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Interest Groups, Government Spending and Italian Industrial Growth (1876-1913)

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Abstract

In the last two decades of the XIX century the Italian model of economic growth shifted from agricultural to industrial. Historians maintain that this process was affected by the action of some interest groups that pursued both state protection from competition and specific public expenditure programs. Starting from the economic literature of interest groups, this paper attempts to empirically investigate the role of the interest groups in public expenditure decisions in Italy from 1876 to 1913. We argue that a proper indicator of the role of interest groups is their output. The analysis suggests that government spending was sensitive to the preferences of heavy industry rather then those of textile and cereal cultivators. We therefore highlight the role of the political process in setting economic policy at the early stages of the Italian development.

Keywords

1. Introduction[*]

In the last two decades of the XIV century, Italy experienced a change in its political system, and simultaneously the model of economic growth shifted from agricultural to industrial. The law concerning tariff barriers to international trade passed on July 14th, 1887 represents a key event of this process, by protecting grain, textile, sugar and steel industries. Historians agree that this decision was driven by the action of specific interest groups. In their view, the 1887 trade law was the result of a system of political and economic alliances that imposed a particular model of industrialization and, more in general, of economic development.[1] In other words, historians maintain that some interest groups affected the mechanisms of capital formation, pursuing both protection from the competition and specific public expenditure programs (Bonelli, 1975 p. 30; Bonelli, 1978; Capone, 1981). A formal analysis of this hypothesis is yet to be carried out. So far the studies that have been developed do not go beyond descriptive statistics to motivate their arguments and do not provide any formal test.[2] Data limitations partly explain the absence of more rigorous inquiries on this issue.

This paper builds on this line of reasoning: according to the public choice theory of government, we empirically examine the role the groups protected by the 1887 trade law exerted upon the expenditure decision-making process and, therefore, upon the choice of the industrialization model. We do not attempt to explain the economic and political determinants of the trade policy or relate revenues raised by tariffs with government spending. Rather, we use the protectionist trade policy of 1887 to identify the groups that emerged as *interest groups* and investigate the impact of those groups on the size and the scope of the public sector over the 1876-1914 period. We do so by applying the interest group theory as a formal positive economic analysis of government behaviour. Hence, the theoretical background is that a major portion of governmental activity is devoted to the transfer of resources among citizens. Some of these citizens are net winners in this process and some are net losers. Government activities are therefore considered a process through which wealth (public expenditure) is redistributed among individuals and groups. Political motivations and incentives may influence expenditure decisions as politicians may use it to maximize both consensus and power. Policy makers act as brokers among different groups as well as legislatures are the place "to clear the market for wealth transfers" (Shughart and Tollison, 1986).

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[*] We thank Emma Galli and Gaetano Sabatini for useful comments, and Giovanni Federico for sharing his data and for comments. The usual disclaimer applies.

1   Gerschenkron highlights that public intervention and more generally the activist state policy was appropriate in the situation of the new Kingdom. Nevertheless, he argues that this policy was devoted to economically unproductive projects, such as the promotion of the steel industry in Terni in 1884 and the subsidization of the shipbuilding and naval industry between 1885 and 1896 (Gerschenkron, 1965, 80). Fenoaltea (1978) censures the choice of protecting the heavy industry, because it strongly penalized the mechanical industry due to the higher costs of iron and steel. Fenoaltea (1993) argue that, by lowering the domestic purchasing power of wages, the tariff on wheat indirectly caused emigration making world wages attractive. In contrast, Zamagni (1990) and Pescosolido (1998), applying an infant industry argument, maintain that without protection Italian industry would have not been able to survive foreign competition, and therefore Italy would not have developed. Federico and O'Rourke (1999) use a Computable General Equilibrium model to trace the effects of tariff on the economy. They find that the welfare effects were small: removal of trade barriers would have increased GDP by 2.4%, and also the income distribution effects were small. Federico and Tena (1998, 1999) compute effective protection rates showing that some groups were strongly protected and others were not, without any coherence across sectors. They conclude that the lobbying activity of some interest groups was more effective than the activity of other groups in capturing politicians.

2   Brosio and Marchese (1986; 1988) build a model of demand in which the expenditure level is chosen by a median voter that belongs to an élite. They tested such a model for the time span 1861-1914. Fratianni and Spinelli (1982) focus on the determinants of public sector growth from 1861 to 1979 using a model of specialized groups. The interest group model is based on Demsetz (1979); yet, it is tested on a reduced period (1926-1976).

In the last thirty years a large empirical literature[3] explicitly relating interest groups to public policy variables has been developed. Such empirical literature leads to mixed results. The decision variable of public sector which the interest groups are supposed to influence includes two sets of dependent variables. The first concerns the *behavior of individual political decision makers* – such as the voting activities (one vote issue or a set of related issues) of individual legislators (Bronars and Lott, 1997). The second is related to the *policy outcomes* that range from state outlays on agricultural research to total government expenditures (Mueller and Murrell, 1986). Finally, we may notice that these empirical inquiries face an important problem connected with the identification of the proxies of the interest groups and thus the types of data to use.

The rest of the paper is organized as follows: section 2 frames the historical and political background. The model is specified in section 3 and tested in section 4. The last section concludes.

2. Identifying interest groups: the historical background

In order to place our analysis in a historic perspective, this section provides an illustration of some historical events that motivate the empirical relationship we identify and show the key role of the interest groups in shaping public policy.

In 1861 the Kingdom of Piedmont became the Kingdom of Italy. Since then, most of the effort was finalized to enforce a homogeneous set of rules throughout the national territory and to build an economy able to compete with the more advanced European countries. In 1876 the Right (*Destra Storica*) was defeated and the Left (*Sinistra Storica*) came into power. These changes in government produced at last two distinctive processes. First, the state became a financial institution that by means of public debt and receipts, redistributing some of the resources generated in agriculture to other sectors of the economy (Aquarone, 1981). Second, the political equilibrium based on the interests of landowners and traders came to an end. These processes were closely linked. On the one hand, the state had a prominent role in the accumulation of capital. The modernization of the economy started during the last ruling years as the Right became effective. Inflows of foreign capitals were favored by the abolition of *corso forzoso* and by monetary stabilization. A large government expenditure program was set to give the opportunity of new industrial investments. In order to increase the stock of fixed social capital and to support the steel-mechanical industry, privileges to Italian firms for railway works were accorded through the so-called Baccarini Law in 1882 and, indirectly, through the nationalization of the railways by the establishment of the company *Ferrovie dello Stato* (National Railways Company) in 1905. This company gave procurements to the national industry by updating the rolling-stock. Furthermore, between 1885 and 1896, a program of subsidization of the shipbuilding and naval industry was promoted. Between 1885 and 1913 the national naval industry received an average of 22 million liras per year (Zamagni, 1990). In 1884 a complete iron mill was created in Terni with of public funds. Overall government spending experienced a rapid growth throughout our sample. Simultaneously, changes in the composition of government budget took place; in particular spending on public services, such as transport, communication and construction and, later, spending on provision of public goods, such as education, increased (Brosio and Marchese, 1986; Aidt *et al.*, 2006). On the other hand, this "new" role of the state, together with the agricultural crisis due to the competition from overseas and the failure of the capitalistic development in agriculture changed both the economic and the political weight of the primary sector. Starting from the 1880s until World War I, the political system was characterized by the alliance between new entrepreneurial groups, mostly related to the heavy industry, and the traditional landowners of the South of the liberal Italy (Candeloro, 1970; Capone, 1981). Moving from a political and economic model based on the primary sector to an industrial model resulted in the relinquishment of free-trade policies. The tariffs enacted in

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3   For some interesting surveys of the literature on interest groups see in particular Mitchell and Munger (1991), Morton and Cameron (1992), Potters and van Winden (1995), van Winden (1999) and Potters and Sloof (1996).

1878 and in 1887 were simultaneously the outcome and the symbol of these "events". Such tariffs, establishing protection for textile, steel, sugar and grain, ratified the hegemonic political role of the interests linked to these sectors.

The effects on public policy of the consolidation of the alliance between traditional landowners and a more dynamic bourgeoisie appears more evident when we take into account two institutional issues that resulted in the electoral reform enacted in 1882. The reform extended the right for male voters, reduced the minimum age to vote from 25 to 21 years and required as essential condition the capacity instead of the census. Meanwhile the census was considered an alternative to the accomplishment of the second year of the primary school and was reduced from 40 to 19.80 liras. The gradual lifting of socio-economic restrictions on voting franchise strongly enlarged the constituency. In 1880 voters counted for 2.2% of the population of the Kingdom, while in 1882 they increased to 6.9% (Caracciolo, 1977). The reform law also modified the electoral mechanism. Beginning from 1882 the districts size was broadened and the single-member districts replaced with a system of competing lists to favor competition between political-ideological groups.

The second institutional factor that is noteworthy relies on the class composition of the Left. The change in power from the Right to the Left was more sociologically than ideologically relevant. In fact, the Left kept a substantial continuity with previous policies and retained political and social behavior not different from that of the Right. However, the Left was not homogeneous in bringing together landowners, new financial aristocracy, speculators, urban professionals and new entrepreneurs (Farneti, 1971). The electoral reform of 1882 was the result of the heterogeneous political composition of the *élites* and, at the same time, emphasized such heterogeneity by modifying both the constituency size and electoral districts.

3. The empirical model

Starting from the literature on interest groups, in this section the influence of the interest groups on public expenditure programs between 1876 and 1913 is empirically estimated. The dependent variable of the model is the real total expenditure (*EXP*). The review of the interest group literature suggests that the main problem of empirical analyses in this field of research is related to the identification of a proxy for the special group. In order to capture the pressure of the interest groups in shaping public policy, some models focus on their political activities, such as the influence and the recruitment of the electorate (Plotnik, 1986), the campaign contributions (Crain and Tollison, 1977) and the lobbying activity in the legislative and executive branches of government (McCornik and Tollison, 1981). As the data on interest groups activity are sometimes not available, some contributions use the *structural characteristics* of the groups. Gardner (1987) employs the average size of the producers and the percentage of owners' income. Murrel (1984), Mueller and Murrell (1986) and McCallum and Blais (1987) estimate the strength of interest groups by the number of special interest organizations. To measure ideological groups and labor unions that are formally organized Bloch (1993) and Kischgassner and Pommerehne (1988) use the number or the percentage of members. When the interest group is not formally organized and membership data are unavailable, indirect *ex ante* proxies, such as the number of producers in an industry (Guttman, 1978; Miller, 1991) or some measures of concentration, are applied. Yet in this case, while the results in support of the influence of the interest groups in public policy formation are not robust; the relationship between numbers and influence might be non-monotonic and might be dependent on the type of interest group (Van Velthoven and Van Winden, 1986).

We use the law enacted in 1887 as an instrument to detect the special interest groups that acted as "pressure groups" on the public decision-making process. By means of duties and tariffs such a law protected from the international competition the entrepreneurs of textile, sugar, steel and grains. All of them are considered in our analysis as the interest groups that affected government expenditure programs. As was outlined in the previous section, this approach does not describe the complexity of

this phase of the Italian capitalistic development. In addition, one may wonder that the political decisions which the 1887 law reflects were not the outcome of a coherent vision for supporting certain industries instead of others. Nevertheless, the relationship between public expenditure and the interest groups that benefited from the protectionist law seems historically correct and analytically sustainable. Some of the mechanisms put in action in 1887 (in particular, the willingness of the political system to compromise with interest groups) kept in place for long time (among others, Bonelli, 1978; Aquarone, 1981). Moreover, certain objectives of the trade law (such as the development of heavy industry) were never put into question and for others (such as the protection of the cultivation and processing of grain) there was room for future changes, but not for a complete reevaluation (Aquarone, 1981).

Some models (Murrel, 1984; Muller and Murrel, 1986) measure interest groups using either the number of special interest organizations in a country or the number of the members of each group. Because of the lack of data, it is impossible to replicate this procedure. Even so, the use of the number of the workers is an unsatisfactory way to measure and compare the interest group influence in our sample because the groups we identify present a quite different capital/labor ratio. For this reason, we cannot exclude *a priori* that a sector may have relatively few members due to a more intensive use of the capital, but which may exert a large impact on public decision making process.

Instead, one may argue that an index of concentration would be a more appropriate measure. In our sample textile and grain productions are fragmented in a wide number of medium and small sized enterprises. An index of concentration might underestimate the strength of the interest group as a *pressure* group. These considerations, together with the unavailability of suitable alternative data have driven to measure the identified groups through the gross saleable output of cereals (*CER*) and the value added of the textile (*TEX*) and the iron and steel industries (*ISI*). As disaggregated data do not exist for the sugar industry, we are not able to construct the related interest group proxy. The measures we propose make it possible to *compare* the strength of the different entrepreneurs in shaping government expenditure. Furthermore, as we emphasize the importance of the special interest groups in adding additional expenditure items to the public budget, our proxies give a good approximation of the income that these industries produced and then of the wealth transfers that policy makers caused through redistribution and public expenditure. The basic hypothesis is that the size of government is positively related to the strength of the interest groups; thus, *CER*, *TEX* and *ISI* are expected to be positive.

The traditional role of the government views it as a provider of public goods. We consider this issue by including the variable *POP*, which is the size of the total population. We expect that *POP* is positive, since demand for public goods grows as long as population increases. Finally, we take into consideration changes in the institutional, political and legislative environment that have occurred along the transition from a *restrictive* electoral system to its extension in 1882. We do so by means of a dummy variable, *ELE*, which takes the value of 0 between 1876 and 1881 and 1 from 1882 to 1913. Basic economic principles suggest that the extension of voting franchise should be associated with some expansion of the public sector, in particular in cases where democratically elected governments become accountable to poorer voters (Meltzer and Richard, 1981). In addition, the literature on constituency size (Thornton and Ulrich, 1999) argues that increases in constituency size over time may account for an increase in the size of government. The rationale is that as the number of the constituents per legislator increases, it becomes more difficult for constituents to monitor their representatives. Furthermore, larger constituency sizes produce districts that are more heterogeneous in terms of both economic interests and population. This implies that representatives find it less costly to trade their votes. The result is an expansion in public expenditure. On the basis of these arguments we expect *ELE* to be positive. Finally, we include per capita GDP because, according to the Wagner Law, as a society becomes richer, there is an increasing demand for public expenditure.

The basic model used to describe expenditure decision making process is the following:

$$EXP_t = \alpha_1 + \alpha_2 GDPpc_t + \alpha_3 CER_t + \alpha_4 TEX_t + \alpha_5 ISI_t + \alpha_6 POP_t + \alpha_7 ELE_t + \varepsilon_\tau \quad (1)$$

where all variables are expressed in logs and ε_τ is a random error. Figures 1 and 2 show the behavior over time of population and government spending, respectively.

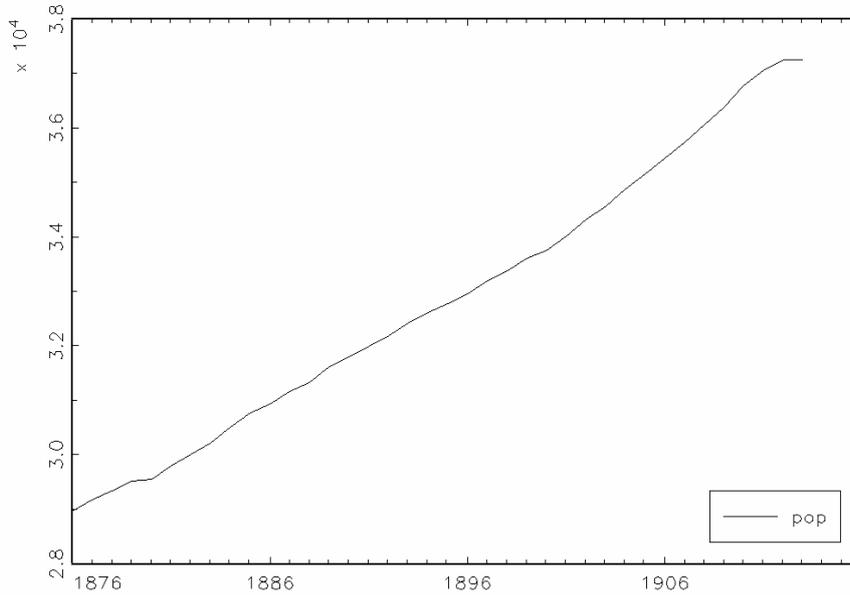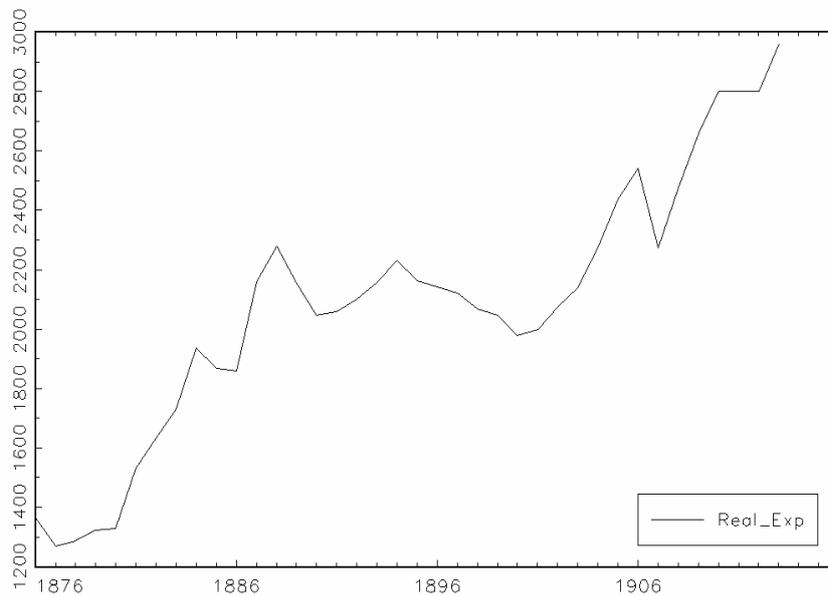**FIGURE 1. Population level (1876-1913)**

FIGURE 2. Real public expenditure 1876-1913 (million liras)

The dependent variable is taken from Federico (2007), it is constructed using data from Ragioneria Generale dello Stato (1969) and expressed at 1911 prices. Most of the state budget consisted in payment of interests on public debt and military expenditure (mainly for personnel), therefore it was unsuitable for discretionary fiscal choices. This model accounts for the residual discretionary part. The gross sealable output of cereals is provided by Federico. In a number of works he has reconstructed the

statistical data for agriculture, showing that previous estimates from Istat (1957) overestimated grain production in the early 1870s and underestimated agricultural production from the 1880s until World War I. Federico (2000) reports the value added and gross sellable output data for benchmarks in 1891, 1911, 1938 and 1951, divided for the most important products.[4] In a subsequent paper (Federico, 2003) he gives the gross sellable output for the whole agricultural production from 1861 to 1913. Our data, directly provided by Giovanni Federico (which should be considered preliminary), gives the gross sellable output of cereals, which we take as a proxy for grain production. *TEX*, *ISI* and per capita GDP are taken from the new estimates of Italian industrial production given by Fenoaltea (2005).[5] All production data are in 1911 prices. *POP* is taken form Istat (1957).

4. Empirical results

4.1. Tests for nonstationarity

Before estimating the structural equation, the analysis of the stochastic properties of the series is applied in order to establish whether public expenditure and all explanatory variables used in the regression model share a long or a short run relationship. This information makes it possible to correctly specify the model by avoiding spurious regression problems. The stationarity has been verified by the Augmented Dickey-Fuller tests (ADF), and the autoregressive structure has been determined according the Schwarz Information Criterion (SIC). The test specification includes a constant and a trend for all series. The results are presented in Table 1: nonstationarity cannot be rejected for all series but *CER*.

TABLE 1 - Unit root tests

	ADF test statistics	Lags	Order of integration
GDP	-0.3759	1	I(0)
EXP	-1.1513	1	I(1)
CER	-4.2748	3	I(0)
ISI	-2.5478	1	I(1)
TEX	-3.3803	1	I(1)
POP	-2.8665	2	I(1)

All specifications include trend and intercept. Critical values at the 1%, 5% and 10% for the ADF tests with trend and intercept are -3.96, -3.41, and -3.13, respectively.

4.2. Regression results

The assessment of the stochastic properties of the series allows us to express equation (1) by first differencing *EXP*, *ISI*, *TEX*, *GDPpc* and *POP* in order to prevent spurious regression. Therefore, the estimated regressions are short-term relations. From an econometric point of view, the estimated equations explain a fair amount of the variability in government spending, and the F-statistics always maintain that the variables are jointly significantly different from zero.

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4 The gross salable output is the value of all products minus their reinvestment in the agricultural sector. The value added is obtained from the gross sellable output by subtracting the cost of expenditures from other sectors of the economy. For the years 1891 and 1911 the expenditure to gross sellable output ratio was equal to 4.3% and 7.09%, respectively.

5 Ercolani (1969) produced the first historical estimates of the Italian production. These estimates have been used in all the following revisions of national accounts by Maddison (1991), Rossi et al. (1993), Fuà and Gallegati (1993). Fenoaltea (2005) maintain that all series underestimate industrial and agricultural production in the 1880s and the 1890s, and they overestimate growth at the turn of the centuries. He provides a new series from 1861 to 1913.

TABLE 2 – Regression results

	(1)	(2)	(3)	(4)
Constant	-6.7175	-6.63093*	-6.3745	-3.2829***
	(4.7213)	(3.6804)	(6.7141)	(1.1311)
GDP	0.4890**	0.5116***	0.5018***	0.5383***
	(0.1823)	(0.1554)	(0.1496)	(0.1866)
CER	-0.0012	-0.0009 (0.0034)		
	(0.0033)			
dTEX	-0.2191	-0.2152 (0.3304)	-0.2483 (0.2604)	
	(0.3374)			
dISI	0.2838**	0.2792**	0.2823**	0.1751**
	(0.1187)	(0.1142)	(0.1090)	(0.0808)
dPOP	2.6516	2.8537	1.5131 (1.3180)	4.8446
	(5.6881)	(4.885)		(3.1530)
ELE	0.0047			
	(0.0338)			
N	37	37	37	37
R^2	0.3037	0.2918	0.2866	0.2747
F	2.107*	2.061*	2.491*	3.03**

Heteroskedasticity consistent standard errors in parentheses. The operator *d* indicates first differences. ***, ** and * indicate significance at the 1% and 5% levels, respectively.

The variable *CER* is positive but not significantly different from zero. The class of grain cultivators represented principally elderly landowners. They were not interested in the capitalistic development of agriculture; rather they operated in order to keep their property rights and to crystallize social and productive relationships.[6] Therefore, it is reasonable to maintain that they controlled more on the receipts side of the budget, rather than on expenditure. Indeed, between 1885 and 1910 the estate tax decreased from 125 to 84 million liras (Castronovo, 1975, p. 143). Nevertheless, the requests of the traditional landowners were focused on the tariff of wheat that scholars (Toniolo, 1978, among others) consider the *pactum sceleris* the protected industrial sectors accepted to *buy* their privileges.[7]

The coefficient of *ISI* is significantly positive. Empirical evidence suggests the idea, maintained by historians, that the state helped the iron and steel industry through procurement both in the military and in the railway sectors (in particular after nationalization in 1905). In addition, government grants supported the naval industry. Despite the fact that such industry was founded with the direct support of the state, this result emphasizes that it was a private business. It was able to put pressure on the government to guarantee a satisfying utilization of the productive capacity, overcoming the small size of the national market. The establishment of the "*Società degli Altoforni, Acciaierie e Fonderie di Terni*" in 1884 is the most evident sign of the role of the interest groups in the political framework and of an accurate logrolling within the legislature (Bonelli, 1975, p.15). The society, in fact, even remaining a private business, was the result of both the private capitals, headed by V. S. Breda, which also was elected in the Senate, and the capital of the state, that anticipated 12 million liras to the society buying some components of military navies. Furthermore, the interest group of metal-makers

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6 Most likely, the interest of the grain entrepreneurs in the infrastructures, such as ports for sea-transportation, will grow stronger during the World War I.

7 Maffeo Pantaleoni (1901) in a speech at the Chamber of Deputies highlighted that the tariff on wheat: 1) rewarded solely the landowners (about 50,000 units) and harmed both the sharecroppers and the tenants that waited for relocation; 2) guaranteed to the landowners a return (150 million liras) higher than costs represented by the estate tax (107 million liras).

also benefited from monetary and credit policy: Terni iron mills avoided bankruptcy by loans funded by the Bank of Italy (Bonelli, 1975; Cerioni, 2001).

The variable *TEX* is insignificant. The different behavior of the textile and the steel entrepreneurs emerged already from the *Inchiesta Industriale*, a document framed during the last years of the government of the Left (1870-1874) and considered by the historians the most important source of information to reconstruct the origin of the protectionist choice realized in 1878 and 1887.[8] The *Atti dell'Inchiesta Industriale* emphasized that textile and steel entrepreneurs demanded aid from the state, especially in the form of protectionist measures. However, while the textile undertakers did not insert such request in a dynamic strategy oriented to a qualitative reinforcement of their firms, the steel entrepreneurs asked for public investments also in education to guarantee a skilled labor.

Population is not significantly different from zero. This result shows that government expenditure does not exhibit the most basic public good characteristic, probably because most of the population did not have the right to vote. The dummy variable for the extension of the franchise has a similar behavior, showing that the increase in the number of potential voters did not have significant effects. Indeed, the right to vote was not exercised by many Catholic voters because of the Rome issue, therefore the number of effective voters remained small.[9] Per capita GDP is always significantly positive, indicating support to the Wagner law.

4.3. Impulse response analysis

In order to check the robustness of the results, we trace out the effects of a change in our measures of interest groups on government spending by producing impulse response functions. In this way we are also able to consider the dynamic effects of lags on government spending. When the two variables are I(1), we look for the existence of a long run relationship between them by the Johansen cointegration test (Johansen, 1994). If such a relationship exists, we estimate a Vector Error Correction Model. If the variables show a different orders of integration, we estimate a Vector AutoRegressive model, we take the first-difference of the I(1) variable, in order to have them at the same order of integration.

Consider the variables *EXP* and *ISI*. Both are I(1), therefore we check for cointegration. Table 3 shows that the autoregressive structure, determined by the Schwartz Information Criterion, is equal to 3. The Johansen tests maintain that there is one cointegrating vector. As Figure 3 indicates, *ISI* shows a positive, significant and persistent effect on *EXP*. The confidence interval (at the 5% significance level) is constructed by bootstrapping, using 2,000 replications (Hall, 1992). The relationship between *EXP* and *ISI* may run the other way round: government spending may affect the iron and steel production. Therefore, we estimate response of *ISI* to a shock in *EXP*. Figure 4 shows that this effect is typically insignificant, therefore, we can rule out the hypothesis that government spending affects iron and steel output.

TABLE 3 – Cointegration results

Variables	Lags	Null hypothesis	Test value	p-value
EXP, ISI	3	r = 0	25.68	0.0508
		r = 1	7.78	0.2881
EXP, TEX	6	r = 0	31.91	0.0065
		r = 1	6.71	0.3864

The number of lags is determined by the Schwartz Information Criterion. Specifications include a trend and a constant. Critical values for the null r = 0 are 23.32, 25.73, and 30.62 at the 90%, 95% and 99% significance levels, respectively. For the null r = 1 they are equal to 10.68, 12.45, and 16.22, respectively.

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8   See on this point Baglioni (1974) and Marongiu (1995, 311-312).

9   During the period we consider governments faced the so-called *brigantaggio* (rubbery) in Southern Italy, and the *fasci siciliani,* a separatist political movement in Sicily, which represented a way to express social discontent.

FIGURE 3. VECM impulse response (ISI→EXP)
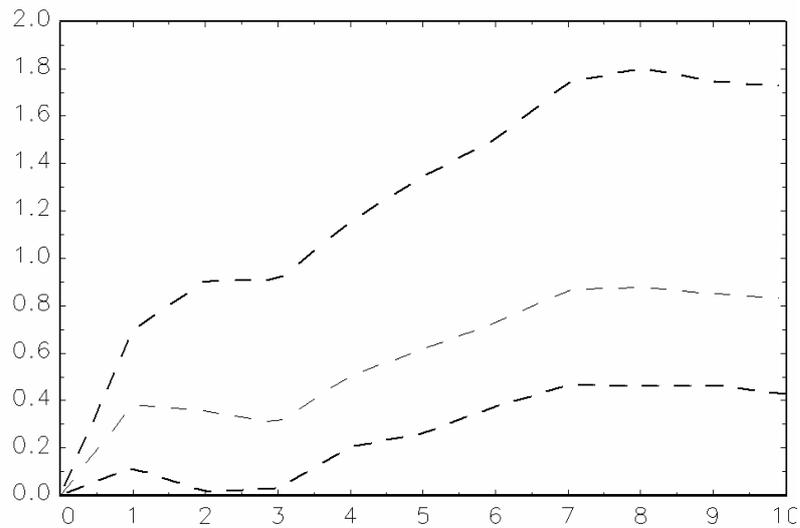
FIGURE 4. VECM impulse response (EXP →ISI)
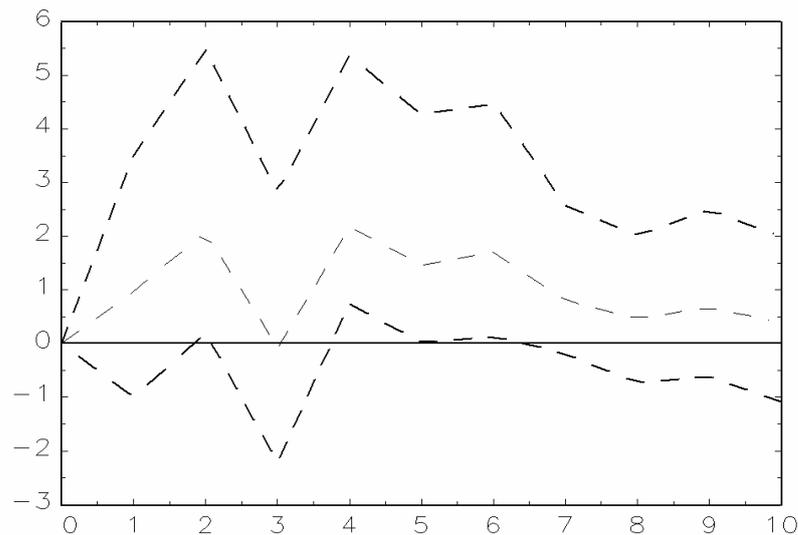
For *TEX* and *EXP*, the number of lag is set equal to 6, and Table 3 indicates that we cannot reject the null of one cointegrating vector. However, Figure 5 shows that there are no effects of *TEX* on government spending. Finally, *CER* and *EXP* are I(0) and I(1), respectively. In this case we apply a VAR in the *CER* and the first-difference of government spending. We use the Choleski decomposition of the variance-covariance matrix of innovations. The endogenous number of lags is 3, and the effect of a shock in *CER* on *dEXP* is not significantly different from zero (Figure 6).[10]

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10 The same qualitative result is obtained when government spending enters the VAR in level.

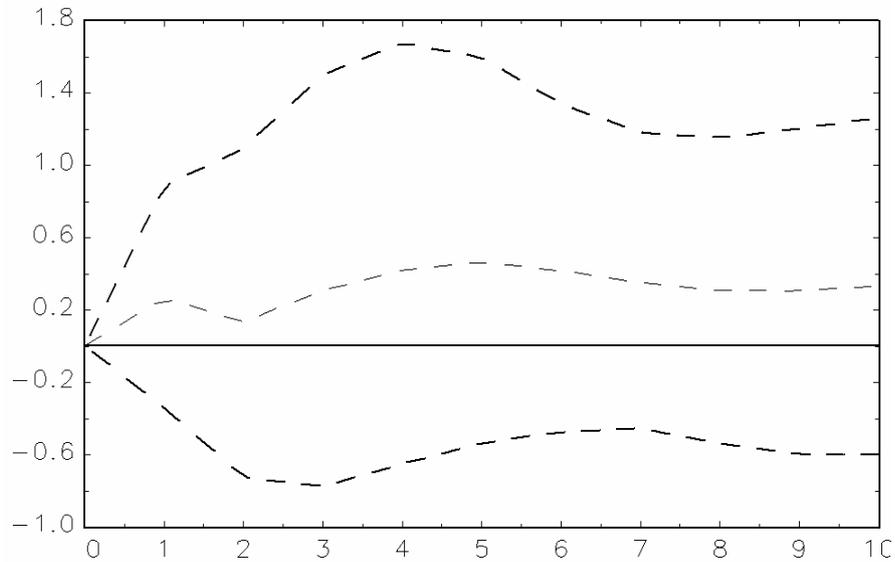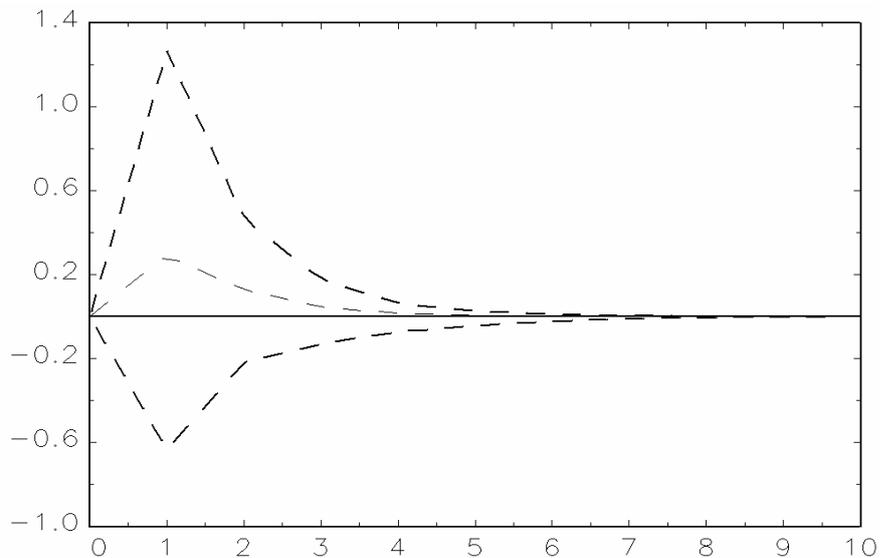**FIGURE 5. VECM impulse response (TEX→EXP)**

FIGURE 6. VECM impulse response (CER→dEXP)

These results confirm that the heavy industry exerts on the expenditure decision-making process an influence stronger than that exercised by the other considered groups. Since the impulse response analysis is particularly sensitive to the ordering of the variables, we also checked the robustness of these findings by estimating the responses for a different causal ordering of the variables. The responses of *EXP* to the shocks in the different variables are remarkably similar in all cases.

5. Conclusions

The trade tariffs imposed in 1878 and confirmed in 1887 are usually indicated as the symbolic choice of an industrialization model. It is reasonable to maintain that these political decisions were not the

outcome of a careful and systematic attempt to set favorable conditions for the birth and the development of particular industries. However, historiography emphasizes that these *episodes* were the result of positive answers to the requests of powerful interest groups. Such requests strengthened the alliance between these groups in the short run, while in the long run they were able to affect some of the key points of the industrialization process. Starting from these considerations we have tested the influence that the groups protected in 1887 exerted on the expenditure decision making process over 1876-1913. The results point to the role of the iron and steel industries as the most powerful interest group. Our analysis indirectly suggests the idea that Italy followed a model of economic development in which "manchesterian" experiences (the textile industry) coexisted with high capital-to-labor ratio industries (the heavy industry).

This paper innovates the existing literature from a methodological point of view. Apart from the contributions by Fratianni and Spinelli (1982) and Brosio and Marchese (1986; 1988), most of the studies in economic history are mainly descriptive and use neither economic modeling nor statistical inference. With respect to the specific hypothesis our analysis addresses, historians take for granted that protectionism was imposed by an "agrarian-industrial" block without consider policy-making processes, institutional factors, individual politicians' preferences. This paper emphasizes that legislators respond to the incentives inherent in their institutional environment. They act by *brokering* transfers among the various groups within a set of institutional constraints. The aims of individual political agents may therefore affect the final outcomes of the political process. In this way, this analysis makes it possible to reconsider some of the evaluations on the appropriateness and on the effects of the protectionist choice.

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