The economic impact of legislation and litigation on growth: a historical analysis of Italy from its unification to World War II

GIUSEPPE DI VITA[*]

Department of Economics and Business, University of Catania, Catania, Italy

FABIO DI VITA[**]

Department of Economics and Business, University of Catania, Catania, Italy

GIANLUCA CAFISO[***]

Department of Economics and Business, University of Catania, Catania, Italy

Abstract. This paper aims to evaluate the impact of Italy's unification on its economic growth from 1861 to the outbreak of World War II. This historical analysis attempts to prove that the process of legislative harmonization intrinsic to the unification had a positive effect on Italy's GDP because legislative uniformity facilitates economic transactions. Moreover a uniform and more effective legislation would have caused less litigation and therefore favoured economic growth, thanks to smoother relations between economic agents.

1. Introduction

The relationship between legislation and economic activity has recently been the subject of extensive research in economics because of its undeniable importance. Indeed, the interdependence between the legislative framework and economic development has been a central concern of modern social theory, providing a focal point for the analyses of Marx (1867), Durkheim (1893) and Weber (1923). Together with law enforcement and social customs, legislation plays a relevant role in defining the institutional quality of a country and in promoting its growth (North, 1990, 1994). Some scholars also highlight the importance of law enforcement in growth (see, among others, Acemoglu and Johnson, 2005; North, 1990). The impact of legislation and regulation has been studied more

[*]Email: gdivita@lex.unict.it
[**]Email: f.divita@unict.it
[***]Email: gcafiso@unict.it

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extensively from a microeconomic perspective.[1] Goff ([1996](#)) in his seminal paper on the economic impact of legislation, used data for the United States and found Granger-causality between legislation and GDP growth. This innovative research has been followed more recently by Alesina *et al.* ([2003](#)), Blanchard and Giavazzi ([2003](#)), Clemenz and Gugler ([2000](#)), Dawson and Seater ([2013](#)); Djankov *et al.* ([2002](#)); Djankov *et al.* ([2006](#)); Ginsburg ([2000](#)), Kaufman *et al.* ([2003](#)), Loayza *et al.* ([2005](#)); Nicoletti *et al.* ([2001](#)), Nicoletti and Scarpetta ([2003](#)).[2] Despite extensive research, none deals with the economic impact of legislation during the first stages of growth or after a process of political unification.

This paper studies the economic effect of the establishment of the Kingdom of Italy on economic growth in the Italian peninsula from 1861 to the beginning of World War II. The Kingdom of Italy constitutes an example of the unification of smaller states: the Kingdom of Sardinia, the Duchy of Parma, the Papal States, the Kingdom of the Two Sicilies, to name just a few. These small states had different legislations, currencies and social customs and this represented, as in Germany, an obstacle to economic development due to divergent, and sometimes conflicting, legislation. As a consequence of the unification of Italy, the Constitution of the Kingdom of Sardinia (the *Albertine Statute*, in force since 1848) and much of its administrative apparatus was extended to the territories of the unified kingdom. The creation of a unified kingdom, instead of numerous smaller pre-unification states, was expected to promote economic growth. In fact, the creation of a single market and the introduction of a single currency (the lira) throughout the Italian peninsula should have fostered economic activity and trade. At the same time, the establishment of uniform legislation should have had a *direct* positive impact on growth, thanks to less uncertainty and a straightforward identification of the applicable law, factors that are beneficial to economic activity. Legislative uniformity also reduces the costs of law enforcement.[3] Furthermore, an *indirect* positive effect of uniform legislation on GDP is imaged as result of less litigation. Indeed, less uncertainty

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1 We define legislation as: (1) the groups of laws enacted as acts of Parliament or statutes; and (2) the set of rules or regulations, defined as secondary legislation, that the executive enacts to enforce laws passed by the Parliament (which are often called Codes, Orders, Regulations or Rules, see Taylor [2010](#)).

2 This research also finds a negative impact of excessive legislation on GDP in developed countries. More recently, Barro ([2013](#)) emphasized the positive impact of the rule of law, in terms of fighting corruption, on growth. The World Justice Project's define 'rule of law' as a system in which the following four universal principles are upheld. First, the government, its representatives and officials as well as individuals and private entities are legally accountable. Second, laws are clear, publicized, stable and just, are applied evenly and protect fundamental rights, including the security of persons and property and certain core human rights. Third, the process by which the laws are enacted, administered and enforced is accessible, fair and efficient. Fourth, justice is delivered timeously by competent, ethical and independent representatives and neutrals, who are of sufficient number, have adequate resources, and reflect the make-up of the communities they serve (World Justice Project, [2015](#)).

3 With reference to contemporary times some scholars have pointed out that, like 'clarity', consistency and simplicity constitute positive virtues of legislation (Palumbo *et al.*, [2013](#)).

enhances information and reduces asymmetries between economic agents: this smooths economic transactions (less litigation) and therefore sustains economic growth. These are not two separate channels: the latter is imagined to be embedded in the former.[4]

The effect of legislative uniformity and civil litigation on GDP is discussed and empirically tested. It is expected that during the early stages of the new kingdom, the new unified legislation favoured economic growth. The data used cover 77 years, from 1861 to the beginning of World War II.

The paper is organized as follows. Section 2 contains a brief history of the legislative evolution of the Kingdom of Italy. Section 3 supplies a simple theoretical framework for the relationship between GDP per capita, legislation and civil litigation. Section 4 reports and discusses the econometric analysis. Some final remarks conclude the paper.

2. The legislative evolution and the decline of litigation in the Kingdom of Italy: a historical overview

In this section, the main steps in the evolution of legislation and litigation in the different phases of the Kingdom of Italy are discussed. To succeed in fully understanding this evolution first of all it is necessary to retrace the principal steps taken to construct the new state. The kingdom was established in 1861 as the result of a gradual process of extension of the frontiers of the Kingdom of Sardinia.[5] The hypothesis of a federal solution was excluded as well as the convocation of a constituent assembly: it was therefore decided to extend and centralize the hierarchical Piedmontese model to the territories annexed (Cassese and Melis, 1990). This involved the extension not only of the Statute of the Kingdom of Sardinia, but also of fundamental parts of its legislative structure (Pecorari, 2003).[6] There were few new institutions, while there were many provisions applying or adjusting the Piedmont institutions to the Kingdom of Italy (Cassese, 2014).[7]

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4 Jacobi (2009) found that fragmented political power, as in Italy before the creation of the Kingdom of Italy, produces more confused legislation and a more powerful judiciary, which increases the demand for judicial action.

5 The formal name of the kingdom was Kingdom of Sardinia. Roughly speaking, this was made up of Piedmont and the island of Sardinia. In spite of the name, the core of the kingdom was Piedmont where the capital city (Turin) was located.

6 This is known as the *Piemontesizzazione* of Italy. This term refers to the process of extension of the Albertine Statute to all the pre-unification states. The Kingdom of Sardinia was the only pre-unification Italian state whose citizens enjoyed a constitution and an elected parliament. Analysis in the official gazette of the Kingdom of Italy (i.e. "Raccolta ufficiale delle leggi e dei decreti del Regno d'Italia") confirms this: it was not, in fact, a constituent phase, but a period of adaptation of the institutions of the Kingdom of Sardinia to the new kingdom.

7 On the phenomenon of 'institutional stickiness', see the interesting paper by Boettke *et al.* (2008). See Hodgson (2006) for a definition of institutions in economic theory.

An examination of the legislation in the first four years after unification allows us to understand the roots of the Kingdom of Italy. These are not attributable to the desire to strengthen military capacity, as elsewhere, nor are they to attributable to the aspiration to elevate a nation to the state level. It should be underlined that there were few elements able to create a national identity. This depended largely on the diversity of economic and social development across the regions of the new kingdom (Felice, 2013).[8] The reasons for the creation of an Italian state are ascribed to the ambitions of the dawning Italian capitalism. The ruling political class wanted to emulate the rapid industrial development under way in England and France, a development that they attributed to the creation of a wide internal market able to sustain production and trade (Cassese, 2014). This perspective emerges from the fact that economic unification was pursued even before administrative unification was completed. The first governments of the kingdom, in other words, were less concerned with the building of a state than with the creation of a market (Cassese, 2014).

Indeed, at the beginning of the 19th century, the German state did not exist as a political and economic entity. Germany in 1815 consisted of 350 political entities, each with its own laws, currency, weights and measures. Moreover, additional customs and administrative divisions existed within each state.[9] Starting from the second half of the 18th century, a new awareness began to emerge that attributed underdevelopment to political and administrative fragmentation. Based on these ideas, at the beginning of the 19th century a vast reformatory campaign began: the states began to abolish their internal customs and then all the German states agreed to form a customs union (Zollverein) in 1834. Over a period of 40 years, Germany became a modern, fast-growing economy (Pflanze, 1971).

A similar process of institutional and economic unification occurred in Italy. Before the creation of the Kingdom of Italy, political fragmentation led to a plurality of legislations. Nevertheless, the norms essentially maintained common characteristics (if not in the content at least in the basic principles) across the different pre-unification Kingdoms that were typical of civil law countries (La Porta *et al.*, 1998). The codes of the pre-unification states, in fact, had imitated the Napoleonic model or, when they followed other canons, they had at least transposed the 'spirit' of that model (Ghisalberti, 1982). This undoubtedly facilitated the legislative unification of the new Kingdom, a unification that could have been achieved through three alternative strategies. One option consisted in extending the legislation of the Kingdom of Sardinia to the entire national

8 For instance, literacy varied from place to place, and particularly between the provincial North and the provincial South (the rate of literacy was 50.6% in Piedmont and 12.7% in Sicily in 1861, see A'Hearn *et al.*, 2011); the crime rate was also far from uniform.

9 For instance, 67 different customs systems were in place in Prussia. This obviously made it impossible to develop a single market. Before any other German states, Prussia started a process of modernization of its economic institutions: all domestic customs were abolished in 1818.

territory. A second alternative was to maintain the laws of the single pre-unification states, thus creating a decentralized legislative system on the basis of specific territorial needs. The third option was to predispose *(ex novo)* a single valid national codification for the whole territory of the new Kingdom (Ghisalberti, 1982).

At beginning of the unification process, the first of these options was chosen and the Piedmontese legislation was extended to four regions: Lombard, Emilia, Marche and Umbria. For political reasons, however, this option was subsequently abandoned. On the other hand, the will to achieve real legislative unification was in conflict with the second option, which was the maintenance of the collection of 'old' laws and codes.[10] Consequently, the final solution could only be editing and publishing new legislation to be introduced and applied in the whole kingdom (Ghisalberti, 1982). This materialized in the 1865 codes, which were founded upon the same Napoleonic model that had been applied more or less uniformly to the whole of the peninsula since 1814 (Ghisalberti, 1982).[11] Their immediate application, observance and duration over time demonstrate the compliance of the unitary legislation to the demands of the new Italian society (Ghisalberti, 1994). When the *Sinistra storica* came into power in 1876, it maintained continuity by adding the Merchant Marine Code (*Codice della Marina Mercantile*, 1877), the Trade Code (*Codice di Commercio*, 1882) and the Criminal Code (*Codice Penale*, 1889); this latter completed and improved the institutional model created in 1865 (Ghisalberti, 1994).[12]

To verify the impact of the new codes of the kingdom on civil litigation one solution could be to look at the evolution of the Litigation Rate (LR), that is, the ratio between new civil disputes and population; this is shown in Figure 1 (LR-total). Up to the end of the 19th century this ratio undoubtedly shows an increasing trend with a maximum in 1894. It is possible to divide such a rate for each judicial office which is part of the judiciary. At that time, the judiciary dealing with civil disputes was made up of: (1) *Uffici di Conciliazione*: Conciliation Judges, which dealt with civil disputes of minor importance; (2) *Preture*: Limited Courts, with a competence for disputes of limited importance; (3) *Tribunali*: Full Courts, with jurisdiction for all the other, more important,

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10 The case of Tuscany, where political necessity had determined the provisional maintenance of the legislation of the 'Granducato', or that of southern Italy, which was permitted to maintain the civil and commercial legislation applied until 1860, could no longer be tolerated without denaturalizing and contradicting the essence of the juridical arrangement of the unitary state.

11 The Civil Code, the Civil Procedural Code, the Code of Trade and the Merchant Marine Code were enacted on 25 June 1865. The Criminal Procedural Code, however, was promulgated on 26 November 1865. All these codes came into force on 1 January 1886 (Aquarone, 1960).

12 The *Sinistra storica* was a parliamentary group that governed uninterruptedly from 1876 to 1896. In comparison to the *Destra storica*, which governed from 1861 to 1876, it represented a more socially heterogeneous group of people; ideologically, it was liberalist (Felice, 2015).

Figure 1. (Colour online) Litigation rate by judicial office
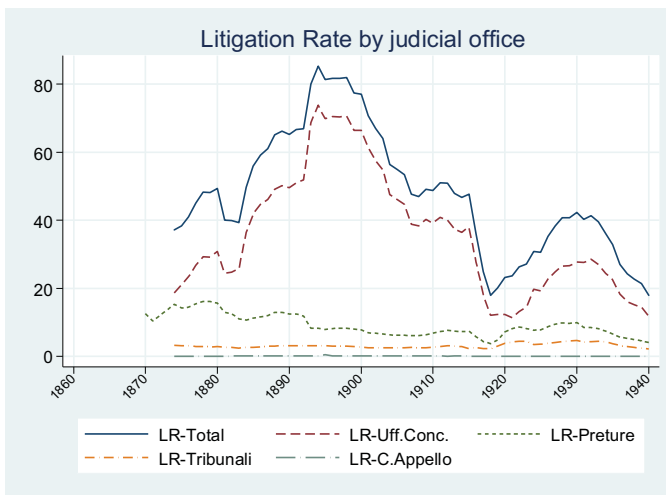
disputes; (4) *Corti d'Appello*: Appeal Courts, for exceptional judgements.[13] The litigation rate divided by judicial office shows that only 'small' litigation grew, that is, the disputes managed by the Conciliation Judges (LR-Uff. Conc. in Figure 1). In fact, if disputes handled by the Limited Courts are looked at, the trend of litigation related to this office is seen to decrease (LR-Preture in Figure 1). Finally, the number of disputes handled by the Full Courts (LR-Tribunali in Figure 1) seems to be quite constant.

The evolution of the structural composition of litigation (share by judicial office) can be evaluated better through the values in Table 1. The Conciliation Judges' share decreases, while the Limited and Full Courts' share increases during the period from World War I to World War II. Such a structural variation in litigation is a trend that will emerge in the second post-war period too.[14]

The correspondence of the laws encoded between 1865 and 1889 with the economic and social needs of the new-born kingdom resulted in the lack of substantial reforms in the 15 years that marked the apogee of the liberal state (Ghisalberti, 1994). Nevertheless, at the beginning of the 20th century, the legislative uniformity typical of the preceding period was abandoned (Cassese, 2014).

13 According to the Civil Procedural Code (*Codice di Procedura Civile*) the competence of the Conciliation Judges concerned court cases whose value was smaller or equal to 30 liras. *Preture* (Limited Courts) dealt with amounts between 30 and 1,500 liras. From the great discrepancy between the limits of competence of the Conciliation Judges and those of the Limited Courts, it emerges that the legislator intended to assign to the Conciliation Judges a pacific rather than jurisdictional function (Cecchi, 1975).

14 With the advent of the republic the overall number of disputes was lower (Cecchi, 1975), but disputes of higher value gained weight over the total, showing a progressive movement from 'small' to 'great' litigation (Bianco and Napolitano, 2013).

Table 1. Litigation by judicial office

Year	Uff. Conc. (%)	Preture (%)	Tribunali (%)
1875	0.55	0.37	0.08
1880	0.62	0.32	0.06
1885	0.75	0.20	0.05
1890	0.76	0.19	0.05
1895	0.86	0.10	0.04
1900	0.86	0.10	0.04
1905	0.84	0.11	0.05
1910	0.80	0.14	0.05
1915	0.80	0.15	0.05
1920	0.53	0.31	0.16
1925	0.63	0.25	0.12
1930	0.65	0.23	0.11
1935	0.69	0.20	0.11
1940	0.66	0.22	0.12

A long time after formal unification, Italy was still a country characterized by deep and intense disparities, disunited on economic, cultural and even linguistic grounds, divided by strong dissimilarities of development. This contributed to producing a characteristic feature in Italian institutional history: *derogatory legislation*. It aimed at differentiating legislation according to the area of its application and therefore to meet the particular demands of the depressed areas, not only those in southern Italy.[15] This was a solution, albeit partial, to the disunited nature of the territory.[16] Nevertheless, the creation of local administrations and procedures that developed parallel to the national ones limited the uniformity of the laws (Cassese, 2014). Special laws for Naples (1885 and 1904), Calabria (1906) and Basilicata (1908) introduced the principle of legislative differentiation into the Italian legal system. Diversity was achieved in various ways: by increasing infrastructural works in less developed areas; by introducing special procedures and organs; and by providing for tax cuts, credit facilities and contributions in specific areas of the national territory (Cassese 2014).

In the period from 1900 to 1915, which was a period of economic and administrative growth, the quantity, but even more the quality, of the laws

15 At the beginning of the unification process Parliament attributed the backwardness of many areas of Italy to a lack of those institutions that, in fact, were introduced by the process of administrative unification. The lack of the expected results, nevertheless, induced a change of direction. Therefore, the criterion of differentiation, that in origin had been rejected, was introduced (See Giannini, 1962).

16 Giovanni Giolitti, a liberal politician of the period and many times prime minister, noted: 'I admit that about the laws the maximum simplicity is ideal; but it is not always attainable, because the laws must also keep in mind the defects and the deficiencies of a country ... and adapt to them. A tailor that must cut a suit for a hunchback, must also make a hump for the suit' (Giolitti, 1922).

changed radically. From universal and abstract, the laws became specific and concrete (from *leggi-monumento* to *leggi-provvedimento*). In the meantime, the administration assumed a new role as the specific place in which the application of the law found its technical mediation, sometimes its mitigation. In short, administrative discretion emerged as a decisive element of government (Melis, 2010).

In the period that marks the industrial take-off of the kingdom – that is, according to Mori (1992), the years of the 'true' economic miracle for Italy – the LR showed a clear fall. In fact, after a peak in 1894, litigation decreased progressively to almost half this level in 1914. The decrease, this time, concerns both the litigation managed by the Conciliation Judges (small disputes) and those that were dealt with by the other judicial offices.

The outbreak of World War I caused a real collapse in litigation, which is to be expected in a war period. Rapid growth followed in the post-war period: in 1926 the ratio of litigations doubled that in 1918. This ratio, however, did not reach the level reached before World War I.

In the Fascist period (1922–43), a large part of the legislative picture remained solidly founded upon the principles of the preceding juridical tradition. Not only were the Fascist reforms respectful of the inheritance received from the liberal state, they also maintained most of the legislation accumulated during the previous period. The legislative initiative of the Fascist regime was nevertheless conspicuous, ambitious and incisive. The Fascist regime set its hands on vast sectors of the society, often giving them a new order. It was a season of impressive legislative fertility (at least on the grounds of quantity), unprecedented in unified Italy's history (Melis, 2014). The role of the national parliament as a place of legislative output declined in favour of the government, which was granted special power to issue laws from 1926. This task was carried out by the bureaucratic elites of each sector of the administration, which consisted of experts in specific fields (Melis, 2014).

The codification produced in the Fascist period was almost entirely independent of the juridical ideology of fascism. This was because its formative process developed slowly and with a series of strict controls designed to prevent Fascist ideology from influencing legislation. The 1942 civil code, for example, was the most important normative text of the Fascist period, and this fit well in the tradition of Italian laws. It succeeded in innovating that tradition by adjusting it to the demands of an economy that was becoming largely, even if not yet primarily, industrial. Indeed, it outlived the regime. The 1942 code, along with the other codes compiled during the Fascist period, facilitated the changes in Italian society and helped Italy to approach the Western democracies after the war with a set of norms that, despite the dictatorial regime, the code was able to preserve and improve (Ghisalberti, 1994).

In conclusion, legislative unification represented an essential condition for the creation of an Italian common market. The elites of the new kingdom thought

that, if a uniform legislation had not been adopted, juridical particularism would have developed, with serious consequences for economic growth (Cassese, 2014). At first, an extension of the Piedmontese legislation answered this need, and later the 1865 code. As demonstrated, this process continued and, despite the advent of a derogatory legislation, it led to a far more uniform legal system than the ones in force in the different pre-unification states. With regard to the effect of legislative unification on total litigation, it was positive in the long term: the analysis of the LR from 1870 to World War II shows an overall decreasing trend.

3. A simple theoretical framework

As mentioned in the introduction, the positive impact of effective legislation on economic activity is an established result in development economics (Montes and Paschoal, 2016). It is assumed that the unification of legislation reduces legal uncertainty, and that this directly favours economic growth. At the same time, a uniform legislation reduces litigation (Jacobi, 2009), and this reinforces its positive effect. To make the analysis simple it is assumed that law enforcement is uniform among Italian regions and remains constant within the period considered.

Nonetheless, legislation may also have a negative effect: an excessive accumulation of laws may lead to an unsustainable level of legislative complexity (Bardhan, 2002; Dawson and Seater 2013; Di Vita, 2017; Friedman, 2004; Marcos *et al.*, 2010). Indeed, legislative complexity is considered an obstacle to growth in many countries (OECD, 2014). Legislative complexity, due to overlapping and accumulation of laws, creates uncertainty about which norm applies. As the number of laws increases, consequential issues of interpretation and negative externalities of coordination between laws passed at different points in time grow in turn. This generates legislative complexity with social costs that may outweigh social benefits, especially in countries with a long history of liberal democracy as their form of government (Di Vita, 2017; also 2010; 2012a; 2012b; Mora-Sanguinetti and Salvador-Mora, 2016).

Based on the results of the empirical literature (Khan and Hudson 2014), which suggests a positive impact of effective rule of law, but also the adverse effect of excessive legislation on growth, the relationship between legislation and GDP is therefore unlikely to be linear. Before proceeding to the empirical analysis, theoretical assumptions are clarified about the *overall effect* of legislation (direct and indirect through litigation) on GDP per capita.

It can be assumed, as shown in Figure 2, that the relationship between legislation L and GDP per capita y could be either an increasingly convex curve (dashed line), or be linear (continuous line) or a rising concave curve (bullet line). In mathematical notation:

$$y = f(\vec{X}), \tag{1}$$

Figure 2. Relationship between GDP per capita and legislation
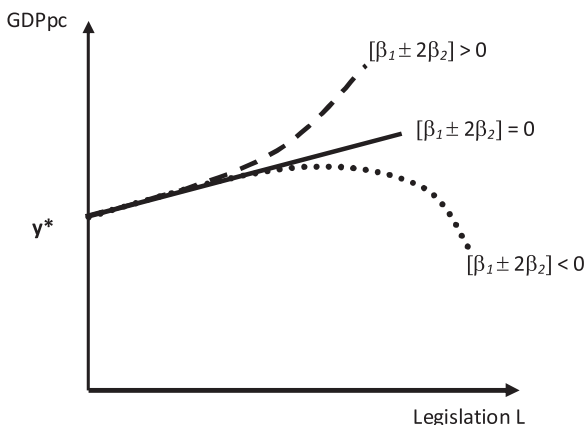
where y is GDP per capita and the vector $\vec{X}$ includes all the relevant independent variables, including legislation (L) and the civil litigation rate (LR), that are assumed to be negatively correlated with the degree of legislative uniformity (LU, i.e. $\partial LR / \partial LU < 0$).

Assuming a log-linear form, equation (1) can be expressed as follows:

$$y = \alpha + \beta_1 L + \beta_2 L^2 + \sum_{i=3}^{n} \beta_i x_i, \tag{2}$$

α is the intercept and β_i is the elasticity of each single variable considered. Given our focus on legislation, the emphasis is placed on β_1 and β_2 representing, respectively, the impact of legislation and its square on GDP per capita. β_1 is assumed to be positive and (by far) lower than one, while β_2 could be either negative or positive. The other independent variables ($x_3, ..., x_n$) will be included in the following econometric analysis. In equation (2) the argument L-squared addresses the problem of the shape of the relationship between legislation and per capita GDP.

Using the first partial derivative of equation (2):

$$\frac{\partial y}{\partial L} = \beta_1 \pm 2\beta_2 L \begin{cases} > \ 0 \to \text{the function is increasing in } L \\ = \ 0 \to \text{the function is a horizontal line} \\ < \ 0 \to \text{the function is decreasing in } L \end{cases} \tag{3}$$

limiting the analysis to the hypothesis of $\partial y / \partial L > 0$, and taking the second partial derivative the result is:

$$\frac{\partial^2 y}{\partial L^2} = \pm 2\beta_2 \begin{cases} > \ 0 \to \text{the function is convex} \\ = \ 0 \to \text{the function is a line} \\ < \ 0 \to \text{the function is concave} \end{cases} \tag{4}$$

as represented in Figure 1. Under the condition that the first and second derivative of y compared to L are both positive (i.e. $\partial y/\partial L > 0$ and $\partial^2 y/\partial L^2 > 0$), legislation always causes a positive externality on the GDP, because its effect on the dependent variable is more than proportional. For $\partial y/\partial L > 0$ and $\partial^2 y/\partial L^2 = 0$ the economic impact of legislation on the GDP is constant. Finally, under conditions $\partial y/\partial L > 0$ and $\partial^2 y/\partial L^2 < 0$ legislation generates a positive externality on the GDP until a threshold level L^* is achieved, beyond that point, legislation has a negative effect on y. The term L^2 accounts for the non-linear effects of legislation on per capita GDP.

In principle, all the three alternatives are plausible. The sign and significance of β_i is likely to depend upon the specific case considered (country and time), so it is matter of applied research and this will be examined in the following empirical analysis.

4. Econometric analysis and results

In this section the relationship between legislation, civil litigation rate and the GDP is studied. In fact, the analysis of Italy's GDP per capita in such a period poses many challenges. Indeed, this period goes from Italy's first main step towards unification in 1861, when the Kingdom of Italy was established, to the collapse of the monarchy and the establishment of the new republic in 1946.[17]

As known, Italy's defeat in World War II caused the collapse of its previous constitutional order which had governed since 1861. Indeed, that constitutional order had remained formally the same from 1861 to 1943, although Italy turned *de facto* into a dictatorship from 1922 onwards after the seizure of power by the Fascist party. Nonetheless, a sufficient degree of continuity in terms of legislation (section 2) and economic development exists from 1861 to 1940. This period is therefore analysed, ruling out the years after 1940.

The variable of interest is the real GDP per capita; this is extracted from the database of the Bank of Italy (Baffigi, 2011). The data refer to Italy's current boundaries.[18] Real GDP per capita is shown in Figure 3.

As discussed in the first part of the paper, this analysis is focused on checking whether the legislative uniformity achieved in the Kingdom of Italy had a positive impact on the GDP per capita in the Italian Peninsula. It is assumed that the institutional development impacted, among other things, on civil litigation by causing its decrease. Consequently, decreasing litigation should have favoured

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17 Important events during this period were the annexation of the Veneto region in 1866, the annexation of the Lazio region (which includes Rome) in 1871, Italy's participation in World War I in 1915–18 with the consequential annexation of the Friuli-Venezia Giulia region in 1918, the Great Depression from 1929 and participation in World War II from 1940.

18 The effect of the above-mentioned annexations is uncertain. The annexation of a populous, less-developed area, probably after a conflict that has directly affected it, might have caused a drop in Italy's GDP per-capita that is not linked to any particular economic development.

Figure 3. (Colour online) Real GDP per capita
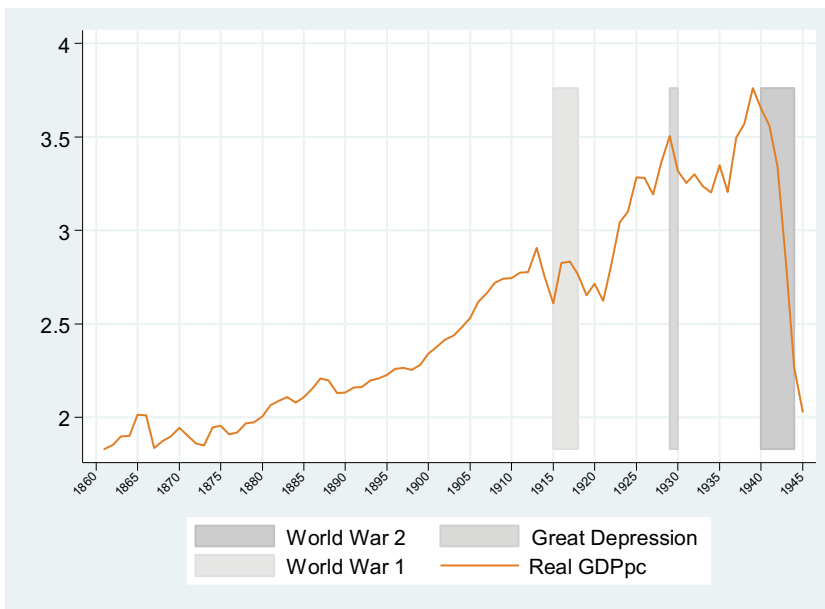
economic growth. Litigation is supposed to have been particularly high in the first post-unification years due to the different legislations and habits to which pre-unification citizens were accustomed. The harmonization of norms, practices and institutions across the whole territory is supposed to have reduced litigation to the advantage of economic development, as a result of a reduction of legislative uncertainty.

The level of legislative uniformity achieved is approximated using the number of laws (*Lex*) passed by the Kingdom of Italy's parliament.[19] A simple way to start studying the relationship between legislation and GDP is to draw a scatterplot. This is done in Figure 4.

The positive relationship emerging from Figure 3 is unsurprising. As known, GDP per capita has a positive upwards trend while the number of laws passed each year adds positively to the previous one. Then, both variables have a clear upwards trend. Based on this consideration, a proper econometric analysis can be used to check for a causal effect from legislation to GDP.

Litigation is quantified by the LR, which is equal to the number of new civil disputes started each year per 1,000 inhabitants. Official data on the LR are available only from 1880. Six further observations were added through a historical investigation of some sources (Annuario Statistico Italiano, 1878,

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19 It is impossible to consider the quality of legislation using other variables such as the number of pages or the number of bytes, even though this could be useful, as discussed in Marcos *et al.* (2010).

Figure 4. (Colour online) Cumulative number of laws passed against real GDP per capita
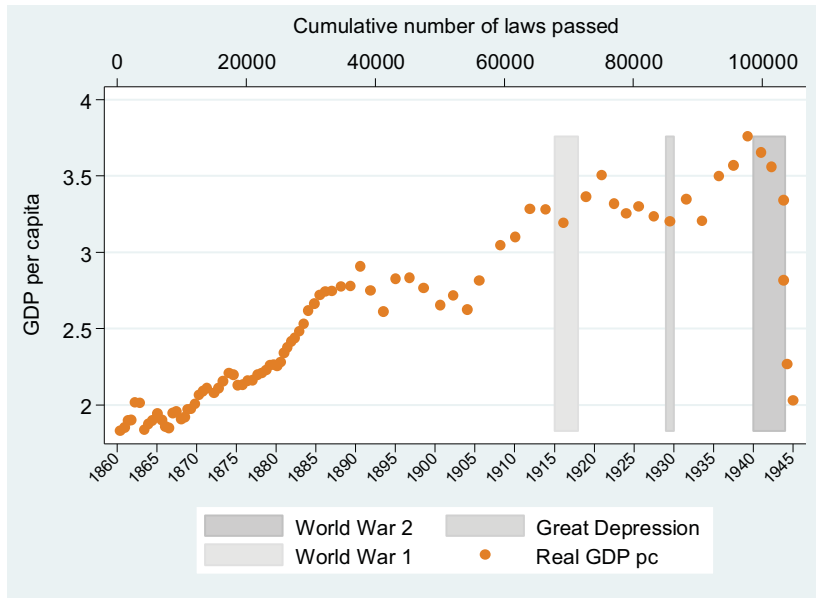

Table 2. Correlations between the variables of interest

|	GDPpc	Litigation Rate	Lex
GDPpc	1.00		
Litigation rate	− 0.62[a]	1.00	
Lex	0.87[a]	− 0.77[a]	1.00

[a]marks significance at 5%.

1881, 1884), and data for the period 1874–1940 are therefore available. Figure 5 shows the evolution of the LR in this period.

On looking at the correlation across the variables of interest their contemporaneous evolution can be understood. Correlations are reported in Table 2. Such correlations suggest that a decrease of the LR is associated with an increase of GDP per capita, improvements of legislative uniformity (Lex) are associated with positive GDP variations, and those improvements of the institutional framework correspond to a significant decrease in the civil litigation rate. Moreover, the dynamics of the civil litigation rate in Italy, over the period considered, reflect the business cycle fluctuation, as recently sustained by Palumbo *et al.* (2013).

The GDP series has been the subject of econometric analysis for decades, although not particularly in the literature on determinants of economic

Figure 5. (Colour online) Litigation rate
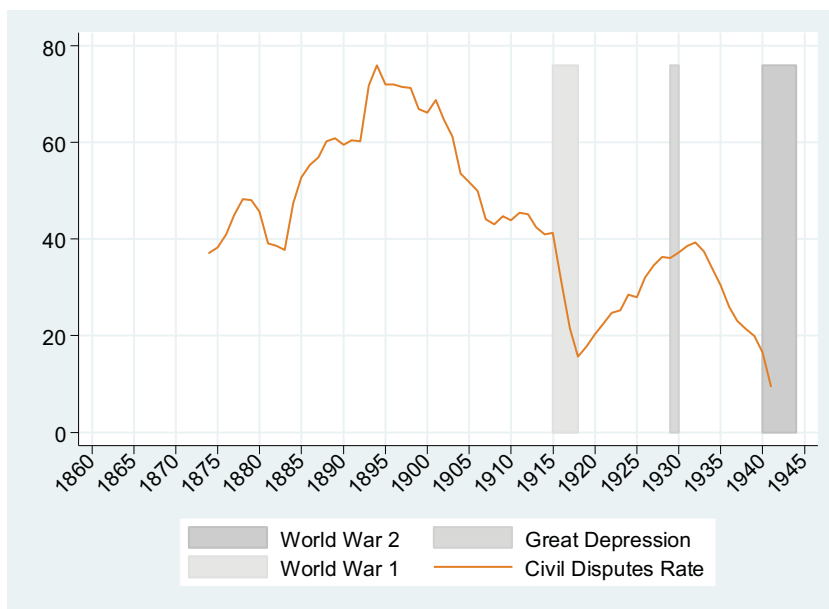
development: Levine (2005) and Arcand *et al.* (2015) include excellent reviews of this literature. GDP series are commonly known not to be covariance-stationary processes. This is why as a first check it is verified the stationarity of the series object of this analysis through unit root tests. The hypotheses tested are: (1) 'H0: unit root' using the DF-GLS test (Elliott *et al.*, 1996) and the Perron test (Phillips and Perron, 1988); (2) 'H0: no unit root' using the KPSS test (Kwiatkowski *et al.*, 1992). Unit root tests notoriously depend upon the inclusion of the deterministic components and they are sensitive to the number of lags included in the regression.[20] Various alternatives were tried, and the results are reported in Table 3. On the whole, the tests suggest that the real GDP per capita series is not covariance-stationary.

As a consequence of the non-stationarity found, the first-difference of log GDP is investigated. As known, first-differencing is likely to make the GDP series stationary. The first-difference of log variables approximates the growth rate. To study the GDP evolution through its growth rate is a common practice in the current literature. The typical cross-sectional specification for the analysis of the GDP growth rate is:

$$\Delta lGDP_i = \alpha + \beta \cdot lGDP_{i/t-1} + \vec{\Gamma} \cdot \vec{X}_i + \varepsilon_i \tag{5}$$

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20 Under the null of a unit root, the inclusion of a constant in Dickey–Fuller kinds of equations implies a linear trend, while under the alternative it is just a constant.

Table 3. Unit root tests on real GDP per capita

Elliott *et al.*, 1996	DFGLS stat, 1Lag: -1.186 | 5% CV: -2.970
	DFGLS stat, 3Lag: -1.016 | 5% CV: -2.959
H0: unit root	Does not reject H0
Phillips and Perron, 1988	*T*-stat: 0.544 | 5% CV: -2.887
H0: Unit Root	Does not reject H0
Kwiatkowski *et al.*, 1992	*T*-stat, 4L: 0.644 | 5% CV: 0.146
	T-stat, 3L: 0.797 | 5% CV: 0.146
H0: no unit root	Rejects H0

xL means test executed with x Lags.

Table 4. Auto and partial correlations

LAG	AC	PAC	Q	Prob > Q
1	− 0.079	− 0.081	0.5192	0.471
2	− 0.184	− 0.197	3.333	0.188
3	0.009	− 0.022	3.340	0.342
4	0.036	− 0.011	3.452	0.485
5	− 0.050	− 0.049	3.669	0.598

where the dependent variable is the first-difference of log GDP, α is the constant, the initial level of the GDP is included to test conditional beta-convergence (Young *et al.* 2008) and $\vec{X}_i$ is a set of explicative variables; for applications of this specification, see Arcand *et al.* (2015) or Barro (1996). This cross-sectional specification is adapted to the time series data. The main concern in this regard would be serial correlation, but the series of the real GDP growth rate does not exhibit serial correlation at all as the autocorrelation and partial autocorrelation functions in Table 4 shows. The following specification is therefore estimated:

$$\Delta lGDP_t = \alpha + \beta \cdot lGDP_{t-1} + \vec{\Gamma} \cdot \vec{X}_t + \varepsilon_t. \tag{6}$$

The explicative variables ($\vec{X}$) are included in Table 5 coherently with the literature on the determinants of GDP growth (Sala-i-Martin *et al.*, 2004), plus the variables of interest for the scope of our analysis. Table 5 also shows summary statistics for the variables used in the estimation.

The estimation output shows a negative and significant effect of the initial GDP per capita level coherently with the concept of beta-convergence. Among the covariates included, Total Investment in fixed capital turns out to be statistically significant and possess the algebraic sign expected. The other independent variables are not statistically significant. As for the contribution of a more uniform legislation, as approximated by the number of laws passed ('LEX' in Table 6), the estimation suggests that it is positive.

Table 5. Variables

Variable	Var	Obs	Mean	Std dev.	Min.	Max.	Source
GDP per capita Constant prices (r.y. 2005) Thousands of Euros	GDPpc	80	2.51	0.54	1.82	3.76	Banca d'Italia (Baffigi, 2011)
Inflation rate (%) (via GDP deflator)	SCH	79	3	10.33	−14.73	42.67	Banca d'Italia (Baffigi, 2011)
Literacy rate (age 15–19)	INF	80	62.37	22.88	26.5	88.2	ISTAT
Degree of openness	OPE	80	0.23	0.04	0.1	0.36	Banca d'Italia (Baffigi, 2011); our calculations
Public expenditure (constant prices)	PEX	79	7.36E+10	3.39E+10	2.25E+10	2.25E+11	Banca d'Italia (Baffigi, 2011)
Total fixed investments (constant prices)	TFI	80	10,547.83	6,283.92	2,583.68	23,030.53	Banca d'Italia (Baffigi, 2011)
Number of laws passed	LEX	80	1247.55	816.03	416	3,458	Archivio Centrale dello Stato, Raccolta ufficiale delle leggi e dei decreti del Regno d'Italia
Litigation rate	LIT	67	43.88	16.11	15.7	76	Annuario Statistico Italiano; ISTAT; our calculations
World War I dummy	D_W						Our calculations

Note: The period under analysis is 1861–1940: this counts as 80 observations.
The estimation output is in Table 6; Newey–West standard errors are computed and used to check statistical significance.

Table 6. Estimation output,
the effect of legislation

ΔGDPpc_t	
GDPpc_t-1	-0.292**
SCH_t	0.019
INF_t	0.047
OPE_t	-0.091
PEX_t	-0.017
TFI_t	0.062**
D_W	0.011
LEX_t	0.030**
_cons	-0.143
N	79

Notes: All variables are in log terms.
**marks significance at 5%; *marks significance at 10%.

Table 7. Estimation output,
the effect of litigation

ΔGDPpc_t	
ΔINF_t	0.055
ΔOPE_t	0.185
ΔPEX_t	-0.010
ΔTFI_t	0.016
D_W	-0.041*
ΔLIT_t	-0.084*
_cons	-0.143
N	66

Notes: All variables are in log terms.
**marks significance at 5%; *marks significance at 10%.

At this point the effect of litigation on GDP growth is estimated, where it is envisaged that litigation negatively affects GDP growth. The specification is slightly different with respect to the one in Table 6 because the sample is substantially smaller now: it includes just 66 observations. Indeed, as previously explained, it was not possible to reconstruct the LR series further back in the past. In contrast to the one including Lex, which totals 79 observations (Table 6), some variables (like SCH_t and GDPpc_t-1), which are irrelevant in terms of information and were non-statistically significant in such a small sample, are not included. This allows to save degrees of freedom and achieve a more reliable estimate output. The estimation output is in Table 7, which shows a negative and significant effect from litigation. This means that a decrease of litigation seems

to support higher economic growth as outlined in the main argument developed in section 2.[21]

5. Final remarks

In this paper the potentially positive effect of the political unification of Italy on its economic growth is explained through the establishment of a single Italy-wide market and the enactment of uniform legislation within the borders of Italy, with respect to the pre-unification states. Such uniform legislation started to be implemented with the extension of the Albertine Statute from the Kingdom of Sardinia to the newly founded Kingdom of Italy, and further steps were achieved through the enactment of the legislative codes based on the Napoleonic tradition. The beneficial effect of uniform legislation is likely to be strengthened by lower rates of civil litigation.

On the whole, the findings of the analysis are consistent with previous historical discussion and theoretical premises. The unification process, at a low level of legislative accumulation and stratification, made the social revenue of legislation greater than its social cost (because of a negative coordination externality). This is likely to depend on the fact that the threshold level of the legislation stock, after which those externalities emerge, was not achieved in the age of the Kingdom of Italy.

Acknowledgements

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21 In the final version of the paper we have removed 'Lex squared/Lexˆ2' from the estimation in section 4 because the period considered is too short for the negative effect of excessive legislation to materialize. This is proved by the fact that the covariate 'Lex squared/Lexˆ2' is not statistically significant.

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