/GDP (1850-1935)



Sources: my own data (see text).

required more personnel resources than new military equipment. Additionally, as can be seen in Figure 5, the war was entirely financed by the Ministry of War (which was in charge of land forces), while the navy resources were not altered.

3.3.2. 1877-1907

The period from 1877 to 1907 changed the former pattern of military expenditure. Total military expenditure as a percentage of both GDP and total public spending shows a stable path near 2 per cent and 20-25 per cent respectively. This clearly reflects the newly military policy set up by the Restoration (1874-1931), which gave place to a military

withdrawal from the main international conflicts, based on policy of neutrality.²⁵ The only external military interventions during the first decades of the Restoration were aimed at the defence of North African possessions and overseas colonies.²⁶ According to military historians, this policy consolidated a very nationalist army devoted essentially to grant domestic public order.²⁷

The domestic orientation of the Restoration's military policy can also be seen in Figure 5, where expenditures by the Ministry of War stayed high, while those of the Ministry of Navy decreased relative to the previous period. According to Olmeda (1984), such prevalence of land forces in a peninsular country can only be explained by the priority given to domestic threats over international affairs. Similarly, Figure 4 shows the prevalence of personnel expenditures in comparison to operational and investment costs. Investment expenditures only increased slightly during the late 1880s, mostly driven by the early plans to reconstruct the squadron that were approved by the Spanish Parliament in 1887. Rodríguez González (2009) argues that these attempts were set up due to the Spanish agreements with the Triple Alliance, although both the investment plans and the agreements were going to fail soon. According to this author, several management errors and the Spanish industrial backwardness (in a context of increasing economic protectionism) limited the scope of the plan.

Table 4 presents the economic composition of the expenditure of both the Ministry of War and the Ministry of Navy. As has been indicated, the increase in investment expenditures during the late 1880s was led by the Ministry of Navy (although it would remain much lower than the investment efforts of the 1860s or the 1910s and 1920s). The data also shows the structural differences among the Ministry of

25. This was only partially altered by the agreement with Germany in 1877 and the Mediterranean Agreement in 1887 (linked to the Triple Alliance).

26. As has been indicated, the Ten Years War in Cuba (1868-1878) and the independence wars in Cuba, Puerto Rico and Filipinas (1895-1898) do not appear in the series.

27. López Garrido (1982), Ballbé (1983), Cardona (1983), Lleixà (1986), González Calleja (1998), Puell de la Villa (2000).

War and the Ministry of Navy spending, and the much higher importance that personnel expenditures reached in the former. In the case of investment, both ministries present fairly similar figures despite the difference in the total expenditure, what clearly reflects the difference in their capital intensity. As has been argued by military historians, the domestic orientation of land forces (in contrast with the international orientation of the navy) implied low equipment endowments and higher personnel resources.²⁸

TABLE 4. MILITARY EXPENDITURE COMPOSITION OF EVERY MILITARY MINISTRY/GDP (1850-1935) (%)

	Ministry of War			Ministry of Navy		
	<i>Personnel</i>	<i>Operational</i>	<i>Investment</i>	<i>Personnel</i>	<i>Operational</i>	<i>Investment</i>
1850-59 ^a	0.92	0.49	0.06	0.18	0.23	0.04
1860-69	0.92	0.55	0.09	0.26	0.20	0.11
1870-79	1.40	0.61	0.08	0.24	0.14	0.02
1880-89	0.98	0.35	0.05	0.22	0.10	0.05
1890-99	0.98	0.38	0.05	0.18	0.08	0.02
1900-09	0.95	0.36	0.06	0.17	0.08	0.02
1910-19	1.12	0.69	0.09	0.14	0.12	0.09
1920-29	1.13	1.24	0.16	0.18	0.19	0.13
1930-36	0.84	0.60	0.07	0.17	0.15	0.06
Mean	1.02	0.58	0.08	0.19	0.14	0.06
Stn. Dev.	0.17	0.27	0.03	0.04	0.05	0.04

Sources: my own data (see text).

Notes: a) Data for operational and investment expenditures is only available from 1856 to 1859.

Lastly, Table 5 shows the percentage that chiefs and officials' pay accounted for within personnel expenditures in both the Ministry of War and the Ministry of Navy from 1861 to 1926. As has been suggested by military historians, the excess of chiefs and officials could have limited

28. See, among others, Cardona (1983) and Puell de la Villa (2000).

the scope of the military budget by diverting resources to personnel expenditure rather than to operational and investment endowments.²⁹ Table 5 shows that chiefs and officials accounted for more than half of personnel expenditures within the Ministry of War, and it increased its weight from 50.2 to 70.7 per cent during the period 1861-1900. Provided that personnel expenditures accounted for 70.3 per cent of Ministry of War's military expenditures in 1900, payments to chiefs and officials were absorbing about 49.7 per cent of total Ministry of War's budget in the turning point of the century. These results are consistent with the widely accepted descriptions of the modern Spanish army made by military historians, according to whom land forces were mainly devoted to domestic affairs and closely related to political power.

TABLE 5. CHIEFS AND OFFICIALS IN MILITARY PERSONNEL EXPENDITURES FROM 1861 TO 1926 (% OF TOTAL PERSONNEL EXPENDITURES)

	Ministry of War		Ministry of Navy	
	<i>Chiefs and Officials</i>	<i>Troops and Employees</i>	<i>Chiefs and Officials</i>	<i>Troops and Employees</i>
1861	50.2	49.8	40.5	59.5
1870	57.2	42.8	39.0	61.0
1880	66.9	33.1	57.5	42.5
1893	64.1	35.9	55.3	44.7
1900	70.7	29.3	56.5	43.5
1915 ^a	52.7	47.3	48.1	51.9
1915 ^b	66.4	33.6	50.8	49.2
1926 ^a	46.9	53.1	43.8	56.2
1926 ^b	60.9	39.1	44.4	55.6
Total ^a	58.4	41.6	48.7	51.3

Sources: my own data (see text).

Notes: a) It includes data on African expenditures; b) It does not include data on African expenditures.

29. See, among others, Cardona (1983) and Puell de la Villa (2000).

Chiefs and Officials' pay accounted for lower shares of the budgets of the Ministry of Navy throughout the period. This would fit with a more professionalized navy, which was more focused on international threats than on domestic affairs. This might also have fostered a rationalization of the expenditure structure, devoting more resources to equipment than to personnel). Despite these differences between both ministries, the percentage of chiefs and officials expenditures within the budget of the Ministry of Navy also increased substantially during the latest decades of the nineteenth century, surpassing 50 per cent of personnel expenditures since the 1880s.

All in all, when accounting for the payments to chiefs and officials in the two ministries in 1900, they represented about 48 per cent of total military expenditure (excluding military pensions). This clearly points out the high opportunity cost of the military model in terms of equipment and material, which were necessary to have a more competitive army in international terms.

3.3.3. 1908-1935

The period from 1908 to 1935 shows a new pattern on total military spending. Unlike the former stability, several fluctuations rose again total military burden up to 5 per cent of GDP. According to Torre del Río (2003), the defeat in the war of 1898 against the US (that implied the loss of the last overseas colonies in America and the Pacific, and the destruction of the Spanish navy) and the increasingly aggressive French policy in Morocco gave place to a new expansionist Spanish policy in North Africa. In addition, the Spanish government strengthened ties with the Entente (and later on with Germany), breaking the former conservative and defensive external policy. This expansionist policy was also in line with the growth in domestic social conflict (mainly led by the workers' movement and peripheral nationalist claims) during the interwar period, and the beginning of the corporatist interventions by the army (clearly seen in the so-called *Juntas de Defensa*). All in all, the early twentieth century saw an increasing militarism and a

more prominent role of the army in the social and the political agenda, which ended in 1923 with the establishment of Primo de Rivera's military dictatorship (1923-1930).³⁰

Figure 6 shows that increases in total military expenditure were led by operational and investment costs, mainly due to the military operations in the Moroccan War (1909-1927). Table 6 reinforces this conclusion by showing the yearly growth rates of African and non-African military expenditures.³¹ As can be clearly seen in the table, the higher increases are to be found in African military expenditures, mainly in operational and investment costs during the period 1919-21 (when

TABLE 6. AFRICAN COLONIAL MILITARY EXPENDITURES AND NON-AFRICAN MILITARY EXPENDITURES FROM 1913 TO 1927 (% OF YEARLY GROWTH)

	Non-African military expenditures				African military expenditures			
	<i>Pers.</i>	<i>Oper.</i>	<i>Invest.</i>	<i>Total</i>	<i>Pers.</i>	<i>Oper.</i>	<i>Invest.</i>	<i>Total</i>
1913-15	0,6			30,6	-1,6	22,0	0,0	9,6
1915-17 ^a	-6,4			-20,3	-21,8	-16,8	-49,0	-21,6
1917-19	6,5	24,5	-9,9	7,5	-4,5	3,8	2,8	-0,7
1919-21	15,1	17,0	56,3	17,3	31,9	211,4	230,7	131,7
1921-23	-9,4	-20,4	1,6	-8,9	6,7	-44,5	42,8	-30,3
1923-25	-4,6	7,2	-7,6	-2,5	-8,9	39,0	35,2	13,6
1925-27	-6,2	-10,8	-7,7	-5,8	4,3	-6,0	0,0	-9,2
Total	-0,6	4,2	4,1	2,6	0,9	29,8	37,5	13,3
Stn. Dev.	12,4	24,2	28,9	24,5	20,1	118,2	125,3	72,0

Sources: my own data (see text).

Notes: a) no disaggregated data are available for 1915 on investment and operational expenditures.

30. Cardona (1983), Puell de la Villa (2001).

31. The data start in 1913 due to the lack of previous disaggregated information in the original sources. However, the increase in the total military burden started in 1908, most probably driven also by colonial military expenditures.

military operations were reinforced due to the defeat in the Annual battle against the Moroccan insurgency). Additionally, the standard deviation reveals much higher volatility in African than in non-African expenditures, which also reflects the increasing (and extraordinary) resources needed to finance the war.

Beyond the Moroccan war, Table 6 also shows some increases in non-African investment expenditures in certain periods, particularly in 1919-21. This would reflect the modernization policies initiated by the Minister of the Navy José Ferrándiz in 1907 to modernize the navy yards, to construct new warships and to acquire new weapons and equipments (although the spending figures devoted to non-African investments prior to 1917 cannot be directly observed). The acquisition of military airplanes during the late 1910s and the 1920s³² and the Royal Order passed in 1926 (on extraordinary works and services on infrastructure, equipment and general material costs for both the Ministry of War and the Ministry of Navy) extended the modernization effort. So did the first biennium of the Second Republic (1931-39), when the government tried to reinforce the military endowments and to promote national military production by establishing a consortium of military industries (also reflected in Figure 4 by the relatively high investment ratios sustained during the 1920s and the early 1930s).³³ All these figures fit with Velarde's (2000) suggestions, according to which the interwar period was characterized by a gradual implementation of the German model based on the encouragement of a national military industry and rearmament.

Lastly, as can be seen in Table 5, the percentage that chiefs and officials' pay accounted for within personnel expenditures decreased as a share of total personnel expenditures from 1900 to 1926. It reached

32. San Roman (1999).

33. The consortium was established in 1932 and finally abolished in 1934 after the riots in Asturias. See Cardona (1983).

ratios closer to pre-Restoration figures, especially if African expenditures are included, most likely due to the needs for war operations (which were mainly based on native paid troops). Therefore, the Moroccan military interventions and the prevailing modernization policies went along with the reduction of the chiefs and official's payment weight, which might be reflecting some trade off between an overweighed official's body and active international armed forces.

3.3.4. 1939-1975

The period from 1939 to 1975 coincides with the dictatorial regime established by General Francisco Franco after the military uprising against the Republican government in 1936 and the subsequent Civil War (1936-39). As can be seen in Figure 2, the first post-war decade accounts for the highest military burden ratios of the whole historical series, reaching in 1943 almost 10 per cent of GDP. This would be related with the Spanish early attempts to become involved in the Second World War together with the Axis powers (that ended up with the participation in the East front in 1941-1943 and the economic and military agreements with the Nazi Germany), as well as the subsequent threats of an invasion from both the Allies and the Axis powers.³⁴ Additionally, part of these high military spending ratios might be explained by the repression of the anti-Francoist guerrilla in some mountainous regions (especially until 1947) and the militarization of the dictatorial political system itself.³⁵

As can be seen in Figure 6, during the late 1940s and early 1950s operational and investment ratios were relatively high in comparison to personnel expenditures (although the later also reached some of the highest levels in modern history).³⁶ As has been argued by

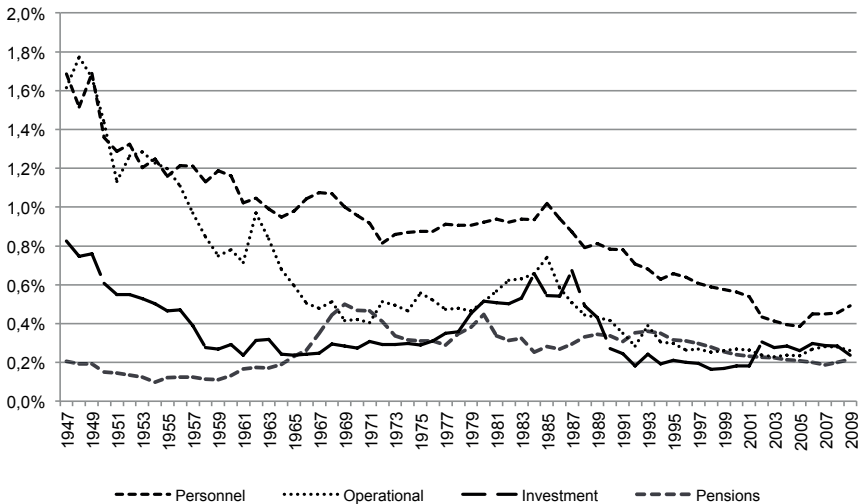
34. For a description of the Spanish participation in the Second World War, see Viñas (2005), Cardona (2008) and Huget (2009).

35. Concerning the guerrilla's repression, see Viñas (2005) and Cardona (2008).

36. Unfortunately, as has been said before, there is not enough disaggregated data to provide the economic composition of military expenditure from 1940 to 1946.

Blanco Nuñez (2010), the period from 1940 to 1953 was used by the navy to modernize the old Spanish squadron (although the management problems and the unbearable required resources delayed the contracts and lessened the expected military effectiveness). Similarly, Sempere Doménech (2010) describes the early modernizing efforts carried out by the air forces during this period (although in both cases the most important modernizations were to come later). By contrast, Puell de la Villa (2010) highlights the low equipment investment undertaken by land forces during the early years of dictatorship, which clearly reflects the domestic orientation of the army and the high number of soldiers and officials inherited from the civil war.

FIGURE 6. SPANISH ECONOMIC EXPENDITURE
COMPOSITION/GDP (1947-2009)



Sources: my own data (see text).

Although all series decreased in the late 1940s, their reduction slowed down or was even shortly reversed during the early 1950s (especially in the case of operational costs). The non recognition of the regime by the United Nations in 1946 and the subsequent international isolation during the early post-World War years may explain both the relatively high military spending ratios and the relative importance of material expenditures within the total budget.³⁷ Additionally, these ratios may be also related with the autarkic orientation of the early dictatorship, aimed at the promotion of national industry through rearmament, which would have kept the military burden high in comparison with previous decades.³⁸

During the late 1950s the reduction in investment and (particularly) operational expenditures was resumed, while personnel costs remained more stable (although also diminishing slightly). As a result, the percentage of personnel expenditures in comparison to material items increased, which was clearly noticeable during the late 1960s. This might be related to the new scenario set up by the military agreements established in 1953 with the US government (and renewed periodically thereafter), which granted technical assistance and military and economic aid to Spain in exchange for the establishment of several US military bases in the Iberian Peninsula.³⁹ It provided the Spanish army with modern military equipment (although it all came from second-hand models), probably reducing the need to invest its own resources.⁴⁰ Additionally, as has been suggested by Viñas (2010),

37. According to Morcillo Sánchez (2010), the main perceived international threats were the potential republican assaults (coming from the French frontier) and, since the late 1940s, a large scale soviet invasion.

38. See San Roman (1999) for a detailed description of the importance of the military in the early autarkic industrial projects.

39. According to the NATO criterion, the US aid accounts as US military expenditure but not as Spanish military expenditure.

40. According to Pérez Munielo (2009), the total US military aid from 1954 to 1984 accounted for 1,106,078 million of 1995 constant pesetas. The bulk of the aid was received in 1954-1956, when 672,208 millions of constant pesetas were received, a clearly higher amount than the 161,720 millions of constant pesetas spent on military investment by the Spanish government during the same period. The amounts received from 1957 to 1971, when US aid gradually became residual, accounted for 46.8 per cent of Spanish settled investments, while it was about 1.6 per cent in the period 1972-1984. Therefore,

this bilateral agreement not only strengthened the regime stability but also granted (to some extent) the external security of Spain.⁴¹ The data suggest that this kind of international insurance could also allow the regime to reduce military spending on material items and to focus on domestic repression without being exposed to severe international threats.

During the late 1960s and (particularly) the early 1970s, the decrease in the ratios stopped and was slightly reversed. As can be seen in Figure 6, both personnel and material costs experienced a tiny increase during the last years of dictatorship. In the case of investment and operational items, this might be related with the preliminary efforts done by the government to modernise the army. According to Gómez Castañeda (1985), the dictatorship passed in 1965 its first legislation to programme the acquisition and construction of new military equipment (Law 85/1965), although it was not until 1971 that it designed an eight year plan for investments, maintenance and reposition of material and major equipment (Law 32/1971). As can be seen in Table 7, the (tiny) increase in investment expenditures was led by the Ministry of Navy. By contrast, the expenditure by the other two ministries was not enough to go beyond the former ratios.

and although military investment decreased during the 1950s, the Spanish army undertook then its major modernization since the outburst of the Spanish Civil War. US equipment cessions included 8,330 transport vehicles, 451 tanks, 1,250 cannons, 432 military aircrafts, an aircraft carrier and more than 40 military and transport warships, most of them coming from the Second World War (1939-45) and the Korean War (1950-53).

41. In line with these pacts, Spain joined the United Nations in 1955, the International Labour Organization in 1956 and several international institutions (such as the International Monetary Fund, the World Bank and the Organization for European Economic Cooperation) in 1958. According to Huget (2009), this international détente was the result of the geostrategic position of Spain within the Mediterranean region in the context of the Cold War era.

TABLE 7. MILITARY EXPENDITURE COMPOSITION OF EVERY
MILITARY MINISTRY/GDP (1940-1975) (%)

	1940- 1949^a	1950- 1959	1960- 1969	1970- 1975	Mean	Stn. Dev.
<i>Ministry of the Army</i>						
Personnel	2.18	0.94	0.74	0.57	1.11	0.73
Operational	4.48	2.21	1.71	1.47	2.47	1.38
Investment	0.28	0.08	0.05	0.05	0.11	0.11
<i>Ministry of Navy</i>						
Personnel	0.17	0.13	0.14	0.15	0.15	0.02
Operational	0.32	0.28	0.16	0.09	0.21	0.10
Investment	0.13	0.08	0.04	0.06	0.08	0.04
<i>Ministry of Air</i>						
Personnel	0.22	0.16	0.17	0.16	0.18	0.03
Operational	0.27	0.16	0.12	0.11	0.16	0.08
Investment	0.12	0.08	0.04	0.04	0.07	0.03

Sources: my own data (see text).

Notes: a) Data from 1947 to 1949.

Table 7 also shows the prominence of the Ministry of the Army (formerly called Ministry of War) throughout the period, which is consistent with the domestic orientation of the army (in line with previous periods) and the containment strategy against perceived international threats. By contrast, the other two military ministries followed a more stable evolution throughout the period. As in previous periods, the two ministries had similar investment expenditures to the Ministry of the Army (except for the 1940s) even though their total burden was clearly lower.⁴²

42. The high investment levels of the Ministry of Army during the 1940s were mainly led by infrastructure investment and not by new equipment. Although the sources do not provide enough information on the composition of investment, it could be estimated that military equipment accounted for about 40 per cent of investment expenditures during the 1940s.

The democratic period initiated in 1977 brought relevant changes in military policies and military spending. After an early increase during the late 1970s and the 1980s, military burden decreased to the lowest levels of the whole historical series, mainly led by personnel expenditures. According to Puell de la Villa (2001), the General Plan for Modernization of the Land Forces (META) passed in 1983 set up an ambitious reform of the military structure by reducing territorial military governments and by planning a 50 per cent decrease of the whole contingent. It was reinforced by the subsequent laws of 1984 and 1986, which significantly reduced the number of chiefs and officials within the three armies' branches (although it mostly focused on land forces). The Plan for the Reorganization of the Land Forces (RETO) in 1990 aimed to continue the reorganization of military forces by strengthening the Rapid Action Forces, while the Plan for the New Organization of Land Forces (NORTE) reduced the regional commandments and reinforced again the most flexible and operative forces. These reforms were closely related to the reduction of military recruitment, which was finally suspended in 1999 by the Law 17/1999.

The reduction on military personnel was initially accompanied by increasing investment efforts. The former Law 32/1971 on new investments was extended by the Real Order 5/1977 until 1982, when the new Law 44/1982 (passed by Alberto Oliart, the first civilian in charge of the Ministry of Defence since the Spanish Civil War) ensured eight years of increasing resources in military endowments (renewed afterwards by the Laws 44/1982, 6/1987 and 9/1990). These plans would explain the initial increase in equipment and operational expenditures that can be seen in Figure 6 from the mid-1970s to the late 1980s (while the failure to execute the plans since the late 1980s would explain the decreasing ratios during the 1990s).⁴³ As can be seen in Ta-

43. See Ortega Martín (2008) and Pérez Munielo (2009) for a description of the aforementioned laws on investment endowment and its under-execution during the 1990s.

ble 8, the current democratic period has achieved some of the highest ratios of investment expenditures as a percentage of total military spending (even higher than in former wartimes).

TABLE 8. ECONOMIC COMPOSITION
OF MILITARY SPENDING (1850-2009) (%)

	Personnel	Operational	Investment	Pensions
1850-59 ^a	49.4	29.7	8.8	15.6
1860-69	45.5	28.9	15.3	10.2
1870-79	58.3	26.6	6.9	8.1
1880-89	57.4	21.7	9.8	11.1
1890-99	56.2	22.3	7.1	14.4
1900-09	55.2	22.0	8.4	14.4
1910-19 ^b	44.9	30.1	14.1	8.4
1920-29	37.4	40.8	16.8	5.0
1930-39 ^c	39.7	30.0	13.5	16.8
1940-49 ^d	43.1	35.3	17.8	3.8
1950-59	42.4	37.9	15.4	4.3
1960-69	46.7	28.0	12.3	13.0
1970-79	43.2	23.5	15.9	17.4
1980-89	38.9	24.2	23.1	13.7
1990-99	44.5	20.6	13.8	21.2
2000-09	38.4	21.6	22.0	18.0
Total	46.3	27.7	13.8	12.2

Sources: my own data (see text).

Notes: a) Data on operational and investment expenditures from 1857 to 1859, b) Data on operational and investment expenditures from 1910 to 1914 and from 1916 to 1919, c) Data for all items from 1930 to 1935, d) Data on operational and investment expenditures from 1947 to 1949.

This modernization process went along with a reorientation of military policy from domestic threats to external missions and with the reinforcement of military agreements with western countries. It was mainly based on Spain's membership in NATO since 1982 (al-

though the incorporation to its military structure had to wait until the end of the 1990s) and in the Western European Union (WEU) in 1984 (and as a full right member in 1990).⁴⁴ In contrast with the former neutrality in most international military operations, the Spanish armed forces started participating in international missions in 1989 with the UN intervention in Angola. Since then, more than 100,000 Spanish soldiers have been mobilized in about 67 missions under the structure of international organizations such as the UN, the EU, NATO, the WEU, the OSCE, or specific international coalitions.⁴⁵ According to Puell de la Villa (2001), this shift constitutes one of the main changes in Spanish military policy since the first half of the nineteenth century.

44. Lemus and Pereira (2009), García Pérez (2009).

45. Melero Alonso (2012).

4. INTERNATIONAL COMPARISONS (1870-2009)

This section presents a long-term comparison of Spanish military burden with that of other countries for which similar information is available, in order to provide international reference terms to the priority given to military spending by successive Spanish governments. The analysis has been divided in three periods, which are determined by the availability of data.

4.1. 1870-1913

The data on military spending for the period 1870-1913 comes mainly from Hobson (1993), who provides information on military spending for France, Germany, Italy, Japan, United Kingdom and United States.⁴⁶ He takes his data from specific secondary sources for each country and, when available, from national statistical directories. Despite the criterion he used to compile his information is the same as mine, the diversity of the sources jeopardise the homogeneity of the data. Therefore, as the author admits, his data must be interpreted cautiously. I have also gathered data from secondary sources on Portugal, Sweden and Switzerland in order to complete a broader international dataset.⁴⁷ Moreover, data on Norway for the period 1870-1904 comes from Banks (1976), and from the Correlates of War project dataset for the period 1905-1913 (see next section for a discussion on the Correlates of War dataset).

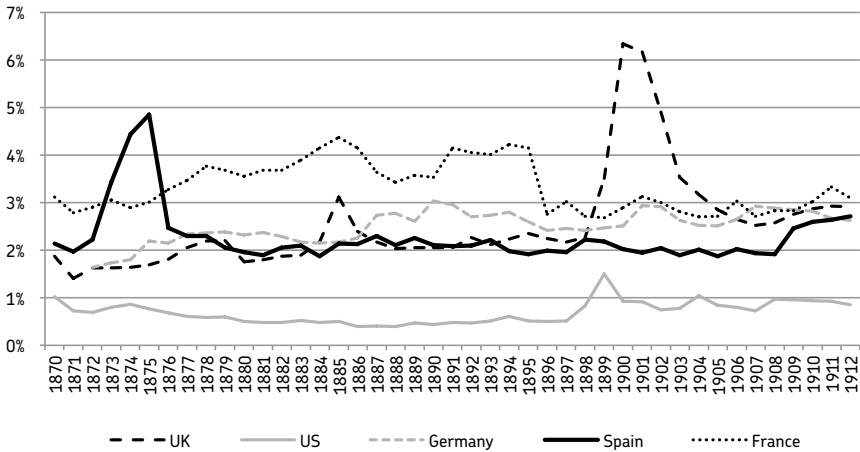
Figure 7 compares the Spanish military burden ratios with those of a core sample of major powers for the period 1870-1913. Aside from

46. Despite Hobson offers data for some other countries, I only present the ones for which I can show information also for the subsequent periods, in order to ensure a coherent historical description.

47. Data for Portugal comes from Valério (2001); data for Sweden from Schön and Krantz (2012); and data for Switzerland from Ritzmman (1996).

the sharp fluctuations in the series presented in the graphs, which are associated with specific historical events, Spanish military expenditure stands out in comparative terms by its relatively high levels. During the entire period between 1870-1913, and despite the fact that it did not participate in major conflicts, the percentage of GDP set aside by Spain for military spending was very similar to that of the Great Britain and Germany and slightly less than that of France, all of which were involved in a process of rearmament at the end of the 19th century and the early 20th century. Spanish military expenditure was much higher than that of the United States, which bore very little ratios compared to major European powers.

FIGURE 7. MILITARY BURDEN IN SEVERAL MAJOR POWERS AND SPAIN (1870-1913)

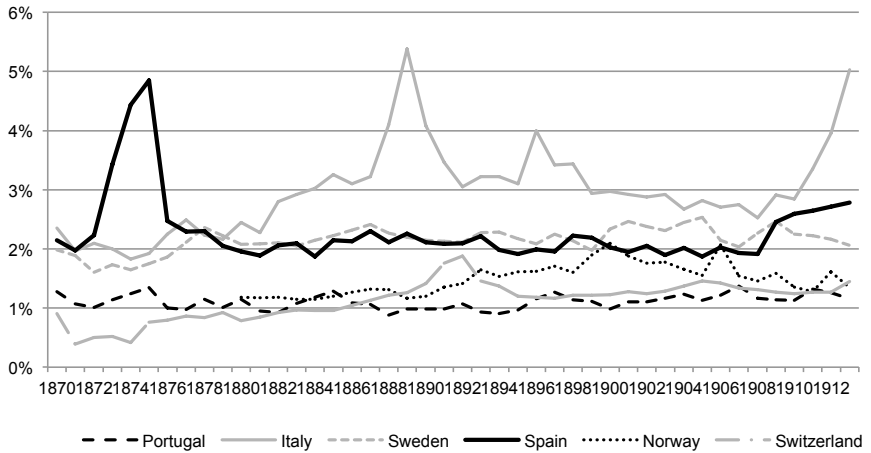


Sources: for military spending, see text. The figures on nominal GDP and exchange rates for the period 1870-1948 come from the databases of Global Finance (<http://eh.net/databases/Finance/>), Historical National Accounts (<http://www.ggd.net/databases/hna.htm>), Measuring Worth (<http://www.measuringworth.com/>) and Jones-Obstfeld (<http://www.nber.org/databases/jones-obstfeld/>).

Figure 8 shows the military burden ratios for a core sample of peripheral and Southern European countries. As can be seen in the graph, Spanish military expenditure was also much higher than in

most countries in the sample, which, like Spain, had little participation in the major conflicts of the period. Only Italy shows clearly higher military burden ratios. In this context, the high level of Spanish military expenditure might be explained by factors such as the extensive use of the military apparatus for public order, or the inflated number of senior officers in the military forces (already discussed in the former section).

FIGURE 8. MILITARY BURDEN IN SEVERAL NON-MAJOR POWERS AND SPAIN (1870-1913)



Sources: see text and sources to Figure 7.

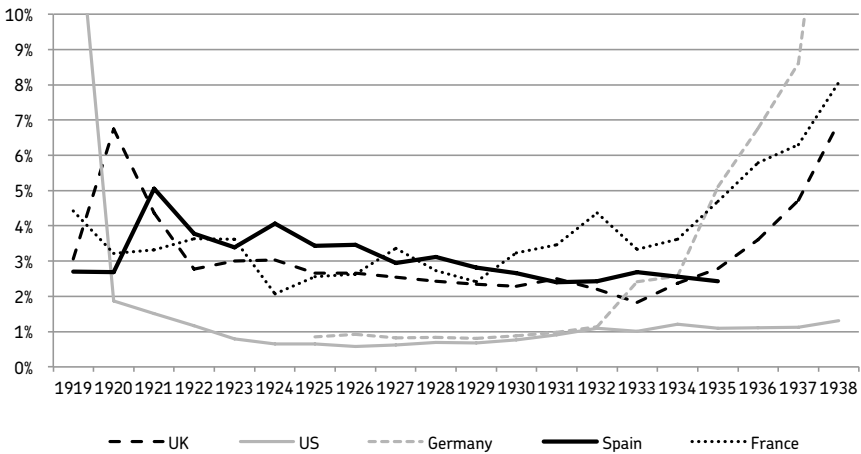
4.2. 1914 - 1945

The data for the inter-war period comes mainly from the Correlates of War (COW) project database. As has been indicated, the COW Project provides military expenditures for almost all countries from 1816 to the present (although the majority of non-OECD countries begin their series in the 1960s), being a broadly used dataset in academic research. However, this data should be used cautiously due to the diversity of information sources. Therefore, here other available sources have been used when possible. In order to keep methodological cohe-

rence with the former period, data on military spending for Portugal, Sweden and Switzerland have also been taken from the same statistical publications.

Figures 9 and 10 show that Spanish military burden ratios were higher than in other countries (both major and non-major powers), specially during the 1920s, probably due to the extraordinary resources demanded by the Moroccan war. This fact can be also related to the demobilisation process of former major combatants in other countries and the associated international peace initiatives such as the creation of the League of Nations in 1919 and the ill-fated Kellogg-Briand Pact in 1928.

FIGURE 9. MILITARY BURDEN IN SEVERAL MAJOR POWERS AND SPAIN (1913-1938)

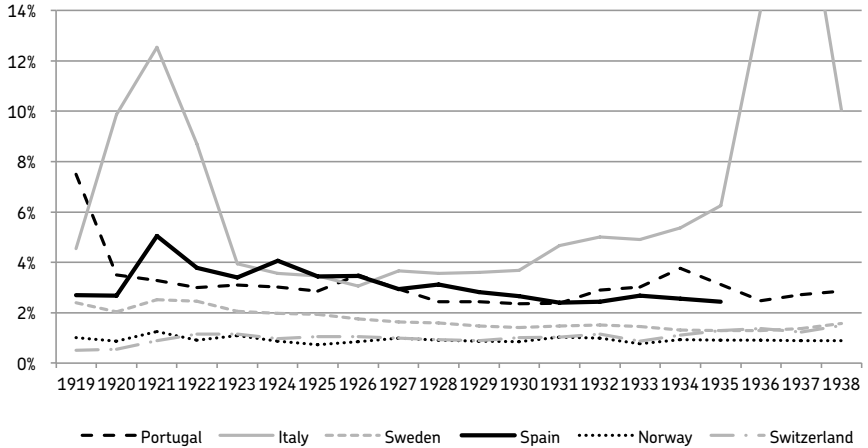


Sources: for Spain, my own data (see text); for other countries, see text and figure 7.

By contrast, during the 1930s the military burden ratios of the major powers clearly increased, reflecting the growing military tension during the period prior to the Second World War. Despite Spain did not react in the same way (in line with the neutrality policy sustained by the Republican governments), Figure 10 shows that it kept higher

ratios than those achieved by other non-major powers (except for Italy and, to a lesser extent, Portugal).

FIGURE 10. MILITARY BURDEN IN SEVERAL NON-MAJOR POWERS AND SPAIN (1913-1938)



Sources: for Spain, my own data (see text); for other countries, see text and figure 7.

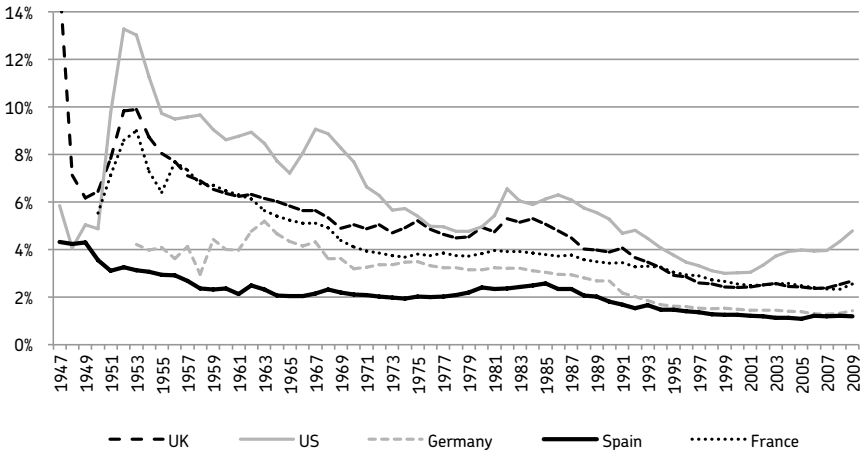
4.3. 1947-2009

The data for the period 1947-2009 has been mainly taken from the NATO database, which offers reliable information on military spending for thirteen European and North-American countries for the whole period after the Second World War. Data on military spending for Sweden and Switzerland have been taken from the same statistical publications as before.

By contrast to the former periods, since 1947 the Spanish military burden ratios have remained lower than in most of the countries of the sample. As can be seen in Figures 11 and 12, this is particularly evident during the Cold War era, when military spending was much higher in all major powers. On the other hand, the crisis of the Eastern

Bloc in the late 1980s gave place to a considerable reduction in the military burdens worldwide; it brought the military burden levels of the main powers closer to the Spanish ones, which did not go down as much as the others. Similarly, Spanish military burden remained lower than that of the sample of non-major powers throughout most the period, probably due to its domestic orientation of the military (and therefore less influenced by the international military dynamics of the Cold War).

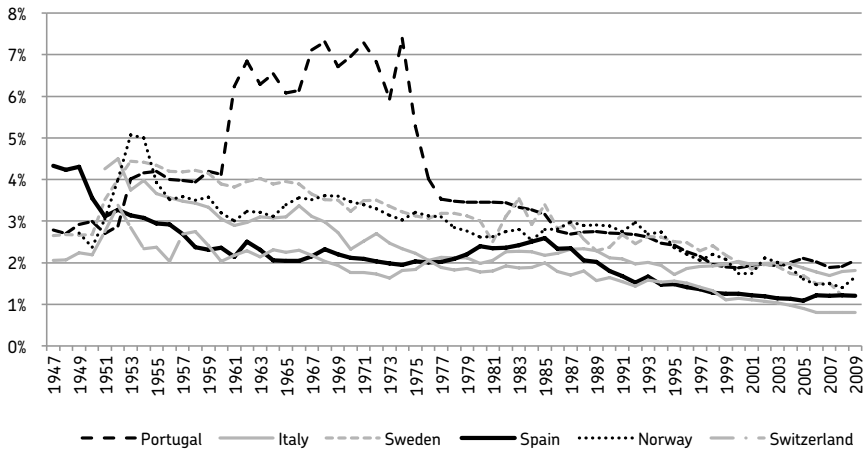
FIGURE 11. MILITARY BURDEN IN SEVERAL MAJOR POWERS AND SPAIN (1947-2009)



Sources: for Spain, my own data (see text); for the other countries, see text.

The NATO dataset also offers the possibility to explore the economic composition of Spanish military expenditure in comparison with other NATO countries from 1970 to 2009. As can be seen in Table 9, Spain bore higher percentage of personnel expenditures than the sample of North and Central European countries and the United States, even though the ratio for 2000-09 was fairly close to the North and Central European ones. On the other hand, the percentage of investment expenditures was lower in Spain for the period 1970-1999, while the ratio achieved in 2000-09 was very similar to the ratio reached by North and

FIGURE 12. MILITARY BURDEN IN SEVERAL NO-MAJOR POWERS
AND SPAIN (1947-2009)



Sources: for Spain, my own data (see text); for the other countries, see text.

Central European countries. This highlights both the relative Spanish backwardness in terms of military modernization as well as the convergence process undertaken during the last four decades. In line with the former section, this might be also reflecting the domestic orientation of military policies during the Franco's dictatorship and the shift to international military missions in the present democracy.

By contrast, Spain devoted fewer resources to personnel expenditures than the sample of South European countries, while holding higher operational and investment shares in recent periods. This is particularly noticeable in 2000-09, when the expenditure pattern of southern European countries was farther away from that of the major power, probably due to their relatively numerous armed forces (similar to France or the United States in terms of labour force, but with lower military spending effort). Similarly, the higher ratios of military personnel in the sample of South Europe countries than in Spain (4.9, 1.8 and 1.5 per cent of labour force in Greece, Italy and Portugal respectively, compared to 1.1 per cent in Spain in 2000), while bearing

equivalent shares of military burden, might explain the lower personnel costs assumed by Spain.⁴⁸

TABLE 9. MILITARY EXPENDITURE COMPOSITION IN A SAMPLE OF NATO COUNTRIES, FROM 1970 TO 2009 (%)

	1970-79	1980-89	1990-99	2000-09
<i>Personnel expenditures</i>				
United States		39.5	39.2	36.6
North and Central Europe ^a	51.2	45.8	51.8	51.7
South Europe ^b	61.0	58.9	67.8	73.7
East Europe ^c				55.1
Spain	60.6	52.6	65.6	56.4
<i>Investment expenditures^d</i>				
United States	21.2	25.5	27.6	26.1
North and Central Europe ^a	21.4	26.0	21.9	22.6
South Europe ^b	16.1	20.2	16.5	12.5
East Europe ^c				19.3
Spain	15.9	23.1	13.8	22.0
<i>Operational expenditures</i>				
United States		35.0	33.1	37.0
North and Central Europe ^a	27.3	28.1	25.9	25.4
South Europe ^b	22.5	20.7	15.5	13.2
East Europe ^c				24.7
Spain	23.5	24.2	20.6	21.6

Sources: for Spain, my own data (see text) from 1970 to 1986, and the NATO database from 1987 to 2009; for the other NATO countries, the NATO database.

Notes: a) Belgium, Denmark, Germany, Netherlands, Norway and United Kingdom, b) Greece, Italy and Portugal, c) Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia, d) the data on investment expenditures correspond to the figures on equipment and infrastructure investments in the NATO dataset.

48. See data on the NATO military personnel in the «NATO-Russian compendium of financial and economic data relating to defence» issued annually by the NATO.

5. CONCLUSIONS

Military spending has been one of the most important European public expenditures in modern times. Despite the increasing relevance that it has acquired in social science, there is a lack of long-term homogeneous and comparable data in international panel datasets. This paper wants to contribute to fill in this gap by providing new estimates on total military spending in Spain from 1850 to 2009 (as well as economic and administrative disaggregated figures). The dataset has been elaborated on the basis of the NATO methodological criterion, which is considered as one of the most comprehensive definitions on military spending. This criterion is used by several international institutes and organizations that compile international military expenditure data (generally from the late 1980s onwards), such as the Stockholm International Peace Research Institute (SIPRI), the Arms Control and Disarmament Agency (ACDA, now part of the US Department of State) and the International Institute of Strategic Studies (IISS).

The description of the main trends on Spanish military spending allows concluding that the resources devoted to the military have increased in real terms throughout most of the period. The only exceptions appear to be the years immediately after the wars (which always show diminishing levels in comparison to peak wartimes) and the late 1980s onwards, when military spending remained fairly stable. Concerning the efforts done by Spanish governments as a percentage of GDP (military burden), the series shows several periods with sharp increases, generally related to wartimes. The most remarkable one is the first decade of Franco's dictatorship, when military burden reached the highest ratios of the whole period. By contrast, the lowest historical ratios (as well as the lowest ratios of military spending as a percentage of total public spending) were achieved in the 1990s and the 2000s.

The data on economic and administrative composition of military expenditure show an army mainly based on land forces and personnel expenditures. The periods 1910-1949 and 1980-2009 seem to be

the ones with highest shares of investment expenditures within total military spending, most likely due to the military modernization efforts of both periods. When comparing the Spanish military burden with a sample of European countries and the US, Spain appears to bear relatively high ratios during the period before the Spanish Civil War (1936-39), and relatively low ratios during the Cold War era (particularly compared with the major powers). During the post-Cold War period, the Spanish ratios remained generally lower but closer to those of the other countries. In terms of expenditure composition, Spain had a similar pattern to other Southern European countries, although the share of investment expenditures increased in the 2000s to levels close to those of the Central and North European countries.

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- The principle purpose of the ICIP is to promote a culture of peace in Catalonia as well as throughout the world, to endorse peaceful solutions and conflict resolutions and to endow Catalonia with an active role as an agent of peace and peace research. The ICIP, seeking consistency between ends and means, is governed by the principles of promoting peace, democracy, justice, equality and equity in relationships between individuals, peoples, cultures, nations and states. It holds the aim of working for human security, disarmament, the prevention and peaceful resolution of conflicts and social tensions, and strengthening the roots of peace and coexistence, peace building and advocacy of human rights.

Objectives of the Publication

- The ICIP wants to create an open forum on topics related to peace, conflict and security. It aims to open up debate and discussion on both theoretical and contemporary issues associated with the pursuit and maintenance of peace in our world. It strives to connect an eclectic group of voices including career academics, PhD students, NGO representatives, institutional representatives, and field workers and field writers to celebrate ground-breaking and constructive approaches to peace and conflict resolution.

Scope of the Publication (List of Themes)

- The ICIP is interested in works related to peace, conflict and security research. It aims to provide an innovative and pluralist insight on topics of methodology of peace research, the history and development of peace research, peace education,

peace-keeping and peace-creating, conflict resolution, human security, human rights, global security, environmental security, development studies related to peace and security, international law related to peace, democracy, justice and equality, disarmament, gender, identity and ethics related to peace, science and technology associated with peace and security.

Audience:

- The ICP aims to provide accessible, valuable and well-researched material for all those interested in the promotion of peace. Our audience includes fellow academics and researchers, student of peace and security, field workers, institutional and governmental representatives as well as the general public.

The review process

- Peer reviewed. Submissions should be sent directly to the series editor (recerca.icip@gencat.cat), who will check whether the paper meets the formal and general criteria for a working paper and will commission a review.
- The review procedure is double-blind. The series editor will choose two anonymous reviewers, generally from the Editorial Board, but may also commission an external review from outside the ICIP.
- Reviewers are asked to write a review within a month after having received the paper. Reviews should clearly indicate one of four options: (1) accept without changes; (2) accept with minor changes; (3) allow for resubmission after major changes (4) reject. Options 2 to 4 require some detailed comments. If a paper is accepted (option 1 or 2), reviewers are kindly asked to help authors correct minor linguistic or other errors by making notes in the manuscript. If they use the track changes function for this purpose they should make sure that their comments are anonymized.

Who may submit working papers?

- The main criterion for the submission of Working Papers is whether this text could be submitted to a good academic journal.
- ICIP staff and other fellows and visitors affiliated with the ICIP are expected to submit a working paper related to their research while at the ICIP.

Submission System

- All submissions can be made to the ICIP e-mail address: recerca.icip@gencat.cat with *Working Papers – submission* in the subject line.

Author Biographical Statement

- Authors must all provide a short biographical note including full name, affiliation, e-mail address, other contact information if necessary and a brief professional history. This information should be provided on a separate sheet with the title. All other personal references should be removed from the submission to ensure anonymity.

Abstract

- All papers must include English language abstracts (150 words max.)

Keywords

- A list of four to six keywords is also required.

Language and Style

- Authors may submit in Catalan, Spanish or English. The submission must be clearly written and easy to follow with headings demarcating the beginning of each section. Submission must be in Arial 11, double spaced and pages must be numbered.

- Papers should not be longer than 15,000 words (incl. footnotes and references). Longer papers may be returned with a request to shorten them. Papers that require more extensive presentation of data may add these in an appendix that will count separately. Appendices should, however, present data in a reader-friendly and condensed format.
- Papers that will require extensive linguistic editing will not be accepted for review. Minor linguistic corrections (as well as required revisions) suggested by the reviewer must be implemented by the author before the final editing of the paper.

Footnotes

- Footnotes may be used to provide the reader with substantive information related to the topic of the paper. Footnotes will be part of the word count.

References

- The Harvard author-date system. In this system, sources are briefly cited in the text, usually in parentheses, by author's last name and date of publication. The short citations are amplified in a list of references in alphabetical list, where full bibliographic information is provided. Bibliographic references must follow *The Chicago Manual of Style* (15th edition). See a *Chicago-Style citation quick guide* at:
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