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The biological standard of living and mortality in Central Italy at the beginning of the 19th century

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ABSTRACT

The biological standard of living in Central Italy at the beginning of the 19th century is analyzed using newly collected data on the height of recruits in the army of the Papal States. The results reveal a decline in height for the cohorts born under French rule (1796–1815). Although this trend was common to many parts of Europe, the estimated magnitude of the decline suggests a worsening of the biological standard of living of the working classes in the Papal States even relative to that of other countries. Despite the differences in the economic systems within the Papal States, no significant geographical variation in height has been found: even the most dynamic and advanced regions experienced a dramatic height decline. Mortality also increased during the period under consideration.

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1. Introduction

At the end of the 18th century, the states of the Italian peninsula, along with the rest of Western Europe, were faced with the challenge of modernization, even though they were geographically distant from the heart of the Industrial Revolution. Increased demand for agricultural staples created new incentives for large-scale farming, thereby destabilizing traditional rural culture. At the same time, the demographic revolution with its unprecedented rates of population growth increased the pressure on agricultural resources and acute land hunger generated widespread discontent.

However, market forces were not the only force of change; even the most conservative rulers, knowing that

the only means of maintaining their dynastic identities was economic growth, tried various methods of modernization, with varying degrees of success (Komlos, 1989; Davis, 2000). Further complicating the situation was the outbreak of the French Revolution and its aftermath, which profoundly and irreversibly changed the political and cultural context in Italy as well. During the two decades of direct or indirect French administration (1796–1815), old dynasties were toppled, aristocratic and ecclesiastical privileges were abolished, the fiscal and financial administration was rationalized, and new regions were created by the changing state boundaries. For the first time in its long history, Italy received a uniform code of law and a uniform system of taxation, both of them operating within a comprehensive administrative structure, and an integrated market. These innovations accelerated the pace of modernization, but at various socio-economic costs to the population at large (Grab, 2000).

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The goal of this study is to clarify the effect of these processes on the population, by means of a well-established indicator of biological well-being, and hence of the standard of living: physical stature. This indicator is widely used in economics because of its ability to describe certain features of the economic environment that monetary measures fail to capture.¹ Physical stature generally correlates positively with income, enabling us to expand our analysis beyond the limits of GDP and wage data.² This is not the first time that anthropometric data have been used in order to analyze the economic history of Italy from the mid-18th century to the end of the 20th,³ and also of Northern Italy from 1730 to 1860, when it was under Austrian rule.⁴ This study extends the analysis to include the Papal States for the first time, thereby broadening the current discussion of economic development in North-Central Italy before unification. Furthermore, data on mortality rates permit us to increase the scope of our analysis.

The Papal States stretched from the kingdom of Naples, in the south, to the Po Valley, in the north (Fig. 1). Their geography was extremely varied, ranging from the plains of Romagna, in the north, by way of the mountainous central region, Umbria, to the eastern and western coastal regions known as the Marches and Lazio, respectively – not to mention Rome, the most populous city of the States with a population of about 150,000 inhabitants. Regional agrarian systems, including that of land tenure, were as varied as the land itself (Zamagni, 1993, 2005). Internal tariffs and a rudimentary transportation infrastructure limited trade to such an extent that provinces were, in effect, separate territories (Woolf, 1973; Caracciolo, 1973; Pescosolido, 1994). These features provide the opportunity to analyze the ways in which the lower segments of the population experienced the above-mentioned economic changes caused by international trends: the unification of commercial markets, the rising cost of produce, and with it the spread of hunger – and land hunger, as well.

2. The data

Most of the soldiers serving in the army of the Papal States during the Restoration (1815–1835) were volunteers. A soldier signed a contract in which he agreed to serve for at least three years in exchange for a sum of money. In 1822, an edict introduced the principle of compulsory conscription; however, there were so many



Fig. 1. The Papal States before the unification of Italy.

exceptions – not to mention the option of paying somebody to take one's place – that service remained, in effect, voluntary. After the insurrections of 1831, local municipalities were required to provide two recruits per 1000 inhabitants. Again, however, a network of privileges and exemptions meant that only poor vagrants and the unemployed failed to find a way to evade military service (Ilari, 1989).

Each regiment maintained a register in which pertinent information on recruits was recorded: height (down to the line, or twelfth of an inch), the year and place of birth, most recent place of residence, profession; date of recruitment, and admission status (volunteer, readmitted deserter, or convict); pertinent information on his subsequent military status (such as grade advancements or transfer to another regiment), and the date of his death, if it occurred while in service.⁵ We collected data on 9855 soldiers from a sample of these registers (*Matricola sottoufficiali di fanteria, registri n 1431, 1437, 1449, 1459, and 1483*), stored in the *Archivio di Stato di Roma*.⁶ The birth years in our sample span the period from 1752 to 1824; the years that are best represented are those of the period of French occupation, 1790–1815 (Table 1).

All of the regions of the Papal States,⁷ are well represented in our sample, although 40% were born in Romagna, and most of them in the administrative region of Bologna (Table 2). More than 400 job titles were recorded

¹ Malanima (2003), using data from Tuscany and Lombardy, has attempted to reconstruct the evolution of per capita GDP and real-wages for North Central Italy during the period 1300–1861. Unfortunately, differences in regional economic conditions in Italy throughout this long period were considerable, so that the estimated series cannot offer a very detailed picture. For the use of height in economic analysis, see the review in Steckel (1995).

² The correlation can be observed in cross-sectional data. As for time-series data, there is an important exception: the so-called Antebellum Puzzle (Komlos, 1998).

³ For the analysis of the secular trend in heights in later periods, see Arcaleni (2006) and Federico (2003).

⁴ A'Hearn (2003) used data from the Hapsburg army, covering the regions of Lombardy and Veneto.

⁵ 60% of our sample includes the date of death.

⁶ Archivio di Stato di Roma, sede succursale. Via Galla Placidia 93, 00159 Roma. <http://www.archiviodistatoroma.beniculturali.it/index.php?it/130/sede-succursale>.

⁷ The small southern enclaves of Benevento and Pontecorvo in southern Italy were ceded at the Congress of Vienna, in 1814.

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