Religion and Economic Growth in Western Europe: 1500-2000.

Cristobal Young
Department of Sociology
Stanford University
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Abstract

This paper draws on recently developed historical GDP estimates on five centuries of European economic growth (1500-2000) to revisit the Protestant Ethic thesis. After the Reformation, Protestant regions arose from the backwaters of Europe to displace the Catholic countries as the economic powerhouses. By 1700 – prior to the full-fledged industrial revolution – Protestant countries had overtaken the Catholic world in terms of income. A strong Protestant-Catholic income gap became well established over the next 250 years. There were no signs of convergence until the 1960s. This is not, however, a simple vindication of the "Protestant ethic" thesis. After discussing the empirical data, I explore a number of alternative hypotheses that might account for the economic dominance of Protestant Europe. They include (1) secularization – freeing the economy from religious controls; (2) the growth of education (and the Protestant emphasis on literacy – ability to read the bible); (3) the dismal consequences of the Catholic Counter-Reformation; (4) the importance of the Atlantic (slave) trade in creating an autonomous business class that would demand modernizing institutional reforms.

Introduction.

In *The Protestant Ethic and the Spirit of Capitalism*, Max Weber famously argued that religion has played a major role in the development of the European economies. Protestants, Weber argued, were more inclined to business pursuits and achieved greater economic successes than Catholics. This observation had been made many times before. Weber himself noted that Catholic congresses in Germany had frequently discussed the matter (1930:3); Trevor-Roper (1967) traces the argument back 100 years before Weber (Villers 1804). Weber's contribution was to give a reason for it – to turn the observation into grand socio-economic theory.

The goals of this essay are twofold. Empirically, I emphasize that Weber (and those preceding him) identified a strong and stable pattern of European economic performance. After the Reformation, Protestant regions arose from the backwaters of Europe to displace the Catholic countries as the economic powerhouses. By 1700 – prior to the full-fledged industrial revolution – Protestant countries had overtaken the Catholic world in terms of income. A strong Protestant-Catholic income gap became well established over the next 250 years. There were no signs of convergence until the 1960s. This is not, however, a simple vindication of the "Protestant ethic" thesis. After discussing the empirical data, I explore a number of alternative hypotheses that might account for the economic dominance of Protestant Europe. They include (1) secularization – freeing the economy from religious controls; (2) the growth of education (and the Protestant emphasis on literacy – ability to read the bible); (3) the dismal consequences of the Catholic Counter-Reformation; (4) the importance of the Atlantic (slave) trade in creating an autonomous business class that would demand modernizing institutional reforms.

The Historical Data

This paper begins in the year 1500 and ends in 2000. It covers a massive sweep of European history. The primary data I use are Maddison's (2003) estimates of GDP and population (combined as GDP per capita) over 500 years.

Some discussion of data quality is appropriate. There is a shortage of good data on GDP for much of European history. Modern GDP estimates are constructed from extensive surveys of corporate profits, worker wages, prices (cost of living), and careful accounting of 'value added' in production. Even here, educated guesses are needed to supplement hard data, and people might be surprised at how much 'educated guessing' is involved.[1] This kind of uncertainty is much greater for historical estimates. The estimates presented here should be treated with some caution. Certainly, the quality of historical estimates does not compare well with modern, post-war economic accounting.

At the same time, many readers would be surprised at the amount of detailed economic records that have survived in European archives. For example, in England, historians have spent 150 years working on a dataset for wages and prices. The dataset now contains "more than 46,000 quotes of day wages, 90,000 quotes of the prices of 49 commodities, and 20,000 quotes of housing rents" (Clark 2005:1321). This provides a compelling record of annual real (inflation-adjusted) income starting in the year 1209. The data for other countries is not as solid; in particular, data for Scandinavia, Austria, and Switzerland are thin prior to 1820, and incorporate more guesswork.

Maddison – working with the OECD – has spent 40 years drawing together historical economic research and data collection efforts to produce 'best estimates' of historical GDP. A notable fact is that these data represent the research efforts of a great number of economic historians, and have developed independently of any particular hypothesis about religion and economic development (indeed, there is virtually no 'Weberian' research tradition in economic history (Engerman 2000)).

Thus, with cautionary notes on record, I proceed to analyze the best available aggregate data on European economic history. To my knowledge, these data have not been examined from the perspective of religious differences. The full data set is given in the appendix.

In the beginning… 1500 – 1850.

In 1500, all of Western Europe was Catholic. The Protestant Reformation began early in the 1500s, with Martin Luther's dissention, criticizing the sale of indulgences, and his subsequent excommunication in 1521. The Reformation originated in Germany and quickly spread to Switzerland, Scandinavia, Britain, and the Netherlands. The regions that remained

[1] I used to work at the central statistics branch of the BC provincial government, where I got to see first hand how GDP estimates are debated and produced. A routine question is "does that number make sense?" In other words, the data are frequently adjusted in light of practical economic "wisdom".

Catholic are Austria, Belgium, France,[2] Ireland, Italy, Spain, and Portugal. Table 1 shows the countries in this study, and reports the percentage Protestant and Catholic in each country (at the end of the 19th century).

Table 1. Religion in Western European Countries (circa 1870)

Country	Percent Protestant	Percent Catholic
Protestant Countries		
Denmark	99	1
Sweden	99	1
Norway	99	1
Finland	98	2
Britain	91	8.5
Germany	62	36.5
Netherlands	61	38
Switzerland	58	41
Catholic Countries		
Ireland	12	88
France	4	95
Austria	2	91
Italy	1	97
Spain	1	97
Portugal	1	97
Belgium	1	95

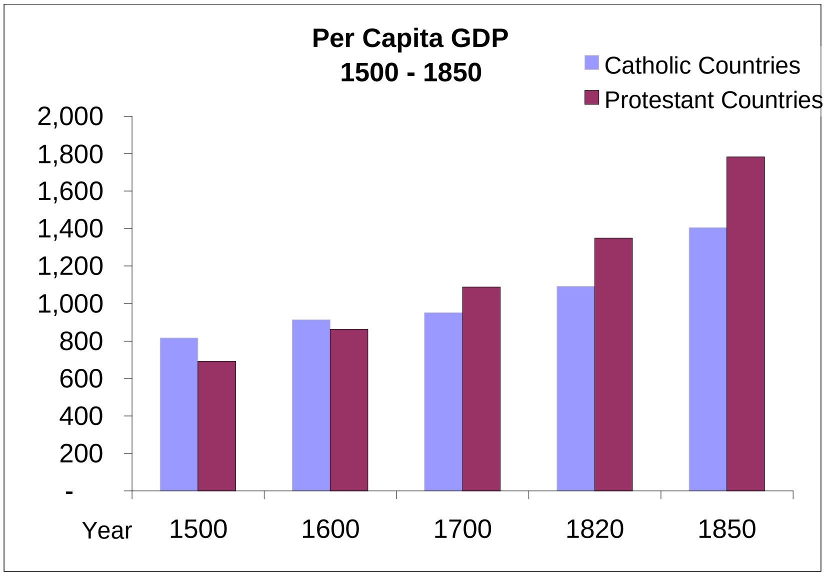
Source: Delacroix and Nielsen (2001)

Catholic Countries.

In 1500, Catholic Europe was wealthier than the (soon-to-be) Protestant regions. Catholic countries had a weighted average GDP per capita of about $820, compared to $690 in the Protestant countries (a difference of about 18%). By 1700, there had been a reversal of fortune. Over two hundred years, virtually all of Europe enjoyed modest real income growth, but much more so in the Protestant countries. This pattern continued for a very long time. Graph 1 shows per-capita GDP in the Catholic and Protestant regions of Western Europe, from 1500 to 1850.

[2] France suffered a long series of wars between Catholics and Huguenots (Protestants), which ended with Catholic dominance.

Graph 1: GDP in Protestant and Catholic Regions of Europe, 1500-1850



Source: calculated from Maddison (2003).

The pattern of slow growth in Catholic Europe is surprising, given its tremendous early leadership in the Colonial Era. Portugal, Spain, and Italy are good examples of countries that might have been expected to lead economic growth in Europe.

Portugal was the pioneer of the colonial era – the first European country to sail around the Cape of Good Hope (1488), bypassing the Islamic world to find a trade route to India. They discovered Brazil in 1500, and soon became the leading power in the Atlantic slave trade. However, none of this early advantage or empire-power translated into substantive economic growth or industrialization. While the Portuguese economy nearly tripled between 1500 and 1700, Malthusian population growth dissolved much of this wealth, leaving little net increase in living standards. Portugal entered the colonial era as one of the poorest countries in Europe, and has remained that way ever since.

Spain has followed in the path of Portugal. Rising to be an early power in the Colonial Era – perhaps the most powerful country in Europe in the 16th and early 17th centuries – Spain never translated its position into substantial per-capita economic growth.

Finally, I mention Italy for a somewhat different reason. In 1500, Italy was by far the richest country in Europe, with a per-capita GDP 25% greater than in Belgium (the second richest country in Europe), and 45% greater than in the Netherlands (the wealthiest of the soon-to-be-Protestant group). However, the Italian economy completely stagnated throughout the Colonial Era. By 1700, three countries had higher per-capita GDP, and by 1820 most countries were better off than Italy.

All of this shows that empire building was essentially a level playing field. Developing a powerful empire did not depend at all on wealth accumulated during the medieval period. However, it also shows that building an extensive empire did not ensure economic success. In neither Spain nor Portugal were the advantages of empire transformed into achievements in industry and manufacturing. Instead, imperial wealth was squandered on luxury and failed wars (Landes 1998:168-85).[3]

Protestant Europe.

Two core countries drove economic growth in Protestant Europe: the Netherlands and Britain. Between 1500 and 1700, per capita GDP grew 180% in the Netherlands, and 75% in Britain. However, virtually all the Protestant Countries had higher-than-average growth rates during this time.

By 1700, the Netherlands and Britain had largely overtaken Portugal and Spain as the naval powers of Europe. And they accomplished what Portugal and Spain could not: they transformed empire-power into higher standards of living – real per capita GDP growth.

In terms of institutional history, two things are worth noting. First, all this was well before the onset of the industrial revolution (a 19th century phenomenon). However, there were major developments in the institutions of commerce. Amsterdam established the world's first stock exchange in 1602. Many innovations in finance, insurance, patent law, and the like occurred during the 17th century in the Netherlands and England. The institutional foundations of modern capitalism were being built, and it was happening in the Protestant rather than Catholic regions of Europe.

[3] Spain, for example, "wasted much of its wealth on the fields of Italy and Flanders" (Landes 1998:171). Rather than producing its own tools and provisions of war, Spain bought them from other countries – frequently enough from its enemies (England and Holland). New World gold poured out of Spain seemingly as fast as it poured in. This might be seen as an early example of the "Natural Resources Curse" (Sala-i-Martin and Subramanian (2003))

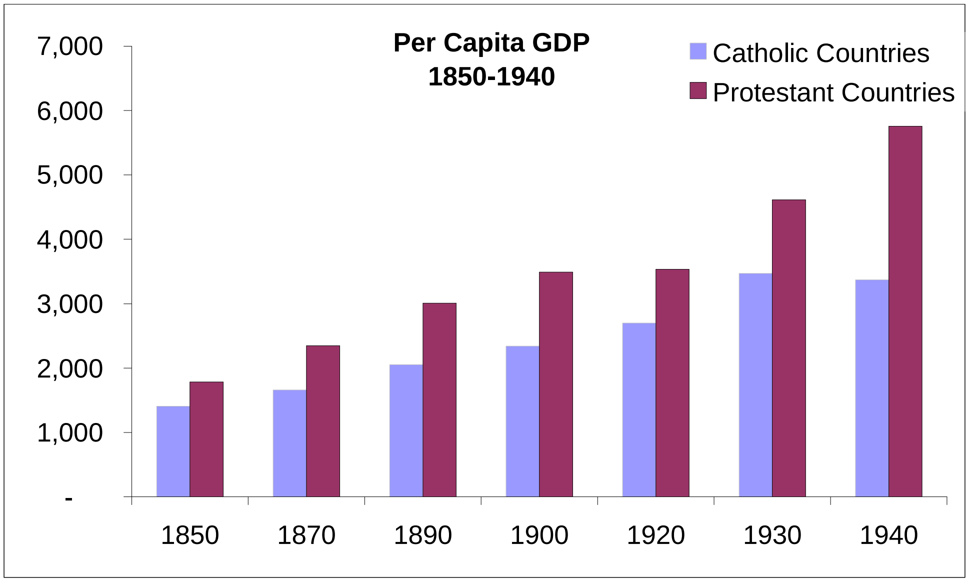
The Industrial Age: 1850-1940.

The industrial revolution is sometimes traced back to the patenting of James Watt's steam engine in 1769. But machine technology was not a major force in the British economy until some time later. Indeed, Adam Smith, the "godfather" of modern economics, felt that Watt's engine was an interesting invention but saw little useful application for it. Before 1800, the steam engine was really just a curious gadget. Strong and sustained growth in average incomes did not begin until the 1800s. Per-capita GDP has grown exponentially,[4] and with little interruption, since about 1820. This is what has set Europe (and the "Western offshoots") apart from the rest of the world, and has made the Protestant–Catholic differential trivial by comparison.

Nevertheless, the religious domains of Western Europe remained divided by economic prosperity. Between 1850 and 1940, Protestant Europe had much higher per capita GDP growth than Catholic Europe (223% vs. 137% respectively). The real industrial powerhouses were Protestant countries. During this period, every Protestant country except the Netherlands had a much higher growth rate than even the best performing Catholic country. By 1940, Protestant countries were substantially richer, with a per capita GDP of $5,800 – 40% higher than in the Catholic countries. The spread of the industrial revolution across Europe produced very large increases in income. At the same time, the differential between Protestant and Catholic Europe continued to widen.

[4] The exponential curve is not so obvious when you break up the data into these time periods (1500-1850, 1850-1940, 1940-200). But note that the first period covers 350 years, the second covers 90 years, and the third covers 60 years. During the whole period, Catholic incomes increased by a factor of 22, while Protestant income increased by a factor of 28.

Graph 2: GDP in Protestant and Catholic Regions of Europe, 1850-1940



Source: calculated from Maddison (2003).

Table 1 emphasizes that the Protestant countries, almost uniformly, obtained stronger economic growth than their Catholic neighbors. The countries in Table 1 are ranked by economic growth, from strongest to weakest performances.

Table 1: Per-Capita Economic Growth, 1850-1940, by Country.

Growth Rate	Country	Religion	Annualized GR
330%	Switzerland	Protestant	3.7%
278%	Germany	Protestant	3.1%
277%	Sweden	Protestant	3.1%
254%	Finland	Protestant	2.8%
244%	Norway	Protestant	2.7%
223%	Protestant Avg	Protestant	2.5%
194%	Britain	Protestant	2.2%
190%	Denmark	Protestant	2.1%
160%	Italy	Catholic	1.8%
153%	France	Catholic	1.7%
147%	Belgium	Catholic	1.6%
140%	Austria	Catholic	1.6%
137%	Catholic Avg	Catholic	1.5%
130%	Ireland	Catholic	1.4%
104%	Netherlands	Protestant	1.2%
93%	Spain	Catholic	1.0%
75%	Portugal	Catholic	0.8%

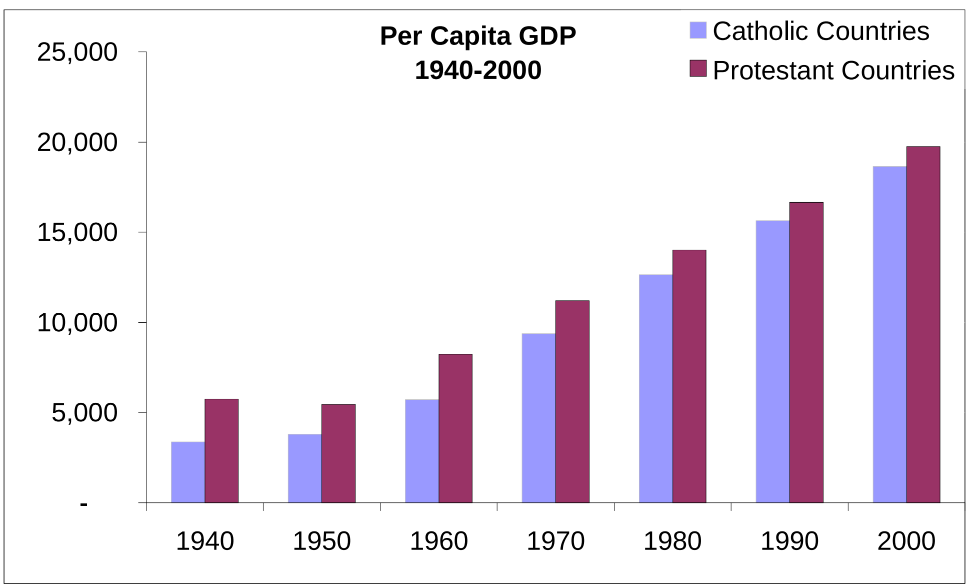
Source: Calculated from Maddison (2003).

EU Convergence: 1940-2000.

The second half the 20th century has seen the closure of the economic gap between the two religious domains of Europe. Most of this convergence happened in two decades between 1960 and 1980. The Catholic-Protestant income differential remained near (slightly above) its long-term average until 1960. Between 1960 and 1980, the gap narrowed from 30% to 10%, and has since stabilized at 6% – lower than any recorded time since 1700.

The timing suggests a major role for Post-War European political institutions. Immediately prior to convergence saw the beginnings of the European Union: the establishment of the European Economic Community in 1957, and the European Free Trade Association in 1960. The establishment of free trade no doubt encouraged factor price equalization (ie, the equalization of returns to labor and capital). At the same time, there has been considerable convergence of institutions and economic policies, opening of communication channels, and the like. In any event, some combination of free trade and institutional reform has dramatically narrowed the income gap between Protestant and Catholic countries.

Graph 2: GDP in Protestant and Catholic Regions of Europe, 1940-2000



Source: calculated from Maddison (2003).

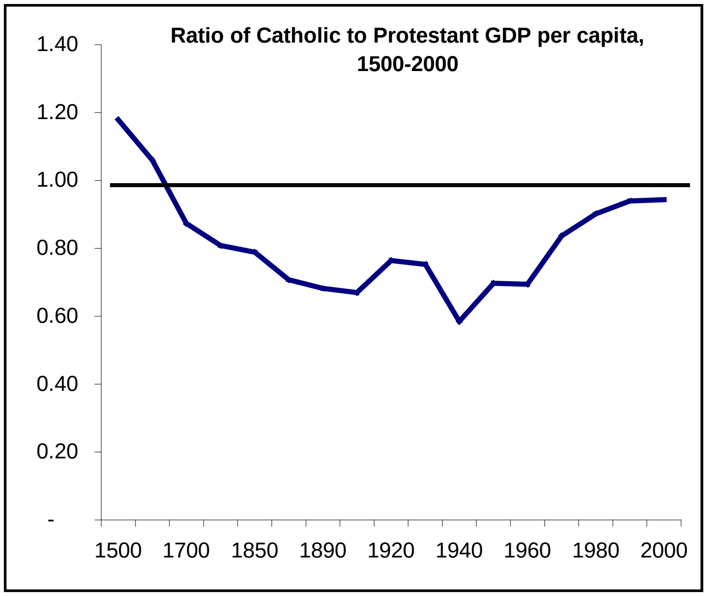
European convergence seems to have reached (at least a temporary) plateau since the basic structure of the EU been established. For example, in spite of incredible economic growth in Ireland (where income levels nearly doubled in 10 years), the Protestant-Catholic differential has been stable since 1990 at about 6%. Nevertheless, more convergence is likely. Portugal, for example, remained a military dictatorship until 1974, and did not join the EU until 1986. But since 1980, Portugal has had one of the highest growth rates in Europe (second only to Ireland). Likewise, Spain has had the third highest growth rate. It is likely that within a decade or so the Protestant-Catholic differential will completely disappear. This is a striking reversal in European economic history.

Summary: 500 years of European economic history

Because the scale has changed dramatically in the previous graphs, the relative income differentials can be hard to discern. In the graph below, I plot the entire data series as a ratio of Catholic to Protestant per capita GDP, from 1500 to 2000. This prominently displays the basic patterns of the data. Note, however, that the time scale of the graph is severely compressed for the early years. The first half of the graph covers 400 years (1500–1900), and the second half of the graph covers the 20th century. In other words, the graph does not convey the long period of time in which Catholic countries were richer than Protestant Europe, nor does it accurately convey how long Protestant countries have enjoyed substantially higher incomes. Nevertheless, the central patterns of economic history are clear. For more than 250 years, Catholic Europe lagged behind the Protestant countries by a substantial margin, averaging 27% lower incomes between 1700-1960.

There are two relatively clear turning points in the data. First, Catholic countries are declining realtive to Protestant Europe until 1870, at which point the income gap becomes more or less stable. Second, after 1960, there is a process of surprisingly rapid convergence in which the income gap nearly disappeared. These turning points define three peroids of divergence (1500-1870), stabilization (1870-1950), and convergence (1960-2000).

Graph 4: Catholic Economic Performance Relative to Protestant Regions



In Search of Explanations.

Modern growth theory suggests that in the long run, world economic growth is determined by technological innovations occurring in the most advanced countries.[5] In the long run, national boundaries do not matter. Trade, capital mobility, migration, and information transfer allow poor countries to adopt the innovations pioneered by rich countries.[6] Of course, things have never quite worked as such. Europe and its "offshoots" expanded exponentially while the rest of the world languished. Nevertheless, there was strong *local* convergence: all of Western Europe was carried along in the wave of technological advancement and economic growth that was led by the Protestant countries. The question is, why did the Catholic countries nevertheless consistently under-perform their Protestant neighbors for almost 300 years?

In this section, I review four strong theoretical perspectives. In conclude by trying to distill these into a set of basic questions, and point to forms of evidence that would usefully address these questions.

[5] See Snowdon (2006) for an accesible survey of modern growth theory.

[6] For example, once Britain and the Netherlands established the joint-stock company, any other country was free to copy the corporate form.

I. Weber.

For Weber (1930), the Protestant Reformation conjured forth a new convergence of piety and profit. The Puritan (and especially Calvinist) doctrine of Predestination, Weber argues, became a powerful "motive force" in Christian theology. "By the decree of God… some men and angels are predestined unto everlasting life, and others foreordained to everlasting death" (quoted in Weber 57). Men were born into heaven and hell, and no human action could change their fate. The manifest goal of this doctrine was the "complete elimination of salvation through the church and the sacraments" (61) - in short, freedom from the clergy. Yet, a latent effect was to create tremendous anxiety about one's status in the afterlife.

"The question, Am I one of the elect? must sooner or later have arisen for every believer" (65). Achievements in day-to-day life were taken as evidence of God's grace, as membership among the select chosen for everlasting life. There emerged a psychological and, one imagines, socially competitive "necessity of proving one's faith in worldly activity" (74). Material success was indication that one "had successfully followed the divine hints" (109); it was "the means of knowing one's state of grace" (90). Economic success could *not* leverage access into heaven, but those marked with God's grace would naturally enjoy economic success. Success was a signal.

The Puritan theology of predestination, in short, created a massive information problem, and believers sought evidence of their religious standing through economic achievement. This intensely religious preoccupation with economic success was the essence of "the spirit of capitalism".

In this way, Weber argues, the Reformation produced a "this world" asceticism devoted to material production. Studious labour became so revered such that "unwillingness to work is symptomatic of the lack of [God's] grace" (105). Further, the "limitation of consumption" was "combined with [a] release of acquisitive activity… accumulation of capital through ascetic compulsion to save" (116). The inevitable outcome was capitalist expansion.

II. Tawney. The Reformation as the Secularization of Political Economy.

In 1500, "economics [was] still a branch of ethics, and ethics of theology" (Tawney 1926:278). The clergy held great sway over the normal practice of business. However, the next two hundred years witness the "secularization of political [economic] thought" (279). For Tawney, it is this secularism, rather than any Christian teaching, that nurtured the growth of modern capitalism. “The suspicion of economic motives had been one of the earliest elements in the teaching of the church, and was to survive till Calvinism endowed the life of economic enterprise with a new sanctification” (34).

The early Protestants, much like the Catholic Church, held contempt for free enterprise, profit-seeking, and material self-interest. Usurers and “hucksters”[7] were widely condemned. Puritanism began with an “iron collectivism” and an “almost military discipline,” but ended with an “impatient rejection of all traditional restrictions on economic enterprise” (226). By the end of the English Civil Wars (circa 1650), Tawney argues, Protestantism had shed itself of any moral authority in the marketplace, giving utilitarianism free reign over the economic affairs of men. Work and enterprise were nominally religious callings. But the emerging philosophy was that “trade is one thing and religion is another” (quoted 192). This was a great transformation from the medieval age, when clerics weighed in on day-to-day matters of economy and commerce, when one had to worry that business dealings might imperil the soul. To the extent that (later) Protestantism spoke on matters of the market, it was a religion of *laissez faire*. The church retreated from the task of providing a distinctive moral framework to regulate economic action.

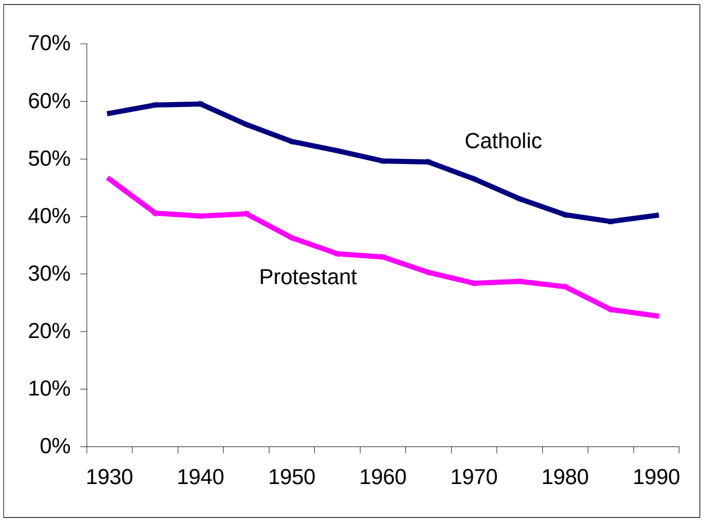
The *laissez faire* economic philosophy emerged first in the Protestant world and spread (with some reluctance) to Catholic countries. The Reformation led to a secularization (moral deregulation) of the marketplace, which stimulated the advancement of capitalism. If Catholic countries lagged behind, it is (presumably) because Catholism retained a lingering concern for economic and social justice.[8]

Secularization is difficult to measure at a broad level, which makes the dispute between Weber and Tawney somewhat empirically intractable. However, one testable implication of Tawney’s thesis is that Catholic protestant economic convergence might be connected to convergence in secularism. Indeed, one might note that Vatican Council II (1962-65) significantly liberalized Catholic doctrine, right around the time when Catholic countries began closing the economic gap with their Protestant neighbors. However, long-term data on church attendance suggests that, since 1930, both Catholic and Protestant West European countries have been steadily secularizing (declining church attendance), at about the same rate (Iannaccone

[7] Before Marx coined the term capitalism, he described the market system as “hucksterism”.
[8] Note that Tawney did not directly address the Catholic-Protestant differential.

2003). Thus, Catholics continue to attend church more often than Protestants, and the gap has not closed.

Graph 5: Church Attendance in Protestant and Catholic Countries, 1930-1990.



Note: % of population attending church at least once a month. Calculated from historical estimates by Innanccone (2003).

III. Education

Richard Easterlin argues that "the worldwide spread of modern economic growth has depended chiefly on the diffusion of a body of knowledge concerning new production techniques" (Easterlin 1981:1). Indeed, the most striking contrast between modernity and medieval times is the massive accumulation of technical knowledge over the past several hundred years. World War II demonstrated that entire countries can be bombed to ruin, and a modern high-growth economy can be quickly rebuilt. The term "capitalism," in this sense, is a misnomer because accumulated capital is not what makes a country rich and prosperous.

Like Weber, Easterlin argues that the Reformation was a crucial cultural moment in the development of capitalism. However, Calvinism per se had nothing to do with it. The Reformation made *literacy* a central part of religious devotion. In the Catholic Church, the clergy interpreted (channeled?) the word of God for believers. The bible was thought to be too complex to be understood by the common folk. (Indeed, even much of the clergy did not have direct access to the bible.) Protestantism, in contrast, spread the notion of a "priesthood of all believers". All Christians should study the bible, connecting with their religion in a much more personal and private way. This is a tall order when only a tiny fraction of the population is literate, and the bible is written in Latin. Protestants worked hard on both these fronts, translating the bible into the vernacular (the languages that people actually spoke), and evangelizing for mass education. Rather suddenly, and for completely non-economic reasons, the medieval reign of ignorance was rejected, in its place were demands for investment in human capital.

Scotland is a great example of this. A founding principle of the Scottish Reformation (1560) was free education for the poor. Perhaps the world's first local school tax was established in 1633 (strengthened in 1646). In this environment grew the Scottish Enlightenment: David Hume, Francis Hutcheson, Adam Ferguson, and the godfather of modern economics, Adam Smith. By this time, Scottish scholarship stood so far above that of other nations that Voltaire wrote, "we look to Scotland for all our ideas of civilization".

An attractive feature of this thinking about Protestantism is its amenability to quantitative empirical testing. Did Protestant countries invest more heavily in education? (This takes us away from seemingly intractable debates over what the theologians were saying.) Easterlin reports that at least in 1830, Protestant countries had much higher primary school enrollment: 17% in Germany, 15% in the US, 9% in the UK, 7% in France, and only about 3% or 4% in Italy and Spain (Easterlin 1981:18).[9]

IV. The Counter-Reformation

While Protestant countries were aspiring to the ideal of a "priesthood of all believers" – nurturing a social norm of literacy and personal scholarship, Catholic Europe reacted viciously to the Reformation and devoted a hundred or so years to the brutal containment and control of "thought, knowledge, and belief" (Landes 1998:180).

The emphasis here is not so much on literacy per se. In Landes' view, the Reformation did not simply give a "boost to literacy," but more importantly "spawned dissidents and heresies, and promoted the skepticism and refusal of authority that is at the heart of the scientific endeavor" (Landes 1998:179).

While Protestants were translating the bible and agitating for public education, the Counter-Reformation (the Inquisition) was burning books, burning heretics, and imprisoning scientists. The Catholic reaction to the Reformation – in large part driven by the Spanish Empire

[9] It's my understanding that much more detailed historical data on school attendance are available today.

– was to terrorize the principle of free thought. Though in many ways the birthplace of modern science, "Mediterranean Europe as a whole missed the train of the so-called scientific revolution" (Landes 1998:180). In a climate of fear and repression, the intellectual and scientific center of Europe shifted northward.

One question is to ask, how "literal" is this northward shift? Do we mean that southern Catholic countries gradually receded, while Protestant countries gradually nurtured excellence? Or was there an actual migration from South to North, or from Catholic countries to Protestant regions? Perhaps both happened, but an interesting argument emphasizes the role of migration.

Trevor-Roper (1967) argues that much – perhaps most – of the merchant elite were not strong partisans in the religious disputes. He suggests they were theologically inclined towards Erasmus: sarcastic towards the Catholic bureaucracy, but aloof from the Protestant revolutionaries.

Medieval Catholicism, despite Tawney's claims, had practiced toleration and accommodation towards merchant capitalism (and its lapses from Christian charity). Writings of Thomas Aquinas aside, the church was pragmatic. The medieval era built up great self-governing cities of commerce, where church authority impinged little on matters of business. At the time of the Reformation, Europe had a rich network of mature commerce and industry, based around Flanders, Northern Italy, Southern Germany, Lisbon, and Seville. These regions "were the heirs of medieval capitalism, the promising starters of modern capitalism" (21). What descended upon the medieval economic system was not Protestantism, for this took hold in the underdeveloped regions of Europe. What reshaped the economic geography of Europe was the Counter-Reformation. Wherever it struck, merchants fled.

Sifting through the biographies of 18th-century capitalists, Trevor-Roper finds a consistent pattern. Few of the great capitalists of Protestant Europe were home-grown powers. They were immigrants from the old economic centers – refugees from religious wars in Flanders and Augsburg, Jews fleeing from Lisbon and Seville, migrants from Northern Italy. The old capitalist centers of Catholic Europe had become ideologically entrenched in the Counter-Reformation; Erasmus-inspired moderates fled for the warmer climate of (nominal) Protestantism. The result was a widespread migration of entrepreneurial skill and experience. "Underdeveloped countries which had revolted from Rome offered opportunities to the entrepreneurs of the old industrial centers" (Trevor-Roper 1967:44).

They key to Trevor-Roper's argument is seeing capitalism as vested in a set of individuals – those who possess the knowledge, wealth, skills, and social capital to make commerce and production happen. Capitalism could be relocated because its constituent human, social, and financial capital was mobile. The centers of early commerce and production were broken down by the Counter-Reformation, and in essence, "the secret techniques of capitalism were carried away to other cities, to be applied in new lands" (21).

V. Atlantic Traders and Repressive Monarchs

An alliance of economics (Daron Acemoglu) and political science (James Robinson) has ventured an intriguing theory of European development during the Colonial Era (Acemoglu, Johnson, and Robinson 2005). They make two basic points: 1) Countries involved in the Atlantic trade largely account for the European economic growth during this time. 2) Atlantic traders with powerful monarchies (Portugal and Spain) saw little real gain from their trading empires, while those with weak monarchies (Netherlands and UK) prospered greatly from their empires.

Thus, Acemoglu & Robinson venture a theory based on the interaction of "access to the Atlantic trade" and strength of the monarchy. Counties without access to the Atlantic (those with little or no Atlantic shoreline), are expected to languish throughout the Colonial Era. This quickly explains the performance of Eastern Europe and Russia (which was dismal). Among Atlantic countries, strength of the monarchy is the determining variable.

Where the monarchy was weak, the Atlantic trade became an opportunity for private business. This gave rise to a very wealthy and politically powerful merchant class. In turn, they used their wealth and power to lobby for market-based legal institutions, and to consolidate the autonomy of private business.

Where the monarchy was strong, central government retained powerful control over the Atlantic trade. The monarchy (or its agents) captured the gains from the empire trade. No autonomous political power emerged outside of the central government. Powerful private merchants, independent of Royal prerogative, never arose, and thus there was no powerful lobby demanding a market-based legal system.

The theory offers a marriage of Marxist "world system" thinking with the "new institutional" economic history. It will appeal strongly to those most skeptical of the idea that religion had played a role in European economic development. However, it is only a short step away from theories based on religion. The countries with strong monarchies were Catholic; those with weak central governance were Protestant. Further, the over-riding importance of the Atlantic trade is open to question. Protestant Scandinavia, for example, had little if any semblance of a trade empire, but over this period still had stronger per-capita growth than Portugal or Spain (who pioneered the Atlantic trade).

VI. Conclusion.

There is clearly no shortage of theories explaining the Protestant-Catholic growth differential. I will make a brief effort of organizing the various voices.

There are several different interpretations of what the Reformation meant for economic life. Did Protestantism provide (1) a new “motive force” for hard work, saving, and investment (the capitalist spirit); (2) a religiously inspired drive for education and literacy; or (3) a new economic secularism, in which “trade is one thing and religion is another”? More data on the history of education would address part (2). Were Protestant beliefs (importance of reading the bible) the driving force behind modern education? Or were schools set up only to the extent that local labor markets demanded literate workers? I don’t see an immediately way of sorting out the conflict between Weber and Tawney (except for intuition and personal bias!).

It is worth stepping back and asking a broader question: Was the key factor Protestantism *per se*, or rather the Catholic *reaction* to Protestantism? Perhaps the Reformation, rather than creating a new “spirit of capitalism,” simply led to the relocation capitalist activity. Without any religious strife, the industrial revolution might well have taken root wherever medieval capitalism was strongest (Italy, Belgium, Spain, etc). The religious wars and Counter-Reformation “convulsed” the centers of old medieval capitalism, leading to a mass migration of capital and entrepreneurial skill. Perhaps the most promising lead for historical research is to study the patterns of capital mobility and migration following the Reformation (Trevor-Roper 1967).

Splitting Europe into two religious worlds produced striking dynamics that I believe go far beyond Weber’s thesis. The Protestant world, it seems, nurtured a contentious spirit of heresy and critical thought, popular literacy, and a *laissez faire* business morality; Catholism burned books, imprisoned scientists, stifled thought, and demanded stringent orthodoxy. All of this condemned the old prosperous regions of Europe to become the periphery (the “Olive Belt”).

The backward regions that revolted from Rome became the destination for capitalist migration, and here, the institutions of modern capitalism gradually took shape. Finally, it no doubt helped that at around the same time, the center of commerce and trade shifted from the Mediterranean to the Atlantic, adding a new “opportunity of geography” to the Protestant regions.

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Appendix 1. Per Capita GDP in Catholic and Protestant West European Countries, 1500 to 2000

Year	France	Belgium	Austria	Italy	Spain	Ireland	Portugal		Weighted Average
Catholic Countries									
1500	727	875	707	1,100	661	526	606		817
1600	841	976	837	1,100	853	615	740		914
1700	910	1,144	993	1,100	853	715	819		951
1820	1,135	1,319	1,218	1,117	1,008	877	923		1,091
1850	1,597	1,847	1,650	1,350	1,079	1,326	923		1,419
1870	1,876	2,692	1,863	1,499	1,207	1,775	975		1,663
1890	2,376	3,428	2,443	1,667	1,624	2,256	1,128		2,052
1900	2,876	3,731	2,882	1,785	1,786	2,256	1,302		2,335
1920	3,227	3,962	2,412	2,587	2,177	2,736	1,229		2,734
1930	4,532	4,979	3,586	2,918	2,620	2,897	1,571		3,471
1940	4,042	4,562	3,959	3,505	2,080	3,052	1,615		3,369
1950	5,271	5,462	3,706	3,502	2,189	3,453	2,086		3,803
1960	7,546	6,952	6,519	5,916	3,072	4,282	2,956		5,719
1970	11,664	10,611	9,747	9,719	6,319	6,199	5,473		9,382
1980	15,106	14,467	13,759	13,149	9,203	8,541	8,044		12,642
1990	18,093	17,197	16,905	16,313	12,055	11,818	10,826		15,642
2000	20,808	20,742	20,097	18,740	15,269	22,015	14,022		18,637

Year	Switzerld	Norway	Denmark	Sweden	Netherlds	Finland	Britain	Germany	Weighted Average
Protestant Countries									
1500	632	640	738	695	761	453	714	688	692
1600	750	760	875	824	1,381	538	974	791	863
1700	890	900	1,039	977	2,130	638	1,250	910	1,088
1820	1,090	1,104	1,274	1,198	1,838	781	1,706	1,077	1,350
1850	1,488	1,188	1,767	1,289	2,371	911	2,330	1,428	1,783
1870	2,102	1,432	2,003	1,662	2,757	1,140	3,190	1,839	2,349
1890	3,182	1,777	2,523	2,086	3,323	1,381	4,009	2,428	3,008
1900	3,833	1,937	3,017	2,561	3,424	1,668	4,492	2,985	3,493
1920	4,314	2,780	3,992	2,802	4,220	1,846	4,548	2,796	3,535
1930	6,246	3,712	5,341	3,937	5,603	2,666	5,441	3,973	4,613
1940	6,397	4,088	5,116	4,857	4,831	3,220	6,856	5,403	5,758
1950	9,064	5,463	6,943	6,739	5,996	4,253	6,939	3,881	5,453
1960	12,457	7,208	8,812	8,688	8,287	6,230	8,645	7,705	8,234
1970	16,904	10,033	12,686	12,716	11,967	9,577	10,767	10,839	11,206
1980	18,779	15,129	15,227	14,937	14,705	12,949	12,931	14,114	14,016
1990	21,482	18,466	18,452	17,695	17,262	16,866	16,430	15,929	16,646
2000	22,025	24,364	23,010	20,321	21,591	20,235	19,817	18,596	19,753

Source: Calculated from Maddison (2003)

Has the transition to a state of sustained economic growth in advanced economies adversely aÂ¤ected the process of develop-ment in less-developed economies? Oded Galor. Comparative Economic Development: Insights from Uniâ€¦ed Grow.Â Growth of GDP Per Capita and Population: Western Europe, 1500-2000. Percent Growth Rates. Western Europe. 3. 2.5 output growth.