Religion and development in post-Famine Ireland

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Abstract

Over a century ago, Horace Plunkett began a debate about the role of religion in Irish development, pointing to what he saw as the economic shortcomings of Roman Catholicism. Thereafter, however, the debate waned, and limited scholarship has subsequently investigated the significance of religion in Irish development, especially in statistical terms. In this paper that lacuna is addressed, with a quantitative approach taken to examine the relationship between Roman Catholicism and economic and financial development for the post-Famine era. Attention is directed to a variety of development indicators, namely, education, occupations, and commerce. By focusing on a selection of measures over time, it is possible to determine more precisely where differences, if any, occurred between the denominations and whether such differences changed over the period. The analysis reveals that Roman Catholicism tends to be initially negatively associated with more advanced development outcomes, but that this association weakens over time. As such, the results point to an economic convergence between Roman Catholics and Protestants, complementing historical evidence on an upward Catholic socioeconomic transition—a "Catholic embourgeoisement"—in the post-Famine era.

Keywords: religion and economic development, post-Famine Irish economic history, Catholic-Protestant dichotomy.

JEL codes: N33, O15, Z12.

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> ‘Roman Catholicism strikes an outsider as being in some of its tendencies non-economic, if not actually anti-economic’
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> Horace Plunkett, *Ireland in the new century* (1905, p. 101)

Max Weber, with the publication of his seminal work *The Protestant ethic and the spirit of capitalism* (1904/5), is often credited with catalysing a literature examining the association between religion and economic growth.[1] Yet, about the same time as Weber’s thesis emerged, former Unionist politician and Irish cooperative pioneer Horace Plunkett initiated a related debate on the relevance of religion in Irish development.[2] Like Weber, Plunkett viewed Catholicism as inferior to Protestantism in development terms, citing its deficient economic traits and lesser industrial tendencies.[3] However, unlike the Weberian thesis, which motivated a century of scholarship, debate on the Irish case seems to have waned in the ensuing decades due to sensitivities surrounding the religion question.[4] In this paper, that debate is reopened, and focus is directed to the relationship between Catholicism and a variety of economic and financial development indicators for the post-Famine era. This period is particularly interesting as it provides a window to not only think about the relationship between religion and development, but to also consider why this relationship may have changed over time, especially with respect to Catholicism. This is because with the (i) disproportionate impact of the Famine on the Catholic population, (ii) a shift in societal power towards Catholics through Emancipation, education, and politics, and (iii) a new rational regulation of the family aided by the Catholic Church, post-Famine Catholicism arguably embarked on what might be

[1] Weber, *Protestant ethic*, first published 1904/5.

[2] Plunkett, *Ireland*, first published 1904. Plunkett was born in 1854 into the Anglo-Irish nobility, and became the first Vice-President of the Department of Agriculture and Technical Instruction in 1899 (Jackson, ‘Plunkett’, pp. 470–1).

[3] Plunkett, *Ireland*, pp. 101–2. Where reference is made in the paper to Catholicism or Catholic, more correctly speaking this is Roman Catholicism or Roman Catholic.

[4] Plunkett, *Ireland*, suggested a Catholic impediment to economic growth in Ireland, prompting a comprehensive challenge to this argument by O’Riordan, *Catholicity and progress*. Yet, that seems to have been the end of the discussion with Fields, *Catholic ethic*, p. 4 (citing Akenson, *Small differences* (the version cited by Fields is a later version of the 1988 version cited in the bibliography of this paper)), noting, ‘the remarkable fact was, that the Weber-Tawney debate on the central role of religion as the fulcrum in indigenous Irish culture and economic life had started and finished in 1905 due to the sensitivity of the topic area’.

described as an "embourgeoisement". Indeed, the patterns of religious convergence revealed in this paper, contrast with Plunkett's assertions regarding the inimical nature of Catholicism in economic advancement, and instead fit more closely with the notion of a "Catholic embourgeoisement", as typified by an upward socioeconomic transition towards a more middle-class, and arguably more "Protestant-like", people in the post-Famine era.

Central to this alternative narrative, and as emphasized in the work of Akenson, is the distinction between correlation and causation in the Irish case.[5] For while Ireland, with its Catholic-Protestant cultural dichotomy, provides an ideal empirical setting for examining religion as a determinant of growth, the clustering of religious groups in particular regions can lead to a "guilt by association" trap. As such, there is a risk that religion is erroneously linked with development outcomes without adequately accounting for underlying geography-related differences.[6] In addition, the Catholic-development relationship needs to be seen in light of historical inequality. This is because Catholics were generally overrepresented in the lower strata of society, and were constrained in their ability to advance economically with discrimination from influences such as the penal laws.[7] Hence, Catholic disadvantage, as evidenced in the micro-level analyses of Ó Gráda, and Ó Gráda and McCabe, does not necessarily equate to economic backwardness, and instead may be related to historical factors which Plunkett himself acknowledges, including educational deprivation, property restrictions, and social and political exclusion.[8]

Consistent with such thinking, when the development trajectory of Catholicism in the post-Famine era is more carefully appraised, its transition through time appears favourable. For

[5] Akenson, *Small differences*.
[6] This is conceptually similar to the ecological fallacy, the problem where the inference of aggregate data is not consistent with that which is observed at the individual level. When mentioning 'geography-related differences' this is referring to differences between different areas such as living standards.
[7] O'Riordan, *Catholicity and progress*. For further perspective see Power and Whelan, *Endurance and emergence*, and Connolly, *Religion, law, and power*.
[8] Ó Gráda, 'Economic status'; Ó Gráda and McCabe, ''Better off''; Plunkett, *Ireland*, pp. 104–5.

example, Akenson downplays the idea that there was a causal cultural mechanism leading to differences in Catholic and Protestant behaviour in his study focusing on the Irish and the Irish diaspora, and instead suggests that differences between Catholics and Protestants were small.[9] Similarly, O'Rourke downplays the role of religious variation in his analysis of Irish creameries and their propensity to form cooperatives, finding it was conflict, and a related lack of cultural homogeneity, that were inhibitive to cooperation in the Catholic-concentrated South as opposed to Catholicism per se; while more recent work by Henriksen et al. suggests that it was the legal environment which impeded cooperation in Ireland as opposed to religion.[10] Moreover, Kennedy suggests that the specific role of the Catholic Church in nineteenth-century development was a positive one, contrasting with Plunkett's grievances about the Church's role in Catholic backwardness.[11] Indeed, the post-Famine Catholic experience might have been more correctly described as an "embourgeoisement", with Miller pointing to the Church, Irish nationalism, and strong farming families as being important factors in this respect—the Church through its influence in education and religion, nationalism through political consciousness, and strong farming families by promoting practices such as impartible inheritance and the dowry.[12]

To consider the plausibility of this alternative narrative, a quantitative methodology is adopted to analyse the association between Catholicism and a variety of economic and financial development indicators for the post-Famine period. This method is motivated by a recent literature that advocates a variety of alternative development pathways through which Catholic-Protestant differences may manifest, such as human capital,[13] trust,[14] social values,[15] and

[9] Akenson, *Small differences*.
[10] O'Rourke, 'Culture'; Henriksen et al., 'Contracts and cooperation'.
[11] Kennedy, 'Roman Catholic Church'.
[12] Miller, *Emigrants and exiles*, p. 124; idem, *Ireland and Irish America*, pp. 89–90.
[13] Becker and Woessmann, 'Was Weber wrong?'.
[14] La Porta et al., 'Trust'; Inglehart, 'Trust'. The hierarchical nature of Catholicism may be inhibitive in this respect (Putnam, *Making democracy work*).
[15] Guiso et al., 'People's opium?'; Arruñada, 'Protestants and Catholics'.

finance.[16] The approach provides at least four advantages. Firstly, by looking at the association between Catholicism and development over time, a view of any changes in the relationship is obtained, allowing the transition to be observed in light of historical disadvantage and discrimination. Secondly, by focusing on a variety of development areas, namely, education, occupations, and commerce, the specific development channels through which any religious "effect" flows can be more precisely delineated. Thirdly, where econometric models are used, the specific effect of religion on development can be more accurately distinguished from other factors. And finally, where data concerning particular development characteristics are available for individuals where their religious affiliation is known, concerns relating to the pitfalls of making inferences from aggregate-level data—the ecological fallacy problem—are alleviated. However, despite these advantages, when considering possible religious differences in the Irish case, it should be acknowledged that the Catholic "label" encompasses more than a difference in spiritual ideology and practice. Rather with the historical immigration of Protestants, such variation may reflect broader factors such as culture and entrenched social division. Indeed, the exact reasons for potential differences in the development trajectory of Catholics and Protestants are more fully explored in the sections that follow.

The main finding of the paper is that differences in development standards between Catholics and Protestants tended to diminish in the post-Famine era. Put simply, Catholics converged with their Protestant counterparts. This fits well with historical evidence on the emergence of a new Catholic middle class via a process of "embourgeoisement" in the post-Famine era, and also points to a reduction in Catholic disadvantage over time. Indeed, perhaps most striking is the rising human capital status of Catholics, as exemplified by their gains in literacy and occupations. Furthermore, for commerce there is also evidence of the diminishing

[16] Stulz and Williamson, 'Culture'; Hilary and Hui, 'Does religion matter'; Kumar et al., 'Religious beliefs'; Renneboog and Spaenjers, 'Religion'.

importance of religion over the observation horizon.

I

In nineteenth-century Ireland religion was a powerful predictor of social and economic status. Broadly speaking, the minority Protestant population, who were largely affiliated to the Anglican and Presbyterian Churches, enjoyed a societal standing superior to their majority Catholic counterparts, who were mainly relegated to the lower social strata.[17] Indeed, the literacy returns of the 1861 census—the first to report on religious denomination—provide a useful quantification of this dichotomisation for the early post-Famine years. As shown in figure 1, Catholic literacy was just 35 per cent, as compared to in excess of 60 per cent for both Anglicanism and Presbyterianism, with an even greater human capital disparity evident between Catholics and other minor denominations.

This Catholic-Protestant difference is further elaborated in the religious stratification of occupations, where there is an obvious distinction between the Catholic, Anglican, and Presbyterian denominations. As shown in table 1 (which focuses on males), Anglicans, as adherents of the Established Church, dominated the highest occupational categories in 1861. Despite making up just 12 per cent of the population, they held at least 50 per cent of positions among landed proprietors, barristers, attorneys, physicians and surgeons, in 'other liberal professions', and the military and naval services, as well as being overrepresented in other advanced professions. By contrast, Catholics were significantly underrepresented in the higher-level occupations, such as in the legal and medical professions, and instead had stronger representation in the farmers/agriculturists and miscellaneous categories. Somewhere between

[17] According to *Census of Ireland, 1861* (P.P. 1863, LXI), p. xxvii, religious representation in 1861 was as follows: Roman Catholics = 77.69 per cent, Established Church (Anglicans) = 11.96 per cent, Presbyterians = 9.02 per cent, Methodists = 0.79 per cent, Independents = 0.08 per cent, Baptists = 0.07 per cent, Society of Friends or Quakers = 0.06 per cent, all other persuasions = 0.25 per cent, Jews = 0.01 per cent, unspecified = 0.07 per cent.

these two, Presbyterians had a more intermediate status with relatively high representation in commerce, manufactures, and mechanical trades, and among physicians and surgeons, but were more weakly represented in categories such as the legal profession and the civil service.

Although increasingly quantified from the mid-nineteenth century, the roots of this enduring religious disparity can be traced to the spread of Protestantism in Ireland via plantation from the sixteenth century, and was consolidated in the Cromwellian Act of Settlement of 1652, which greatly accelerated the transfer of land from Catholic to Protestant hands. By 1703, Catholic land ownership had dropped to 14 per cent as compared to 59 per cent in 1641,[18] and would continue falling into the eighteenth century—reaching just 5 per cent by 1776.[19] Indeed, despite some improvement in the Catholic situation during the Restoration period (1666–90), with an easing of religious persecution albeit without the desired land return, ultimately the diminution of the religious majority was complete with the defeat of James II and the triumph of Protestantism under William of Orange at the close of the century.[20]

Following William's victory Ireland entered into a new era of Penal Laws and Protestant Ascendancy.[21] While such laws had affected Catholics to some extent in earlier times, 1695 marked a new effort to utilize the penal code to secure Catholic subjugation and Protestant ascent. The prohibitions and restrictions applied to areas such as teaching, holding arms, keeping valuable horses, Catholic-Protestant intermarriage, and Catholic religious personnel, and also limited Catholic land and political interests, as well as excluding Catholics from government and professional positions.[22] However, the laws were not wholly enforced, and their impact on Catholic society was by no means uniform: remaining landowners were most

[18] Moody, 'Introduction', p. l.
[19] Foster, *Modern Ireland*, p. 211. Foster's figure comes from the calculations of Arthur Young. Foster (p. 211) suggests concerning the 5 per cent figure, 'this, however, ignores the considerable number who held profitable leases'.
[20] Canny, 'Early Modern Ireland', p. 149.
[21] Foster, *Modern Ireland*, p. 153, writes, 'the foundations of the Ascendancy rested on the penalization of Catholics'.
[22] Joyce, *A concise history*, pp. 226–30.

adversely impacted, while merchants, manufacturers, and tenants were less obviously handicapped.[23] Yet, at the top of the social hierarchy, the Protestant Ascendancy—whose identity was closely associated with Anglicanism—'monopolised law, politics and 'society'',[24] and thereby limited the options for those outside this social elite. Hence, it is perhaps unsurprising that Catholics channelled significant energy towards trade and even achieved notable business success despite the Protestant hold on society.[25]

With the advance of the eighteenth century, the Catholic situation gradually improved. Catholic Relief Acts granted Catholics rights to longer leases (1778), to purchase land (1782), and to enter the professions (1792 and 1793). However, it was several decades until the final handicaps to Catholics were overturned in the Catholic Emancipation Act in 1829, which, among other reliefs, admitted Catholics to Parliament. As well as the reduction in these social and economic constraints, Catholics also benefitted in other areas, such as in education with the establishment of a National System of Education in 1834, which followed Catholic demands for state-funded elementary schooling. Arriving noticeably early, the National System arguably benefitted Catholics more than any of the other main denominations, not only by saving the Catholic Church a considerable amount of money, but also by yielding a sharp fall in Catholic illiteracy in the following decades.[26]

Yet, while the seeds of change may have been sown in this previous century, it was surely the Great Irish Famine (1845–49) which instigated a sharp impetus towards a wider "Catholic embourgeoisement". Foremost, was its disproportionately adverse impact on the Catholic population, both in mortality and emigration terms.[27] While unsurprising, given Catholic

[23] Connolly, 'Penal laws', p. 462.
[24] Foster, *Modern Ireland*, p. 170.
[25] Ibid., p. 210; Cullen, *Life in Ireland*, p. 94; Wall, 'Catholics in economic life', p. 38.
[26] Akenson, *Irish education experiment*, pp. 377–85.
[27] Connolly, *Religion and society*, p. 3. Connolly (p. 3) suggests that between 1834 and 1861 the number of Catholics fell by 30 per cent, while the number of Anglicans and Presbyterians each fell by 19 per cent.

predominance in the lower classes, it is nevertheless suggestive of a radical adjustment of the prevailing class structure, and evidenced by the elimination of large numbers of cottiers, labourers, and paupers in the post-Famine era.[28] As well as possibly having an immediate effect in diminishing Protestant advantage, this may also have had long-run implications with the average Catholic now economically better-off, and having social values and relationships more favourable to economic advancement.[29]

This greater survivorship of a '"respectable" class of Catholics' vis-à-vis Catholics in the lower social order also resulted in a relatively stronger devotional core for the Catholic Church,[30] and coincided with a period of religious revival. This 'devotional revolution' was headed by reforming Cardinal Paul Cullen, and led to a great number of the Irish population becoming practicing Catholics.[31] By the turn of the century, universal attendance at mass was commonplace, and indigenous rituals had been displaced by continental-style devotions, as religious practice became an expected attribute of Catholic identity.[32]

Yet, while "devotional demand" may have contributed to a more spiritually-minded people, the Catholic Church too was active in extending its influence through "devotional supply". Perhaps most pronounced were the swelling ranks of talented clerical personnel, who provided much needed pastoral services,[33] and enabled the Church to extend its mandate more broadly in society. Between 1800 and 1900, the number of priests rose from 1,850 to 3,500,

[28] Daly, *Social and economic history*, pp. 31–2; Ó Gráda, *Ireland*, p. 251; Larkin, 'Devotional revolution', p. 639.

[29] Nonetheless, while this may have implications for the Catholicism-development relationship, geographical influences may complement any perceived religious effect due to denominational heterogeneity across counties. For example, western counties were greatly affected by the Famine, but likewise this is where there was a particularly high Catholic concentration.

[30] Larkin, 'Devotional revolution', p. 639. Larkin (p. 639) suggests that they 'generally survived the famine intact, while the "bulk" of the cottiers, labourers, and paupers were swept away by starvation, disease, and emigration'.

[31] Ibid., p. 625. The 'devotional revolution' term appears to have been popularized by Larkin.

[32] Fahey, 'Catholicism and industrial society', p. 253.

[33] Drumm, 'Neither Pagan nor Protestant?', p. 22. This was not only in Ireland, 'education and health care provision became key pastoral goals in Irish Catholic communities throughout the world' (Drumm, p. 22). 'Whether in Belmullet or Brooklyn, Cricklewood or Cape Town, Limerick or Lagos, Irish priests, brothers and sisters pursued the same pastoral strategies from the 1850s until the 1960s' (Drumm, p. 22).

while between 1851 and 1911 the number of nuns rose from 1,500 to almost 9,000,[34] even as the population fell.[35] This was also coupled with growing Catholic real estate, including churches, chapels, and schools, all over the island.[36] Together with the provision of new devotions,[37] these factors highlight a Church enhancing its societal image, and, in doing so, generating economic credence to its supply of religious services.

The exact reasons for the post-Famine surge in Catholic religious practice has been the subject of scholarly debate: Larkin points to an identity crisis with the erosion of traditional Irish culture; Miller to the demise of peasant religion with the Great Famine and the acceptance of official Catholicism; and Hynes to the triumph of the farming class for whom the devotional system complemented their economic aspirations.[38] Yet, although differing on the exact mechanics and timing, a general consensus emerges among these scholars on the significance of this new religious fervour in the modernisation and economic rationalisation of society (see also Larkin's later writing)[39]: the Famine served to (at least) accelerate the triumph of the bourgeois (strong) farming class, and their version of Catholicism which complemented the changing social norms in rural society.

As well as the more homogenous and developmentally-orientated population yielded by the Famine, and the ability of a strengthened Catholic Church to provide an institutional framework for regulating the family, the transformation of Catholic society was also aided by improving educational attainment under the National System of Education, and the rise of

[34] Fahey, 'Catholicism and industrial society', pp. 249–50.

[35] The population fell from 8,175,124 persons in 1841, to 6,552,385 persons in 1851, and continued falling until several decades into the twentieth century; the population stood at 4,228,553 persons in 1926 (Vaughan and Fitzpatrick, *Irish historical statistics*, p. 3). According to calculations using *Census of Ireland, 1871* (P.P. 1876, LXXXI), p. 85, and *Census of Ireland, 1901* (P.P. 1902, CXXIX), pp. 50, 107, in 1861 and 1901 the number of persons per clergy of the main denominations was as follows: Roman Catholic: 1,495 and 892, Anglican: 306 and 359, and Presbyterian: 773 and 647.

[36] Larkin, 'Economic growth', p. 864.

[37] Fahey, 'Catholicism and industrial society', p. 253.

[38] Larkin, 'Devotional revolution'; Miller, 'Irish Catholicism'; Hynes, 'Great Hunger'. Miller suggests that peasant religion was linked to the harvests, which failed in the Famine period.

[39] Larkin, *Historical dimensions*, pp. 5–10.

popular nationalism. Schools, which became increasingly denominational in character, provided a medium for promoting social teaching beyond the walls of the Church, and were also an instrument for the diffusion of human capital. Indirectly, they may also have been important for the rise of political consciousness, by yielding a more literate population better able to engage with political debate.[40] Indeed, Garvin suggests that the nationalist revolutionaries who were involved in movements towards a "new", independent Ireland, were of 'the 'over-educated, under-regarded' element which élite theorists warned about'.[41] Moreover, while they shared some of the traditional values expressed by priests, ultimately they were more developmentally orientated,[42] and this was perhaps echoed in the Ireland which emerged, with Daly commenting:

> The fledgling Irish state therefore inherited a confused baggage of ideals: a desire to protect rural society and its values and to stabilize the rural population; a vision of industrial development minus the evils of capitalism, materialism, and urbanisation; a desire to redress previous disadvantages suffered by Irish businesses; an expectation of material progress without state welfare provisions; the restoration of the Irish language and culture; and, though not explicit until the 1920s, the enshrining of Catholic social teaching.[43]

In summary, then, with the decline of Protestant elitism and the socioeconomic position of Catholics disproportionately improved by the Famine, Catholic society at large stood more favourably positioned for advancement. Led by a powerful stakeholder alliance that included the Catholic Church, nationalism, and a strong farmer class, and aided by a common bond between priest and people, Catholic society transformed into a more advanced and arguably more "anglicised" entity. Indeed, the cultural distinctions which differentiated Catholics and

[40] Cullen, *Emergence*, p. 238.
[41] Garvin, *Nationalist revolutionaries*, p. 42.
[42] Ibid., pp. 74–5.
[43] Daly, *Industrial development*, p. 11.

Protestants were, at least in economic terms, becoming more blurred as the religious majority converged with the religious minority.

II

At a superficial level, it would be easy to offer Irish Catholicism as a case in support of Weber's "Protestant-ethic" thesis, citing the industrial might of Ulster, the superior educational attainment of Protestants, and greater Protestant representation in more advanced occupational pathways. Yet, to do so ignores underlying factors such as discrimination and geography, and thus fails in proving Catholicism was a specific *cause* of behaviour inimical to development. As Akenson advocates, such attribution to Catholic culture 'is a confusion of association and causation'.[44] This tenuous link has also been downplayed by previous authors who suggest that in the Irish case the Weber thesis remains unproven (at best).[45] Even Plunkett, while laying part of the blame with the Catholic Church, acknowledges a variety of historical factors such as educational deprivation, property restrictions, and social and political exclusion as attributing to Catholic economic backwardness—elements underscored by O'Riordan in his comprehensive reply.[46]

To address these causality concerns, a quantitative methodology is employed to investigate the association between Catholicism and various development indicators over time. While individual-level data would provide an ideal means of addressing the religion question, the unavailability of household census returns before 1901 greatly limits the extent to which such a strategy can be pursued in the context of this study. Recognising this constraint, various sources are utilized to consider the religion-development nexus in the post-Famine decades

[44] Akenson, *Small differences*, p. 23.
[45] Daly, *Social and economic history*, p. 85; Lee, *Modernisation*, pp. 16–17; Ó Gráda, *Ireland*, pp. 328–30.
[46] Plunkett, *Ireland*, pp. 104–5; O'Riordan, *Catholicity and progress*. That is O'Riordan's reply to Plunkett, *Ireland*.

along three particular lines: education, occupations, and commerce. Before describing the data and empirical strategy, some hypotheses are first outlined in light of existing scholarship.

Firstly, it is expected that Catholicism is positively associated with educational outcomes.[47] To clarify, that is not to say Catholics were ahead in this regard, but rather where there was religious disadvantage it was redressed over time. This is because with the rise of the National System of Education, and its increasing division along denominational lines, schooling for Catholics became both an available and acceptable pursuit. Indeed, as shown in figure 2, the post-Famine decades were marked by a sharp decline in illiteracy among Catholics (and also among the wider population), with Catholic illiteracy falling from 45.8 per cent to 16.4 per cent between 1861 and 1901. Moreover, Catholic attendance at schools as a percentage of the Catholic population similarly shows improvement between 1881 and 1911, rising from 13.15 per cent to 15.17 per cent for primary schools, and from 0.30 per cent to 0.98 per cent for superior establishments.[48]

Beyond these statistics, scholarship which attempts to distinguish the effect of religion from other possible determinants of education is limited. Ó Gráda's study on the pre-Famine period is perhaps the best available analysis.[49] Focusing on 1841, Ó Gráda reveals that Catholicism has a strong negative association with literacy, with Irish speakers and poor housing similarly having a negative relationship. Of course, whether the Catholic effect truly represents a strictly religious causal channel or instead captures other socioeconomic variation is difficult to fully discern. Nonetheless, however caused, there is a residual Catholic effect which is not entirely mitigated by a broad set of control variables. Hence, it is expected that

[47] That is lower illiteracy and higher attendance.

[48] *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), p. 60. 1881 and 1911: Anglicans: Primary = 12.69 and 14.04, Superior = 1.23 and 1.07; Presbyterians: Primary = 13.73 and 16.49, Superior = 0.65 and 0.81 (source as for Roman Catholics). According to *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), p. lii, 'schools in which a foreign language is taught have been classed as "Superior" upon the assumed likelihood that the presence of a foreign language in the school course argues a higher standard of general instruction than is to be found where such an element is wanting'.

[49] Ó Gráda, 'School attendance'.

Catholicism, even when controlling for other factors, is negatively associated with educational measures, although decreasingly so through time.

There is also perhaps a discrimination element to consider in the relationship between religion and education. It is possible that the returns to education and schooling were less for Catholics due to the discrimination they faced, particularly in employment. As such, the demand for education among Catholics may have been lower than the demand among Protestants. Indeed, the potential for such differences to arise is evidenced in recent literature such as O'Higgins, and Keswell, which highlight that returns to education may vary according to social grouping.[50] Yet with discrimination against Catholics reduced with the passage of the nineteenth century, their incentives to acquire education were likely increased—implying a more positive association between Catholicism and education over time.

Secondly, it is expected that Catholicism is increasingly associated with advanced-occupation representation, particularly the professional class. Again, that is not to say that Catholics were necessarily ahead in this regard, but rather where there was religious disadvantage it was redressed over time. This is because while Catholics had historically suffered from land redistribution to Protestants and faced barriers to employment in areas such as banking and the civil service, with Catholic Emancipation and the fall of Anglican elitism, the obstacles to Catholic ascent were slowly eroded. Furthermore, with advancements in education, Catholics also possessed the required academic ability for social advancement. Hence, it is perhaps unsurprising that existing evidence points to growing Catholic representation in areas such as medicine and law in the post-Famine era.[51] Indeed, Lee even postulates the presence of a professional ethic in Irish society, where the professions were

[50] O'Higgins, '"It's not that I'm a racist"'; Keswell, 'Education'.
[51] Lee, *Modernisation*, p. 17.

prized over trade as they offered status and financial reward.[52] Hence for Catholics this raises the interesting proposition of whether such occupational selection was more acute, given their burgeoning human capital, but restricted opportunities in the primary and secondary economic sectors.

Finally, for commerce it is expected that Catholic engagement rises over time. However, given the importance of existing networks in determining access in these areas, the change may be less pronounced than that for education or occupations. With regards to business more specifically, recent scholarly work by Campbell provides an excellent insight into the relatively static religious composition of the highest tiers in Irish business for the period of interest in this study.[53] Using information on the largest Irish companies, both incorporated and private, Campbell investigates religious representation between 1883 and 1911. His results, which relate to 247 individuals, reveal that Catholics were severely underrepresented in the business elite vis-à-vis their Protestant counterparts—holding just 19 per cent of the positions in the pooled-year sample (1883 and 1911) as compared to their 77 per cent and 74 per cent frequency in the population in 1881 and 1911.[54] By contrast, Protestants dominated the highest business positions, especially when considered in light of their minority status. Anglicans and Quakers were significantly overrepresented relative to their societal frequency, holding 68 per cent and 5.5 per cent of positions, while Presbyterian and Nonconformist representation more closely mirrored their societal presence.[55] Furthermore, the gap between Protestants and Catholics closes very little in the 30 year window, with Catholic representation rising from 17 per cent in 1883 to 19 per cent in 1911.[56] Of course, as Campbell suggests, these figures only reveal the

[52] Ibid., pp. 16–17.
[53] Campbell, *Irish establishment*.
[54] *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), p. xlvi.
[55] Campbell, *Irish establishment*, p. 207. According to *Census of Ireland, 1881* (P.P. 1882, LXXVI), pp. 54–5, and *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), pp. xlvi–xlvii, Anglican and Quaker percentage of the population: 1881 = 12 per cent and 0.07 per cent, 1911 = 13 per cent and 0.06 per cent.
[56] Campbell, *Irish establishment*, p. 209.

status of the highest business echelons, and below this Catholics could be readily found as shopkeepers, publicans, and in medium-sized businesses.[57] Hence, an attempt is made to identify some of these occupations from the available census information in the results section that follows.

On the more general issue of Catholic attitudes to business and entrepreneurship, as Kennedy suggests, it seems unlikely that profit-motivated persons would rationally neglect investment opportunities where they existed despite clerical uneasiness about industrialisation or urbanisation.[58] And even if the Catholic Church absorbed some 'entrepreneurial talent' as Larkin proposes,[59] the loss of entrepreneurship may not have been significant since it represented an alternative career pathway to law or medicine.[60] The important point here, then, is not that Catholics lacked a materialistic and rational outlook, but rather that their energies were channelled towards upward mobility through the professions as opposed to business.[61] Indeed, when provided with greater freedoms with the removal of the penal code, wealthy Catholics had the opportunity to gain new status, and so some of the new generation moved out of manufacturing and trade and into the professions.[62]

Turning to finance, the available evidence also points to the potential importance of religious differences, especially the prominence of Protestantism. Indeed, the banking profession was disproportionately dominated by Protestant personnel in the post-Famine decades. For example, in 1881, 31.7 per cent of male bank staff (bankers and bank service) were Catholic, compared to 50.2 per cent Anglican and 13.4 per cent Presbyterian.[63] Although

[57] Campbell, *Irish establishment*, p. 239.
[58] Kennedy, 'Roman Catholic Church', p. 57. However, Kennedy (p. 57) suggests that perhaps more fundamentally it is difficult to discern how significantly Catholic doctrine and related norms affected entrepreneurship supply.
[59] Larkin, 'Economic growth', p. 875.
[60] Kennedy, 'Roman Catholic Church', p. 53.
[61] Lee, *Modernisation*, pp. 16–17.
[62] Wall, 'Catholics in economic life', p. 47.
[63] Calculated using: *Census of Ireland, 1881* (P.P. 1882, LXXVI), p. 111.

improving thereafter, Protestants still commanded a substantial majority of banking posts by 1911, with Catholic representation (among males) rising to just 35.6 per cent.[64] Religion also permeated the identity of banks, with the institutions often associated with a particular religious-political persuasion such as the Hibernian, and Munster and Leinster, which were Catholic and nationalist.[65] Yet, beyond these staffing and religious-political details, there is a distinct lack of evidence on the propensity of the respective religious denominations to utilize financial services. Some intriguing detail is found in Ó Gráda's work on a Dublin savings bank, which provides some preliminary evidence of a higher Protestant representation among account holders than expected.[66] McGowan also suggests that savings banks focused their activities on non-Catholics.[67] Yet, strong evidence on banking engagement still remains beyond the scope of current studies.[68]

Before moving to the analysis, it is important to acknowledge that factors beyond religion are surely important in development variation. For example, if one looks to education, previous studies have pointed to a variety of potentially relevant demand and supply factors in the nineteenth century such as the availability of employment opportunities,[69] and the prevalence of Sunday schools.[70] Hence, the role of religion in the Irish context should be understood as but one of a pool of different and overlapping factors.

[64] Calculated using: *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), p. 10.
[65] Cullen, 'Germination and growth', p. 48.
[66] Ó Gráda, 'Early history'.
[67] McGowan, *Money and banking*, p. 29.
[68] Notably, Sandberg, 'Banking', links education with the propensity to utilize financial institutions. See also Sandberg, 'The case'.
[69] Fitzpatrick, ''A share of the honeycomb''.
[70] Ó Gráda, 'School attendance'.

III

As stated in the previous section, this paper attempts to analyse the link between Catholicism and post-Famine development along three lines: education, occupations, and commerce. By focusing on these distinct development areas and across time, the aim is to delineate more precisely the religion-development relationship, and also to ascertain whether religious differences diminish over the observation horizon. Generally, a cross-sectional (year-by-year) approach is adopted as it has the advantage of allowing comparison of the relationship between variables at each decennial point, rather than relying on year dummy variables which may fail to convey key changes over time or obfuscate any underlying relationships. A description of the variables and sources is shown in table A1 in the appendix, with summary statistics displayed in table 2. Robust standard errors based on White are used throughout the regressions.[71] There are different levels of aggregation used in the analysis depending on the availability of data, including county level (32 units), poor law union level (159 units), and barony level (332 units). In some of the county-level specifications relating to commerce, Dublin and Antrim are excluded to check the impact on the results. This reflects the commercial centres of Dublin and Belfast in these counties.

To consider the Catholic-education relationship, a number of strategies are implemented. First, baronial-level data are used in a similar manner to Ó Gráda to consider the relationship between Catholicism and illiteracy in 1861.[72] The other variables include: fourth class (bad) housing to control for living standards; poor law valuation per head to control for wealth; Irish speakers to control for the cultural distinction and socioeconomic backwardness of more Irish speaking areas; occupational pursuits to control for differing literacy demand (see table A1);

[71] White, 'Heteroskedasticity-consistent'.
[72] Ó Gráda, 'School attendance'.

and Ulster to control for the literacy supply of Sunday Schools (similar to Ó Gráda).[73] The advantage of this data is the small unit of observation, with 332 baronies available for analysis. However, after 1861 baronial-level data are very limited meaning that only a single-period insight can be yielded.

To address this data problem, a county-level approach is adopted thereafter as it provides arguably the most consistently available unit of analysis for the 1871 to 1911 period. This, however, only provides 32 observations per year, meaning there is a risk of overfitting the model. Recognising this problem, a simple specification is adopted, with a limited number of explanatory factors. Furthermore, the decomposed R-squared can be reported to deduce the relative importance of Catholicism beyond simply coefficient size and significance. As a robustness check, years are pooled (1871 with 1881, and 1891 with 1901) and a dummy variable is included for the earlier year, to provide two further regressions with a greater number of observations. The rationale for the choice of the respective paired years is to provide early and late windows of a similar span, and thus preserve the year-by-year emphasis of the methodology. The main explanatory variables include: Irish-only speakers to control for language impediment, and the cultural niche they represent; first or second class housing to control for living standards; persons over 60 to control for an older demographic, perhaps more averse to modernisation; and urbanisation to control for the effect of differences in urban and rural characteristics. To broaden the education focus, the regressions are repeated for attendance—allowing "engagement" to be considered alongside outcomes.

To further widen the human capital focus, data from the census reports on occupations by religion are also used. This means it is possible to consider how the occupational profile of the various denominations differed over time, without concerns about the ecological fallacy

[73] Ibid.

issue. In particular, attention is directed to the years 1881 and 1911 as they represent the largest span for the post-Famine era over which occupational composition can be reasonably compared. Admittedly, the analysis does not account for possible differences in age structure between religious groups (as this is unavailable), or control for other geography-specific factors. However, as a general indication of the changing composition of occupations in religious terms it does provide a useful insight into how the status of the Catholic population was changing over this four-decade period, and thus helps to address the notion of an "embourgeoisement" in the post-Famine era. Further information on some individual occupations is also provided for the years 1861, 1881, and 1911, to provide additional detail for a wider horizon. Focus is directed throughout to males only. A fuller explanation of the occupational data used is provided in the results section.

Similar to education a number of strategies are adopted to consider the link between Catholicism and commerce. First, data at the poor law union level (meaning 159 units) are used to investigate the association between Catholicism and savings—an approach which is particularly pertinent given the Weberian emphasis on Protestant thrift. The location, amount of savings, and number of savings accounts, is available for each Post Office and Trustee Savings Bank in Ireland. While data are available for several years, focus is directed to the years 1881 and 1912 as they are the years closest to the census years, and also provide a reasonable time horizon. Three alternative dependent variables are used to analyse the Catholic-savings relationship—average account size, number of accounts per 100 persons, and amount of savings per 100 persons. The other variables, which are all from 1891, include rateable value per head to control for wealth; fourth class (bad) housing to control for living standards; population density to control for differences between rural and urban areas; and agricultural and industrial employment to control for possible savings pattern variation among persons in different sectors of employment.

Similar to literacy, a county-level, year-by-year approach is also taken to consider the relationship between Catholicism and the number of joint-stock bank branches over time. Because the dependent variable is the number of branches, a negative binomial model is used. Population size is also included as a control variable. Admittedly, joint-stock banking was organized into distinct branch networks which often catered to a specific religious clientele, for example Hibernian Bank for Catholics/nationalists. Yet given that these branches were distributed all over the island (albeit with some banks more concentrated in particular regions), it is expected that the location of a branch provides a reasonable reflection of financial development.

Similar to the previous approach for bank branches, the number of joint-stock company registrations is utilized to consider business development or entrepreneurship in a given area. Joint-stock companies cover a diverse range of activities and while arguably only capturing one organisational form, nevertheless provide some indication of entrepreneurial supply. Further statistics are also provided on the religious persuasion of various trader occupations over time to understand business endeavour beyond company registrations, and also beyond Campbell's important work on the highest business echelons.[74]

IV

Education

Table 3 takes advantage of the baronial-level data available for 1861 to analyse the relationship between Catholicism and illiteracy for the early post-Famine period. Consistent with Ó Gráda's work on the pre-Famine period,[75] this reveals that on average a higher percentage of Catholics

[74] Campbell, *Irish establishment*.
[75] Ó Gráda, 'School attendance'; although Ó Gráda focuses on literacy as opposed to illiteracy.

in a barony is associated with a higher percentage of illiterates even when controlling for other relevant factors, with Catholicism statistically significant at the 1 per cent level.[76] The other variables generally also have a significant relationship with illiteracy and with the expected coefficient signs: poor housing, Irish, and Ulster are positively related to illiteracy, while value per head and non-agricultural employment pursuits are negatively related.

Table 4 extends this analysis to county-level regressions for the years 1871 to 1911. This shows that on average a higher percentage of Catholics in a county is associated with a higher percentage of illiterates. Yet, the association of Catholicism with illiteracy diminishes through time as evidenced by the falling magnitude and statistical significance of the respective Catholicism coefficients. The control variables are also important, both statistically and economically, in explaining the percentage of illiterates across counties, with Irish-only speakers, persons over 60, and urbanisation all having a positive association, and upper-class housing a negative association. Notably, the percentage of Irish-only speakers has a persistently large positive relationship with the percentage of illiterates, while persons over 60 generally becomes more important with the advancement of time.

The relative importance of the explanatory variables in explaining illiteracy variation is conveyed in the decomposed R-squared percentage values. As expected, the percentage of Irish-only speakers is a particularly important factor in illiteracy variation, complementing the large magnitude of the Irish-only speakers coefficient in the regression results. Housing class is also pertinent in a relative sense, and increasingly so through time, with its relative contribution rising from 26.1 per cent in 1871, to 35.3 per cent by 1901. However, perhaps most striking is the declining relative importance of Catholicism through time, which contrasts with the rising relative importance of an older demographic. In particular, Catholicism

[76] When referring to statistical significance this is at standard levels. Anything noted as statistically significant is so at least at the 10 per cent level.

contributes 17.7 per cent to the R-squared value in 1871, but just 1.6 per cent by 1911, while persons over 60 contributes 3.2 per cent in 1871, rising to 12.7 per cent by 1911. As such, religious differences matter less in illiteracy variation in later decades, suggesting that Catholics have closed the gap with the rest of the population, while at the same time an older demographic becomes relatively more important. These results are corroborated by the pooled-year regressions (also shown in table 4), which reveal a similar pattern to the individual years.

Further county-level regressions are also reported for attendance in table 5. However, when compared with the county-level illiteracy results, the R-squared values are low. Nevertheless, the results, if anything, suggest that Catholicism is negatively associated with lower scholar attendance (under 80 days). As such, there is some limited evidence that more Catholic areas possibly had better attendance among those attending school.[77]

Overall, the results affirm that Catholicism is an important factor in post-Famine illiteracy variation, but decreasingly so through time. This trend resonates with the idea of Catholic social advancement in the post-Famine era, and may be related to the National System of Education, which had particular benefits for Catholics. In statistical significance terms, the 1891 to 1901 decadal period is where the relevance of Catholicism obviously wanes for illiteracy, and the percentage of persons over 60 becomes more important. The increasing statistical relevance of age complements the implementation of the National System of Education in 1831, since most of those under 60 in 1891 would have been students of this new system. Whatever the precise reasons for this convergence, the reduction in Catholic disadvantage in literacy terms was likely important for the wider embourgeoisement of Catholic society given its implications for occupational advancement and political engagement. Furthermore, the results also indicate that attendance may have been higher in more Catholic

[77] Using under 60 days or under 100 days instead for the dependent variable does not significantly change the results.

areas—suggesting Catholics engaged well with education provision.

Occupations

Table 6 utilizes the available occupational information by religion for males from the census reports for the years 1881 and 1911. The calculated values are organized into three groups of columns: 1881, 1911, and change over time. For the individual years, 1881 and 1911, the value reported is the percentage of overrepresentation or underrepresentation of a denomination based on its relative frequency in the population. Hence, Presbyterians may be over 100 per cent overrepresented in a given occupation, while the same could not be true for Catholics. The last column is the difference between the two years, and therefore illustrates if religious representation in a given occupational category has changed over time. The census reports aggregate the occupations into sub-orders, which amalgamate to form orders, and then classes. In the table the horizontal lines delineate the six classes: professional, domestic, commercial, agricultural, industrial, and indefinite and unspecified. Given the interest here in more advanced occupations, the professional sub-orders (with the exception of the defence order), and the commercial sub-orders (with the exception of the conveyance in men, goods, and messages order) are reported individually.

A number of interesting findings emerge. Firstly, Catholics are significantly underrepresented in professional and commercial class occupations, with instead Protestants, and especially Anglicans and Methodists, overrepresented. Although less pronounced, Catholic representation is also lacking in industrial occupations, with Presbyterians and Methodists holding a disproportionately high percentage of these positions. Contrasting with this, Catholics make up a disproportionate number of those in the agricultural class, while Anglicans and Methodists are underrepresented in this area. The columns pertaining to the change over time suggest an occupational transition in favour of Catholics. In the professions, Catholics see

improved representation in government, law, medicine, teaching, and among engineers and surveyors. And while among literary and scientific persons there is a decline in Catholic representation, it is difficult to interpret this result as the classification appears to have changed significantly between the years.[78] Catholic improvement is also apparent in the dealers in money and insurance sub-orders of the commercial class, albeit with a slight decline in the proportion of Catholic merchants and agents. The diminution of Anglican representation in the professional and commercial classes is especially striking.

It is also possible to make a reasonable comparison of some of the more advanced individual professions from 1861 to 1911, with the percentage of the three main denominations for males reported in table 7. This reveals that Catholic representation in these high-level occupations—police, clergy, barristers and solicitors, medical doctors, and teachers—increased noticeably in the post-Famine period. Contrasting with this, Anglican representation in the professions declined, while for Presbyterians the transition is less clear. This suggests an occupational-hierarchy trade-off between Catholics and Anglicans in particular.

Overall, these results are consistent with the notion of a general Catholic upward transition in the post-Famine era. Catholics were increasingly making up the more advanced occupations as Protestant dominance receded. As stated previously, with the advance of education and the demise of the penal laws the opportunities for a Catholic ascension were increased, and so perhaps it unsurprising that such a transition might occur, especially given suggestions about the esteem in which the professions were held. Of course, Catholic representation likely rose more as Catholics increasingly formed their own institutional identity, with "Catholic jobs" to serve the Catholic population. Moreover, as the Catholic professional class expanded, most notably in teaching and the clerical occupations, it perhaps

[78] This seems due to a difference in the inclusion of students, see: *Census of Ireland, 1901* (P.P. 1902, CXXIX), p. 23.

served as an aid for other individuals to ascend the social ladder.

Commerce

Table 8 analyses the relationship between Catholicism and savings at the poor law union level. The table is organized into two sections representing the two observation years for savings information. Three alternative dependent variables are employed in each year as a measure of saving engagement, namely, average account size, number of accounts per 100 persons, and amount of savings per 100 persons. Furthermore, separate regressions are reported when controlling for industrial employment and agricultural employment. Apart from the savings information, the variables relate to 1891. The results reveal that Catholicism is generally less favourably associated with saving behaviour, although a difference in statistical significance terms is only shown in 1912. In 1881, the results are not as strong, perhaps because it was relatively early in the growth of the Post Office Savings Bank system. For 1912 the results suggest that Catholicism is associated with weaker saving behaviour, with significant differences observed for average account size, and the amount of savings per 100 persons. As such, the results suggest that, at least in terms of the amount of savings, Catholics, with the consolidation of the Post Office Savings Bank system by 1912, were possibly less inclined to save as much as their Protestant counterparts.

With respect to banking more generally, table 9 examines the relationship between Catholicism and joint-stock bank branch prevalence using the county-level approach adopted for some of the previous indicators. However, a negative binomial model is now used. Overall, the results point to an improvement in the Catholic position over the horizon, with evidence that religion mattered less with the advancement of time.

Turning to business, Campbell's work has already demonstrated the relatively static

nature of the upper echelons of Irish business in the post-Famine period, with Protestants retaining a strong hold on such positions.[79] But what about business-type pursuits in the lower realms of Irish society? Table 10 shows the religious composition of a selection of trader occupations (using those highlighted by Kennedy in his work on traders in the rural Irish economy).[80] This suggests that Catholics could be readily found among traders in Irish society. Indeed, Catholic representation was to a certain extent consistent with their societal frequency, and in some categories exceeding this—notably for publicans!

With respect to what might be more readily termed entrepreneurship, table 11 adopts the county-level approach already taken for some of the other development measures to investigate the link between Catholic concentration and company registrations using a negative binomial model. This, similar to some of the previous regressions, reveals a negative association between Catholicism and company registrations but with falling statistical significance over time.

Overall, these results suggest that religion was an important factor in variation in commercial outcomes. With respect to finance, the results point to weaker saving behaviour among Catholics, and a diminishing statistical relevance of Catholicism for bank branch prevalence. While the weaker Catholic saving behaviour perhaps appeals to Weberian notions of Protestant thrift, it may also have been the case that savings institutions were more culturally associated with Protestantism, with McGowan suggesting that savings banks focused their activities on non-Catholics.[81] However, it is important to acknowledge that factors beyond cultural affiliation may have affected saving propensity. For example, as McLaughlin points out, there was a confidence issue with savings banks due to the discovery of frauds in the

[79] Campbell, *Irish establishment*.
[80] Kennedy, 'Traders', p. 202.
[81] McGowan, *Money and banking*, p. 29.

1840s.[82] For banking more generally, the initial significant negative association between Catholicism and bank branch prevalence is perhaps unsurprising given the strong presence of Protestants among banking personnel. However, the diminishing relevance of religion for bank branch prevalence is possibly connected to the increasing provision of Catholic-nationalist leaning bank branches. In terms of business, other results suggest that Catholics could be readily found in trader occupations, and thus were not particularly averse to small-business pursuits.[83] Furthermore, the company registration results suggest that the importance of religious composition lessened with time—again pointing to a possible economic improvement in the status of Catholics relative to their Protestant counterparts.

Some caveats are worth noting in the case of financial development. First, bank branches may have been more inclined to open in wealthier areas where Catholic concentration was lower. Hence, religion may have been significant for branching behaviour because of its association with potential revenue flows. Relatedly, branches also likely located in more commercially successful areas, thus being led by the extent of commercial opportunity. As such, religion may have been relevant because of its association with the extent of commercialism as opposed to financial development per se. Nevertheless, the general improvement in the relationship between Catholicism and the commerce indicators used in this paper does suggest an upward development trajectory at least in terms of more Catholic-concentrated *areas*, which in turn likely served to enhance the opportunities for *individual* Catholics to interact with such pursuits.

[82] McLaughlin, ‘‘Profligacy’’. Further useful context on savings banks and the growth of the rival Post Office Savings Bank can be found in McLaughlin, ‘‘Profligacy’’, and Ó Gráda, *Ireland.*
[83] Campbell, *Irish establishment*.

V

What was the effect of religion on Irish post-Famine development? That was the question posed at the outset of this enquiry. Yet, thus far, the discussion has arguably adopted a perspective which does not fully reflect the broad demands of such problematization. To some extent, this may be justified by the difficulty in unravelling the role of religion, particularly when it operated in the hegemonic cultural spheres of post-Famine Ireland. However, before concluding, some effort is made to place the aforementioned narrative of Catholic embourgeoisement in a broader framework of development, which in turn attests to the salience of religion in the Irish development trajectory.

Generally speaking, existing accounts of Irish development have tended to overlook the role of religion, either by omission or by downplaying Weberian-type notions of a local Protestant ethic. To be clear, it is not that such studies intentionally neglect religion, but rather that they focus on an interpretation of development which does not fully reflect the role of the individual and their ability to drive change. However, modern notions of development clearly emphasize the empowerment of the individual beyond an overly economic-outcomes focused approach.[84] Indeed, Amartya Sen's seminal emphasis on individual freedom provides a particularly appealing starting point to conceptualize Irish development, especially in relation to religion.[85]

In the particular case of Irish Catholicism, two obvious sources of constraint on the freedom of individuals arise—the state and the Catholic Church. The state insofar as the prevailing institutional framework was an artefact of historical religious discrimination, and the Church to the extent that it prescribed the boundaries of "acceptable" development. Indeed,

[84] See for example Todaro and Smith, *Economic development*.
[85] Sen, *Development as freedom*.

taken together, these mediating forces provide a much more persuasive explanation for the development trajectory of Irish Catholics than alternative Weberian-type explanations relating to cultural differences in cognition. Here these relationships are briefly explored.

First, consider the role of the Church. With the Famine sweeping the land of the peasantry, and with it their norms and beliefs, the Catholic Church found itself in a society where farmers were now the dominant social class. "Conveniently", then, the Church was able to provide a moralistic framework which complemented the economic rationality of this newly triumphant strata, for example through its emphasis on sexual restraint.[86] Indeed, the rural preoccupation of the Catholic clergy suggests that the Church was moving at least in tandem with the dominant farmer class and perhaps even following their lead. The extent to which the Church followed the desire of its adherents it debatable, but in any case an agrarian-oriented development was of mutual interest. The particular relevance of the Church for development, then, was its ability to provide a unifying Catholic identity which prescribed adherence to "modernising" social norms, and crucially provided the institutional infrastructure required to inculcate and deliver this vision. Indeed, with its growing human resources, the Church was able to assist in delivering more Catholic-type institutions—most notably a Catholic-led education, which fostered civility and even social mobility among its adherents.[87]

The institutional environment of the state also impinged on the development potential of the Roman Catholic population. Yes, Catholic Emancipation had come in the first half of the nineteenth century, but social inequality along religious lines persisted for many decades thereafter. That is not to say that the Catholic position did not improve—it did, and the narrative

[86] Inglis, *Moral monopoly*, suggests that the Catholic Church had an 'institutional monopoly of morality' (p. 93). Inglis also highlights the role of Catholic mothers in ensuring adherence to the rules of the Church and in the modernisation of Irish society (see especially pp. 187–214).

[87] Hoppen, *Ireland*, pp. 163–4, highlights something of a balancing act on the part of the Church between 'anti-materialism' and the 'social and economic realities' of the day. He goes on to state (p. 164), 'Theory, therefore, was constantly tempered by pragmatism'.

of embourgeoisement invoked earlier in this paper points to that trajectory, but it had its limits. For example, Campbell's study points to the persistence of Protestants, and specifically Anglicans, in the highest occupational positions in the post-Famine decades.[88] And, of course, further impediments continued to exist even on the lower professional rungs, such as in banking.[89] Indeed, while Emancipation may have aided the particular course of embourgeoisement, and resulted in a new Catholic middle class of well-educated and socially mobile individuals, ultimately the freedom to advance one's social status was constrained by the persistence of religiously-aligned social ceilings. Hence, it plausible that a new political antidote—as exemplified in a "new" nationalist energy—was viewed as necessary to displace the entrenched elite and thus shift the existing paradigm of development.

Irish nationalism and Roman Catholicism shared a strong and mutually beneficial relationship. For the Church, their association meant the prevailing of a political ideology sympathetic to traditional social practices, while for nationalism attachment to the Church yielded support from Catholic adherents. In other words, the Church was a powerful legitimising agent for Irish nationalism, but that support demanded reciprocity through the preservation of Catholic teaching in the nationalist vision of development.[90] Nevertheless, the nationalist-Catholic alliance did create a tension, whereby nationalism was able to create a greater tolerance for individual progression than might have been the case under a strict Catholic ideology.

A final consideration which resonates with Sen's emphasis on individual freedom as an indication of development is the particular Irish transition towards independence. Indeed, arguably, the pursuit of national independence was the culmination of a distinctly Catholic

[88] Campbell, *Irish establishment*.
[89] An interesting perspective on the relevance of religion in banking can be found in MacDonagh, 'The Victorian bank'.
[90] Inspiration for the notion of a legitimising role for religion comes from Rubin, *Rulers*. In the Irish case, the legitimising capacity of the Church for nationalism is reflected in Larkin, 'Church'.

demand for true emancipation and the freedom to acquire status. A more educated and politically-sensitive population created traction for nationalism, while historical grievances coalesced with economic shocks to provide motivation for change. Moreover, whether significant economic improvement could have disrupted nationalist momentum is debatable, especially given that Roman Catholics made up a significant majority of the population.[91] Indeed, some clues to the significance of this numerical advantage are perhaps revealed through comparison with the Netherlands, where an ideologically divided society co-existed in relative harmony and organized into ideologically-orientated pillars with their own schools, political parties, newspapers, and trade unions.[92] Yet, unlike Ireland, the Netherlands had no majority religious denomination. Hence, in the Irish case, while the majority may have been denied equality at least partially because of fear from the minority, ultimately religion provided a group-identity catalyst for pursuit of a development which focused on individual freedom, opportunity, and even autonomy.[93]

VI

This paper has revisited a debate initiated by Horace Plunkett at the turn of the twentieth century, namely, what is the relationship between Catholicism and economic development in Ireland? Plunkett, similar to his contemporary Max Weber, attributed variation in economic outcomes to religious differences—with Catholicism conveyed as inferior to Protestantism in this respect. In particular, Plunkett suggested that some of the tendencies of Catholicism were

[91] Kennedy, 'Nationalism', considers the relevance of economic factors in the political trajectory of Ireland prior to independence, and raises the possibility that the political direction of travel in the latter part of the century was conditioned by circumstances from decades earlier.
[92] See Wintle, *An economic and social history*, for further perspective on Dutch pillarization.
[93] See Girvin, *From union to union*, pp. 1–28, for useful discussion on the polarisation of Irish identity along religious-political lines.

inimical to economic advancement, and went further, postulating 'a defect in the industrial character of Roman Catholics'.[94]

With the aid of data and the benefit of hindsight, this paper provides an alternative narrative to the role of religion in Irish historical development. Overall, Catholicism emerges in a positive light—yes lagging initially in development terms (or starting from a lower base), but generally closing the gap with Protestantism over time. Indeed, in all development areas investigated—education, occupations, and commerce—there has been evidence of the diminishing importance of religion, suggesting Catholics converged socioeconomically with their Protestant counterparts in the post-Famine decades.

This favourable trajectory shown by Catholicism complements historical evidence on a "Catholic embourgeoisement" in the post-Famine era and the increasing "anglicisation" of society at large. At its root, lies the gradual erosion of differences which distinguished Catholics and Protestants in economic terms: (i) *legal differences* with the removal of the penal laws and Catholic Emancipation, (ii) *human capital differences* with the arrival of the National System of Education and rising literacy, and (iii) *cultural differences* with the decline of the Irish language and peasant religion. Of course, also closely linked to this improving Catholic situation is the sudden demographic adjustment yielded by the Famine, which led to an abrupt improvement in the economic position of the average Catholic. Moreover, Catholic convergence must also be viewed in some way as the product of a lower starting base which yielded greater development "potential" vis-à-vis Protestants. Indeed, Catholics were arguably the chief beneficiaries of the redistribution of resources from the demographic shock of the Famine and through further demographic impacts via subsequent death and emigration.

Overall, and in line with Akenson's expectations about future research on this topic, the

[94] Plunkett, *Ireland*, pp. 101–2.

findings in this paper go some way to address the erroneous assertion that Catholicism was inhibitive to development.[95] Yes, initially there were signs that Catholicism was negatively associated with development outcomes, but these differences tended to diminish over the period of analysis. Further questions remain for future research. For example, how much did the development trajectory of those surviving the Famine depend on a redistribution of resources? And with the improving position of Catholics economically, socially, and politically, to what extent did their ascension reach? By answering such questions future scholarship can further elaborate on the specific role of religion in Irish economic history, and also contribute to the wider debate on the role of cultural factors in economic progress.

[95] Akenson, *Small differences*, p. 149. Akenson (p. 149) writes, 'In the field of Irish history, one of the main errors that will disappear through a more considered appraisal of the available evidence is the belief that there was a causal connection between Roman Catholicism and technological inflexibility and economic backwardness'.

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Table 1. *Males by religion and occupation, 1861*

Occupations		*RC*	*ANG*	*PRES*
Landed proprietors	(in denom pop)	1 in 932	1 in 116	1 in 714
	(% of occup)	40.9	50.6	6.2
Farmers and agriculturists	(in denom pop)	1 in 3	1 in 5	1 in 3
	(% of occup)	82.1	8.2	8.9
Commerce, manuf., & mech. trades	(in denom pop)	1 in 7	1 in 5	1 in 5
	(% of occup)	69.2	15.4	12.5
Clerical	(in denom pop)	1 in 732	1 in 150	1 in 376
	(% of occup)	48.0	36.1	10.8
Barristers	(in denom pop)	1 in 10,209	1 in 681	1 in 8,217
	(% of occup)	28.5	65.7	4.1
Attorneys	(in denom pop)	1 in 3,272	1 in 315	1 in 2,653
	(% of occup)	35.8	57.3	5.1
Physicians and surgeons	(in denom pop)	1 in 2,898	1 in 278	1 in 869
	(% of occup)	32.3	51.7	12.4
Apothecaries	(in denom pop)	1 in 10,500	1 in 1,984	1 in 9,435
	(% of occup)	50.1	40.8	6.4
Other liberal professions	(in denom pop)	1 in 6,159	1 in 597	1 in 3,352
	(% of occup)	33.6	53.3	7.1
Teaching	(in denom pop)	1 in 339	1 in 136	1 in 261
	(% of occup)	63.6	24.4	9.5
Civil service	(in denom pop)	1 in 172	1 in 56	1 in 246
	(% of occup)	63.7	29.9	5.1
Military and naval services	(in denom pop)	1 in 201	1 in 21	1 in 122
	(% of occup)	36.1	53.1	6.9
Miscellaneous	(in denom pop)	1 in 6	1 in 9	1 in 11
	(% of occup)	85.3	9.1	5.2
No specified occupation	(in denom pop)	1 in 3	1 in 3	1 in 3
	(% of occup)	76.7	12.6	9.3
Total population		77.7	12.0	9.0

Notes: RC = Roman Catholics; ANG = Established Church (Anglicans); PRES = Presbyterians; in denom pop = for a given denomination, the ratio of those having a particular occupational title to the denominational population; % of occup = percentage of a particular occupational title associated with a given denomination. Full occupation headings (in source) are: 1. landed proprietors; 2. farmers and agriculturists generally; 3. persons engaged in commerce, manufactures, and mechanical trades; 4. members of the learned professions: clerical, legal: barristers, attorneys, medical: physicians and surgeons, apothecaries; 5. members of other liberal professions; 6. persons engaged in teaching; 7. persons engaged in the civil service of the country; 8. members of the military and naval services; 9. miscellaneous; 10. persons having no specified occupation. According to page 61 in *Census of Ireland, 1861* (P.P. 1863, LIX) members of other liberal professions includes occupations such as architecture, engineering, literature, and music. 403 seamen and others at sea (religion unspecified) appear to be added into another category (unreported here) called other Protestant Dissenters. Their occupations do not appear to have been reported. The calculations above do not include 393 Jews whose occupations by gender were not included or noted in the report table.

Source: Calculated using: *Census of Ireland, 1861* (P.P. 1863, LIX), p. 62.

Table 2. *Summary statistics*

	Year	*Mean*	*Std. dev.*	*Min*	*Max*
County data					
Catholicism	1871	80.89	19.83	26.71	97.68
	1881	81.04	20.19	25.28	97.92
	1891	80.81	20.44	24.01	98.04
	1901	81.00	20.46	22.99	97.98
	1911	81.31	20.44	22.90	98.15
Illiteracy	1871	29.88	10.71	11.57	55.37
	1881	22.67	8.72	8.76	45.05
	1891	16.94	6.46	6.88	34.49
	1901	12.77	5.07	5.53	26.25
	1911	10.26	4.04	4.28	21.76
Irish-only speakers	1871	1.45	2.92	0.00	12.17
	1881	0.92	2.14	0.00	9.88
	1891	0.60	1.64	0.00	8.28
	1901	0.36	1.00	0.00	4.90
	1911	0.30	0.91	0.00	4.29
1st or 2nd class housing	1871	46.90	13.00	20.00	88.59
	1881	53.21	12.73	22.42	89.32
	1891	60.54	12.09	27.75	90.18
	1901	67.65	11.18	35.44	91.36
	1911	75.41	8.55	54.65	93.33
Persons over 60	1871	11.06	1.11	7.81	12.93
	1881	10.97	1.16	7.63	13.17
	1891	10.94	1.14	7.49	12.63
	1901	11.79	1.42	7.17	13.57
	1911	14.43	2.29	8.54	17.84
Urban (1,500)	1871	17.66	15.52	0.00	81.95
	1881	18.64	16.35	0.00	84.36
	1891	19.56	16.96	0.00	84.53
	1901	21.72	18.49	0.00	86.00
	1911	22.82	18.83	0.00	86.37
Lower scholar attendance	1871	50.11	5.41	39.13	61.04
	1881	41.33	4.62	33.26	50.94
	1891	33.91	4.53	27.43	44.80
	1901	31.80	3.59	25.16	38.87
	1911	26.92	4.12	19.18	35.28
Company registrations	1871	4.00	9.29	0.00	42.00
	1881	8.09	15.14	0.00	67.00
	1891	13.50	34.85	0.00	153.00
Bank branches	1871	9.72	6.50	3.00	32.00
	1881	12.97	8.11	4.00	42.00
	1891	13.19	8.76	4.00	45.00
	1901	14.28	9.98	4.00	46.00
	1911	15.84	11.53	5.00	50.00
Population/10,000	1871	16.91	11.01	5.16	51.71
	1881	16.17	11.19	4.66	49.56
	1891	14.70	10.98	4.09	47.12
	1901	13.93	11.83	3.77	54.53
	1911	13.72	12.45	3.63	58.08

Continued on the next page

Barony data					
Catholicism	1861	82.08	22.34	5.67	99.63
Illiteracy	1861	39.21	13.93	8.66	83.61
4th class housing	1861	10.01	7.00	0.00	43.09
Value/population (1851)	1851	1.98	0.99	0.36	7.49
Irish speakers (1881)	1881	16.42	23.20	0.00	88.98
Manufacturing	1861	14.51	7.53	3.62	53.21
Services	1861	38.97	9.15	17.77	69.54
Poor law union data					
Catholicism	1891	82.61	21.71	6.81	99.56
Value/population	1891	3.11	1.44	0.60	11.59
4th class houses	1891	3.17	2.33	0.15	12.88
Population density	1891	0.27	0.55	0.06	5.99
Agriculture	1891	66.68	14.69	3.67	85.79
Industry	1891	19.52	9.19	6.98	66.74
Average account size	1881	25.13	7.95	8.23	52.39
	1912	29.29	8.92	5.94	50.72
Accounts per 100 persons	1881	1.95	2.09	0.08	9.67
	1912	9.73	6.76	2.52	50.84
Savings per 100 persons	1881	52.49	73.76	0.63	447.78
	1912	253.33	118.58	74.26	849.70

Sources: See table A1 in the appendix.

Table 3. *Catholicism and illiteracy, 1861*

	Controlling for manufacturing			*Controlling for services*		
	(a)	*(b)*	*(c)*	*(a)*	*(b)*	*(c)*
Catholicism	0.207***	0.240***	0.296***	0.219***	0.246***	0.300***
	(0.015)	(0.023)	(0.020)	(0.013)	(0.022)	(0.018)
4th class housing	0.155***	0.154***	0.176***	0.142***	0.143***	0.168***
	(0.053)	(0.053)	(0.052)	(0.050)	(0.051)	(0.050)
Value/population (1851)	-1.964***	-1.938***	-1.542***	-1.483***	-1.478***	-1.292***
	(0.322)	(0.316)	(0.298)	(0.336)	(0.333)	(0.315)
Irish speakers (1881)	0.372***	0.370***	0.379***	0.386***	0.384***	0.386***
	(0.016)	(0.017)	(0.016)	(0.017)	(0.017)	(0.016)
Manufacturing	-0.120**	-0.120**	-0.060			
	(0.053)	(0.053)	(0.054)			
Ulster (narrow)		2.302*			1.875	
		(1.216)			(1.192)	
Ulster (all)			5.549***			5.424***
			(0.982)			(0.928)
Services				-0.107***	-0.103***	-0.058
				(0.039)	(0.039)	(0.039)
Constant	20.156***	17.098***	9.548***	20.552***	17.935***	10.103***
	(1.525)	(2.408)	(2.529)	(1.678)	(2.476)	(2.620)
Observations	332	332	332	332	332	332
R-squared	0.880	0.881	0.888	0.881	0.881	0.889

Notes: OLS model. The variables used are all barony level. See table A1 in the appendix for full variable information. Robust standard errors are in parenthesis. Statistical significance is indicated by asterisking as follows: *** p<0.01, ** p<0.05, * p<0.1.

Sources: See 'barony data sources' in 'sources' footnote of table A1 in the appendix.

Table 4. *Catholicism and illiteracy, 1871–1911*

	1871	*1881*	*1891*	*1901*	*1911*	*1871&1881*	*1891&1901*
Catholicism	0.134***	0.083**	0.054**	0.019	0.008	0.107***	0.037*
	(0.033)	(0.031)	(0.025)	(0.021)	(0.018)	(0.030)	(0.022)
	[17.663]	[12.971]	[8.852]	[3.037]	[1.597]	[12.881]	[4.990]
Irish-only speakers	2.069***	2.259***	1.879***	2.668***	2.229***	2.138***	2.132***
	(0.314)	(0.470)	(0.402)	(0.570)	(0.349)	(0.342)	(0.418)
	[46.673]	[48.230]	[45.050]	[46.552]	[41.900]	[42.821]	[41.415]
1st or 2nd class housing	-0.403***	-0.383***	-0.365***	-0.279***	-0.246***	-0.401***	-0.328***
	(0.083)	(0.112)	(0.079)	(0.060)	(0.078)	(0.085)	(0.061)
	[26.053]	[28.423]	[32.076]	[35.282]	[34.954]	[27.566]	[34.366]
Persons over 60	0.934	0.857	1.973**	1.670**	0.805***	0.940	1.713**
	(0.760)	(0.650)	(0.871)	(0.617)	(0.218)	(0.647)	(0.672)
	[3.157]	[3.068]	[5.895]	[7.218]	[12.745]	[2.849]	[3.308]
Urban (1,500)	0.185***	0.158**	0.205***	0.162***	0.093**	0.178***	0.179***
	(0.064)	(0.066)	(0.072)	(0.055)	(0.037)	(0.056)	(0.057)
	[6.454]	[7.308]	[8.126]	[7.911]	[8.803]	[6.439]	[7.736]
Year 1871						3.654***	
						(0.545)	
						[7.444]	
Year 1891							3.184***
							(0.860)
							[8.184]
Constant	21.374*	21.940**	7.931	5.976	13.766*	19.752**	7.046
	(10.877)	(9.342)	(11.566)	(10.299)	(8.062)	(9.633)	(10.637)
Observations	32	32	32	32	32	64	64
R-squared	0.893	0.872	0.842	0.827	0.806	0.897	0.848

Notes: OLS model. The variables used are all county level. Year 1871 is a dummy variable for the year 1871; year 1891 is a dummy variable for the year 1891. See table A1 in the appendix for full variable information. Robust standard errors are in parenthesis. For the 1871&1881 and 1891&1901 specifications the robust standard errors are clustered on the county. Statistical significance is indicated by asterisking as follows: *** p<0.01, ** p<0.05, * p<0.1. Decomposed r-squared percentages are in square brackets.

Sources: See 'county data sources' in 'sources' footnote of table A1 in the appendix.

Table 5. *Catholicism and lower scholar attendance, 1871–1911*

	1871	*1881*	*1891*	*1901*	*1911*	*1871&1881*	*1891&1901*
Catholicism	-0.092**	-0.055	-0.120***	-0.068*	-0.047	-0.078*	-0.093***
	(0.045)	(0.047)	(0.035)	(0.035)	(0.035)	(0.041)	(0.034)
	[23.502]	[16.671]	[51.831]	[53.120]	[28.128]	[8.236]	[46.220]
Irish-only speakers	0.109	0.814**	0.871**	0.500	0.580	0.352	0.723*
	(0.311)	(0.333)	(0.354)	(0.432)	(0.773)	(0.283)	(0.365)
	[3.430]	[29.978]	[19.149]	[11.788]	[9.027]	[4.566]	[15.593]
1st or 2nd class housing	-0.157	-0.044	-0.110	-0.127	-0.126	-0.119	-0.113
	(0.112)	(0.098)	(0.087)	(0.075)	(0.131)	(0.077)	(0.073)
	[26.815]	[12.566]	[5.747]	[16.377]	[10.240]	[14.603]	[7.734]
Persons over 60	-2.049*	-1.804**	0.212	0.621	1.015*	-1.737**	0.588
	(1.068)	(0.823)	(0.688)	(0.825)	(0.496)	(0.731)	(0.643)
	[23.986]	[34.923]	[6.249]	[4.378]	[19.534]	[7.685]	[6.216]
Urban (1,500)	-0.110	-0.043	0.132	0.104	0.165*	-0.058	0.121
	(0.107)	(0.087)	(0.091)	(0.081)	(0.081)	(0.080)	(0.084)
	[22.267]	[5.861]	[17.023]	[14.338]	[33.071]	[4.088]	[12.459]
Year 1871						7.919***	
						(0.734)	
						[60.823]	
Year 1891							1.884**
							(0.805)
							[11.777]
Constant	89.391***	67.979***	44.842***	36.121***	21.681*	73.803***	37.154***
	(11.945)	(7.390)	(7.865)	(12.175)	(12.708)	(7.637)	(9.131)
Observations	32	32	32	32	32	64	64
R-squared	0.363	0.334	0.475	0.255	0.232	0.608	0.391

Notes: OLS model. The variables used are all county level. Year 1871 is a dummy variable for the year 1871; year 1891 is a dummy variable for the year 1891. See table A1 in the appendix for full variable information. Robust standard errors are in parenthesis. For the 1871&1881 and 1891&1901 specifications the robust standard errors are clustered on the county. Statistical significance is indicated by asterisking as follows: *** p<0.01, ** p<0.05, * p<0.1. Decomposed r-squared percentages are in square brackets.

Sources: See 'county data sources' in 'sources' footnote of table A1 in the appendix.

Table 6. *Religious representation of males by occupational category, 1881 and 1911*

	1881 Over/underrepresentation					*1911 Over/underrepresentation*					*Δ1881–1911*			
	Total	*RC*	*ANG*	*PRES*	*METH*	*Total*	*RC*	*ANG*	*PRES*	*METH*	*RC*	*ANG*	*PRES*	*METH*
National government	7,022	-20.2	132.7	-26.9	88.7	16,058	-4.3	43.9	-34.0	12.4	15.9	-88.9	-7.1	-76.3
Local government	20,020	-9.9	107.4	-52.1	-23.6	15,900	-0.9	43.3	-38.4	-22.2	9.1	-64.1	13.7	1.5
East India and colonial service	22	-34.8	304.6	-100.0	-100.0	22	-69.4	389.0	-53.5	234.7	-34.7	84.4	46.5	334.7
Defence of the country	39,873	-53.4	350.4	-41.4	184.0	33,717	-60.4	356.1	-32.2	144.4	-6.9	5.6	9.1	-39.6
Clerical profession	8,630	-23.5	113.5	12.3	265.4	9,840	-11.9	54.6	-12.3	121.5	11.5	-59.0	-24.6	-143.9
Legal profession	4,897	-31.9	204.7	-21.0	23.3	4,788	-30.7	141.7	26.4	49.2	1.3	-62.9	47.4	25.9
Medical profession	4,534	-47.0	214.6	68.6	137.9	4,608	-35.0	106.8	81.7	98.2	12.1	-107.8	13.1	-39.7
Teachers	8,486	-9.8	42.2	23.4	23.1	8,136	-5.6	16.8	20.1	3.2	4.3	-25.4	-3.3	-19.9
Literary and scientific persons	38,861	0.8	14.6	-19.9	-18.0	5,226	-6.1	38.7	-14.5	21.2	-6.9	24.0	5.3	39.2
Engineers and surveyors	1,430	-46.5	256.2	4.1	118.4	1,692	-45.1	190.2	46.8	52.3	1.4	-66.0	42.7	-66.1
Artists	2,518	-20.9	130.8	-22.4	71.1	2,847	-33.4	151.6	-2.0	65.5	-12.6	20.7	20.4	-5.5
Exhibitions, shows, games, &c.	196	-0.2	69.3	-77.3	-100.0	769	-13.6	93.9	-30.9	14.9	-13.4	24.6	46.5	114.9
Domestic	34,068	-0.6	44.5	-40.3	-69.7	25,831	-2.7	53.0	-37.0	-45.8	-2.1	8.5	3.4	23.8
Merchants and agents	19,598	-33.8	113.0	82.7	269.7	33,508	-35.2	92.2	87.5	212.5	-1.4	-20.7	4.8	-57.2
Dealers in money	2,369	-58.3	303.2	47.3	122.9	3,075	-52.5	218.9	68.2	110.7	5.8	-84.3	20.9	-12.2
Insurance	460	-57.0	186.2	144.8	417.0	2,687	-37.8	91.6	82.6	291.9	19.2	-94.6	-62.2	-125.1
Conveyance*	48,324	-5.9	17.2	6.4	45.5	62,126	-5.4	16.4	9.7	14.2	0.5	-0.7	3.3	-31.3
Agricultural	902,010	8.0	-36.0	-6.6	-41.1	721,669	12.6	-43.5	-21.0	-55.8	4.6	-7.5	-14.3	-14.7
Industrial	428,578	-4.1	5.0	27.2	20.5	434,699	-7.8	12.1	32.6	43.8	-3.8	7.1	5.4	23.3
Indefinite and non-productive	961,381	-1.1	3.5	-3.3	12.9	804,850	-1.3	4.3	-0.4	7.8	-0.1	0.9	2.9	-5.1

Notes: RC = Roman Catholics; ANG = Anglicans; PRES = Presbyterians; METH = Methodists. *Conveyance of men, goods, and messages. The census divides occupations into suborders, orders, and classes. Suborders make up orders, and orders make up classes. The horizontal lines above divide the occupations into their respective classes. For the first class—professional—the individual headings are suborders, except for defence of the country which is an order consisting of army (at home) and navy (ashore or in port) suborders. For the third class—commercial—the individual headings are suborders, except for conveyance of men, goods, and messages which is an order consisting of five suborders. See also further description in the text.

Sources: Calculated using: *Census of Ireland, 1881* (P.P. 1882, LXXVI), pp. 108–17; *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), pp. 7–15.

Table 7. *Religious representation of males in various professions, 1861, 1881, and 1911*

	1861			*1881*			*1911*		
	RC	*ANG*	*PRES*	*RC*	*ANG*	*PRES*	*RC*	*ANG*	*PRES*
Police	68.1	26.8	4.7	72.9	22.5	3.9	78.0	16.3	4.6
Clergy	48.0	36.1	10.8	53.8	29.2	11.2	59.6	23.9	10.1
Barrister, Solicitor	34.1	59.2	4.9	39.5	51.4	5.2	44.5	37.6	12.7
Physician, Surgeon, GP	32.3	51.7	12.4	39.3	42.8	12.7	48.7	29.2	17.1
Teaching	64.0	24.2	9.4	69.1	17.6	11.1	70.3	15.1	11.7

Notes: RC = Roman Catholics; ANG = Anglicans; PRES = Presbyterians.

Sources: Calculated using: *Census of Ireland, 1861* (P.P. 1882, LXXVI), pp. 508–10; *Census of Ireland, 1881* (P.P. 1882, LXXVI), p. 110; *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), p. 9. Reporting headings are different in 1861 from 1881 and 1911.

Table 8. *Catholicism and savings, 1881 and 1912*

	Average account size		*Accounts per 100 persons*		*Savings per 100 persons*	
	(a)	*(b)*	*(a)*	*(b)*	*(a)*	*(b)*
1881						
Catholicism	0.012	-0.009	-0.016	-0.013	-0.699	-0.611
	(0.037)	(0.040)	(0.011)	(0.012)	(0.484)	(0.509)
Value/population	0.307	0.358	-0.015	0.086	-1.018	1.168
	(0.923)	(0.913)	(0.065)	(0.102)	(2.872)	(3.453)
4th class houses	-0.371	-0.341	-0.123***	-0.134***	-3.990***	-4.235***
	(0.325)	(0.322)	(0.039)	(0.046)	(1.364)	(1.459)
Population density	1.090	1.397	-0.228	0.196	-14.196	-5.066
	(1.048)	(1.056)	(0.354)	(0.539)	(9.144)	(12.501)
Agriculture	0.159**		-0.090***		-2.062***	
	(0.080)		(0.014)		(0.631)	
Industry		-0.293**		0.098***		2.312*
		(0.125)		(0.033)		(1.266)
Constant	13.452*	31.181***	9.792***	1.222	267.334***	68.962
	(7.591)	(4.035)	(1.482)	(1.123)	(63.446)	(49.699)
Observations	159	159	159	159	159	159
R-squared	0.065	0.072	0.508	0.376	0.258	0.204
1912						
Catholicism	-0.106***	-0.139***	-0.0003	0.010	-1.826***	-1.644**
	(0.021)	(0.024)	(0.017)	(0.021)	(0.619)	(0.637)
Value/population	-2.315***	-2.468***	-0.133	0.322	-17.447***	-14.037***
	(0.365)	(0.414)	(0.121)	(0.320)	(3.680)	(4.174)
4th class houses	0.157	0.216	-0.206*	-0.245	-5.259**	-5.711**
	(0.234)	(0.261)	(0.117)	(0.152)	(2.374)	(2.437)
Population density	2.041***	1.513**	1.114	3.050**	20.914*	34.969**
	(0.721)	(0.641)	(0.930)	(1.358)	(11.329)	(15.221)
Agriculture	0.387***		-0.355***		-3.625***	
	(0.047)		(0.050)		(0.722)	
Industry		-0.568***		0.356***		4.289***
		(0.069)		(0.073)		(1.612)
Constant	18.410***	58.471***	34.165***	0.936	711.196***	357.797***
	(3.905)	(2.339)	(4.222)	(1.823)	(82.924)	(58.865)
Observations	159	159	159	159	159	159
R-squared	0.607	0.545	0.698	0.482	0.526	0.467

Notes: OLS model. Savings information is for 1881 and 1912, while the remaining data relate to 1891. The variables used are all poor law union level. See table A1 in the appendix for full variable information. Robust standard errors are in parenthesis. Statistical significance is indicated by asterisking as follows: *** p<0.01, ** p<0.05, * p<0.1.

Sources: See 'poor law union data sources' in 'sources' footnote of table A1 in the appendix.

Table 9. *Catholicism and bank branches, 1871–1911*

	1871	*1881*	*1891*	*1901*	*1911*	*1871&1881a*	*1891&1901a*	*1871&1881b*	*1891&1901b*
Catholicism	-0.008***	-0.008***	-0.002	0.001	0.001	-0.008***	-0.0004	-0.009***	-0.005***
	(0.002)	(0.001)	(0.002)	(0.003)	(0.004)	(0.001)	(0.002)	(0.002)	(0.002)
Irish-only speakers	-0.039*	-0.069***	-0.053**	-0.036	-0.003	-0.052***	-0.041*	-0.041**	-0.014
	(0.020)	(0.018)	(0.022)	(0.033)	(0.034)	(0.017)	(0.022)	(0.018)	(0.020)
1st or 2nd class housing	-0.016**	-0.026***	-0.012*	-0.005	-0.002	-0.020***	-0.008	-0.019***	-0.009*
	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)	(0.005)	(0.007)	(0.005)	(0.005)
Persons over 60	0.235***	0.277***	0.230***	0.171*	-0.009	0.242***	0.179***	0.183***	0.047
	(0.035)	(0.060)	(0.069)	(0.099)	(0.041)	(0.045)	(0.062)	(0.054)	(0.043)
Urban (1,500)	0.016***	0.016***	0.009	0.008	-0.001	0.014***	0.007	0.018***	0.013***
	(0.005)	(0.005)	(0.005)	(0.007)	(0.006)	(0.004)	(0.006)	(0.005)	(0.004)
Population/10,000	0.044***	0.048***	0.051***	0.047***	0.039***	0.046***	0.048***	0.045***	0.049***
	(0.003)	(0.002)	(0.004)	(0.007)	(0.007)	(0.003)	(0.005)	(0.003)	(0.003)
Year 1871						-0.422***		-0.451***	
						(0.047)		(0.041)	
Year 1891							0.008		-0.110**
							(0.063)		(0.052)
lnalpha	-17.618***	-85.822	-17.862***	-5.899	-3.540***	-17.635***	-17.244***	-17.716***	-18.599***
	(0.417)	–†	(1.364)	(5.673)	(0.461)	(0.712)	(0.737)	(0.633)	(0.218)
Constant	-0.030	0.445	-0.037	-0.005	2.366***	0.499	0.168	1.174**	2.090***
	(0.426)	(0.608)	(0.783)	(1.508)	(0.883)	(0.503)	(0.810)	(0.577)	(0.581)
Observations	32	32	32	32	32	64	64	60	60

Notes: Negative binomial model. In the pooled-year regressions 'a' denotes where all counties are included, and 'b' denotes where Antrim and Dublin are excluded. The variables used are all county level. Year 1871 is a dummy variable for the year 1871; year 1891 is a dummy variable for the year 1891. See table A1 in the appendix for full variable information. Robust standard errors are in parenthesis. For the 1871&1881 and 1891&1901 specifications the robust standard errors are clustered on the county. Statistical significance is indicated by asterisking as follows: *** p<0.01, ** p<0.05, * p<0.1. †The statistical programme used for the econometric analysis did not report a standard error in this case, however the remaining figures have been reported here as they seem broadly consistent with the other results.

Sources: See 'county data sources' in 'sources' footnote of table A1 in the appendix.

Table 10. *Religious composition of various trader occupations for males, 1881–1911*

Occupation	*Year*	*Total*	*RC*	*ANG*	*PRES*	*METH*	*OTH*
Publicans etc.	1881	5,351	81.4	8.7	9.0	0.4	0.5
	1891	6,234	85.0	7.5	6.4	0.4	0.7
	1901	6,463	87.7	6.5	4.7	0.4	0.8
	1911	6,209	88.6	6.0	4.6	0.3	0.5
Grocers etc.	1881	11,776	65.1	11.4	18.8	2.7	2.1
	1891	13,026	61.6	12.7	19.6	3.4	2.7
	1901	13,614	61.8	12.3	19.7	3.6	2.5
	1911	12,754	62.7	12.6	18.6	3.5	2.6
General shopkeepers etc.	1881	12,678	83.2	9.0	6.0	1.1	0.7
	1891	12,356	81.4	9.5	6.0	2.0	1.1
	1901	12,691	82.5	8.8	5.9	1.7	1.1
	1911	11,817	82.1	9.2	5.8	1.3	1.7
Street sellers etc.	1881	1,031	84.2	8.5	5.2	0.4	1.6
	1891	1,410	66.3	8.7	5.4	0.7	18.9
	1901	1,545	64.6	8.0	5.6	1.0	20.8
	1911	1,312	76.2	9.2	5.4	1.0	8.2

Notes: RC = Roman Catholics; ANG = Anglicans; PRES = Presbyterians; METH = Methodists; OTH = Others. The full occupational titles are: (1) inn keeper, hotel keeper, publican; (2) grocer; tea, coffee, chocolate—maker, dealer; (3) general shopkeeper, dealer; (4) costermonger, huckster, street seller. In 1881 both grocers etc. and general shopkeepers etc. had 2 persons tabulated in an extra 'information refused' religious profession category. These are included in the 'Total' and 'OTH' figures.

Sources: Calculated using: *Census of Ireland, 1881* (P.P. 1882, LXXVI), pp. 114, 117; *Census of Ireland, 1891* (P.P. 1892, XC.1), pp. 118, 121; *Census of Ireland, 1901* (P.P. 1902, CXXIX), pp. 121, 124; *Census of Ireland, 1911* (P.P. 1912–13, CXVIII), pp. 12, 15.

Table 11. *Catholicism and company registrations, 1871–91*

	1871	*1881*	*1891*	*1871&1881a*	*1881&1891a*	*1871&1881b*	*1881&1891b*
Catholicism	-0.021***	-0.014***	-0.007	-0.014***	-0.009**	-0.014***	-0.011**
	(0.008)	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.005)
Irish-only speakers	-0.109	-0.004	-0.110*	-0.032	-0.042	-0.072**	0.013
	(0.073)	(0.030)	(0.057)	(0.035)	(0.028)	(0.033)	(0.035)
1st or 2nd class housing	-0.005	-0.028*	-0.035*	-0.015	-0.032**	-0.031**	-0.025***
	(0.028)	(0.015)	(0.020)	(0.014)	(0.013)	(0.013)	(0.010)
Persons over 60	0.194	0.204	0.267	0.144	0.231**	0.380**	0.047
	(0.229)	(0.143)	(0.234)	(0.144)	(0.109)	(0.149)	(0.149)
Urban (1,500)	0.028	0.040***	0.069***	0.030**	0.052***	0.031**	0.068***
	(0.025)	(0.014)	(0.026)	(0.013)	(0.012)	(0.012)	(0.011)
Population/10,000	0.082***	0.066***	0.067***	0.072***	0.069***	0.076***	0.067***
	(0.007)	(0.005)	(0.012)	(0.012)	(0.007)	(0.006)	(0.010)
Year 1871				-0.841*		-1.148***	
				(0.450)		(0.220)	
Year 1881					-0.366**		-0.217
					(0.185)		(0.180)
lnalpha	-17.577***	-17.666***	-1.509**	-3.361	-2.194***	-14.454**	-2.384***
	(0.912)	(0.537)	(0.666)	(2.852)	(0.672)	(7.077)	(0.605)
Constant	-1.799	-0.075	-1.182	-0.071	-0.442	-1.874	0.995
	(1.885)	(0.947)	(2.403)	(1.140)	(1.030)	(1.226)	(1.576)
Observations	32	32	32	64	64	60	60

Notes: Negative binomial model. In the pooled-year regressions 'a' denotes where all counties are included, and 'b' denotes where Antrim and Dublin are excluded. The variables used are all county level. Year 1871 is a dummy variable for the year 1871; year 1881 is a dummy variable for the year 1881. See table A1 in the appendix for full variable information. Robust standard errors are in parenthesis. For the pooled-year specifications the robust standard errors are clustered on the county. Statistical significance is indicated by asterisking as follows: *** p<0.01, ** p<0.05, * p<0.1.

Sources: See 'county data sources' in 'sources' footnote of table A1 in the appendix.

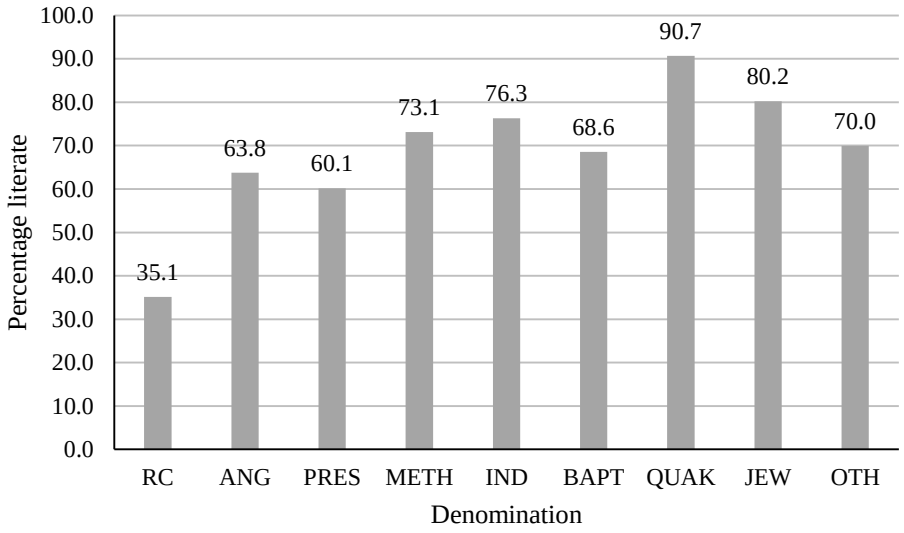

Figure 1. *Literacy (read and write) by religion, 1861*

Notes: Of the population 5 years old and upwards. The x-axis denomination labels may be interpreted as follows: RC = Roman Catholics; ANG = Established Church (Anglicans); PRES = Presbyterians; METH = Methodists; IND = Independents; BAPT = Baptists; QUAK = Society of Friends or Quakers; JEW = Jews; OTH = all other persuasions.

Source: Calculated using: *Census of Ireland, 1861* (P.P. 1863, LX), p. 558.

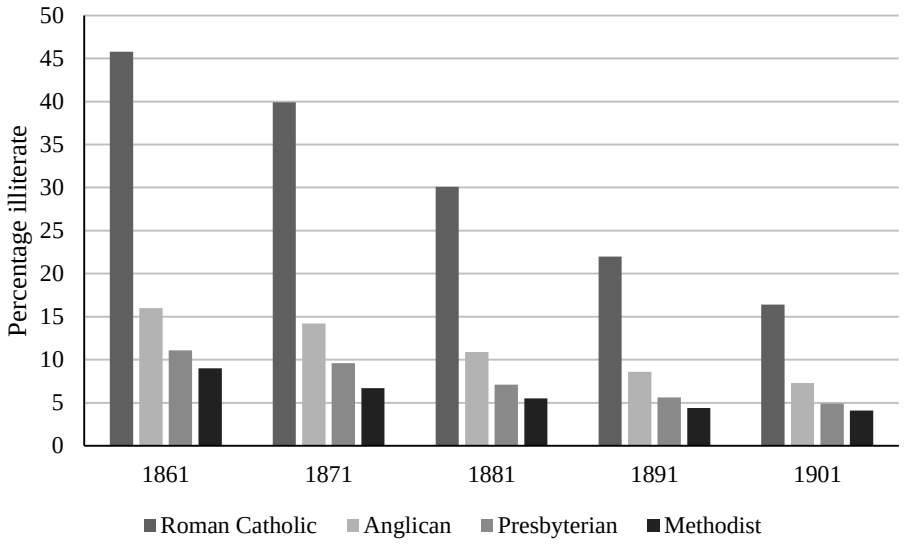

Figure 2. *Illiteracy by religion, 1861–1901*

Notes: Of the population 5 years old and upwards.

Source: Census of Ireland, 1901 (P.P. 1902, CXXIX), p. 524.

Appendix I: Variable names, descriptions, and sources

Table A1. *Description of variables*

Variable name	*Description*	*Source*
County data		
Catholicism	The number of Catholics as a percentage of the population.	CR;V&F
Illiteracy	The number of those aged 12 years and over who can neither read nor write as a percentage of the population aged 12 years and over (where literacy ability known).	CR; UKDS
Irish-only speakers	The number of those who speak Irish only as a percentage of the population.	CR
1st or 2nd class housing	The number of families living in first or second class accommodation as a percentage of total families (where housing class known). Houses are classified by 'extent, as shown by the number of rooms', 'quality, as shown by the number of windows in front', and 'solidity and durability, as shown by the material of the walls and roof'. A typical second class house is described as 'a good farm-house, having five to nine rooms and windows'. Note, however, that the classification adjusts depending on the number of families resident in a house of a given class.	CR
Persons over 60	The number of persons aged over 60 years as a percentage of the population (where age specified).	CR; UKDS
Urban (1,500)	The number of persons living in urban settlements of 1,500 or more as a percentage of the population.	CR
Lower scholar attendance	The number of scholars attending under 80 days as a percentage of total scholars.	CR
Company registrations	The number of joint-stock company registrations in that year and the following four years.	PP
Bank branches	The number of joint-stock bank branches.	Thom's
Population/10,000	The population divided by 10,000.	V&F; CR
Barony data		
Catholicism	The number of Catholics as a percentage of the population.	CR
Illiteracy	The number of those aged 5 years and over who can neither read nor write as a percentage of the population aged 5 years and over.	CR
Irish speakers (1881)	The number of those who speak Irish as a percentage of the population in 1881.	CR
4th class housing	The number of families living in fourth class accommodation as a percentage of all families. Fourth class housing consists 'of mud, sod or stone cabins containing only one room'. Note, however, that the classification adjusts depending on the number of families resident in a house of a given class.	CR
Value/population (1851)	Poor law valuation in 1851 (in £s) divided by the population.	CR
Manufacturing	The number of families chiefly employed in manufacturing, trades, & c. as a percentage of all families (chiefly employed in either (i) agriculture, (ii) manufacturing, trades, & c., or (iii) other pursuits).	CR
Services	The number of families chiefly employed in other pursuits as a percentage of all families (chiefly employed in either (i) agriculture, (ii) manufacturing, trades, & c., or (iii) other pursuits).	CR

Continued on the next page

Ulster (narrow)	A dummy variable equal to one for the Ulster counties of Antrim, Armagh, Down, Londonderry, and Tyrone, and zero otherwise.	–
Ulster (all)	A dummy variable equal to one for all nine Ulster counties, and zero otherwise.	–

Poor law union data (all variables 1891 expect for savings information)

Catholicism	The number of Catholics as a percentage of the population.	CR
Value/population	Rateable valuation (in £s) divided by the population.	CR
4th class houses	The number of fourth class inhabited houses as a percentage of all inhabited houses. This only covers agricultural holdings.	CR
Population density	Population divided by area (in statute acres).	CR
Agriculture	Number of males aged 20 years and upwards employed in the agricultural occupational class as a percentage of all males aged 20 years and upwards.	CR
Industry	Number of males aged 20 years and upwards employed in the industrial occupational class as a percentage of all males aged 20 years and upwards.	CR
Average account size	Amount of deposits (in £s) in Post Office and Trustee Savings Bank accounts divided by the number of accounts at the same.	PP
Accounts per 100 persons	Number of savings accounts at Post Office and Trustee Savings Banks divided by the population (which itself is divided by 100).	PP
Savings per 100 persons	Amount of savings (in £s) at Post Office and Trustee Savings Banks divided by the population (which itself is divided by 100).	PP

Notes: Urban areas of 1,500 is selected as a control for urbanisation as it is available in the census reports across all years. The area of urban settlements changes slightly with the advancement of time. Bank branches does not include sub-branches or agencies (except on the rare occasion where it is indicated that it is open daily).

Sources: See below.

County data sources:

CR: *Census of Ireland, 1871* (P.P. 1872, LXVII); *Census of Ireland, 1871* (P.P. 1873, LXXII.Pt.I, LXXII.Pt.II); *Census of Ireland, 1871* (P.P. 1874, LXXIV.Pt.I); *Census of Ireland, 1871* (P.P. 1874, LXXIV.Pt.II); *Census of Ireland, 1871* (P.P. 1876, LXXXI); *Census of Ireland, 1871* (P.P. 1877, LXXXVII); *Census of Ireland, 1881* (P.P. 1881, XCVII); *Census of Ireland, 1881* (P.P. 1882, LXXVII); *Census of Ireland, 1881* (P.P. 1882, LXXVIII); *Census of Ireland, 1881* (P.P. 1882, LXXIX.1); *Census of Ireland, 1881* (P.P. 1882, LXXVI); *Census of Ireland, 1881* (P.P. 1882, LXXIX.697); *Census of Ireland, 1891* (P.P. 1890–91, XCV); *Census of Ireland, 1891* (P.P. 1892, XCI); *Census of Ireland, 1891* (P.P. 1892, XCII); *Census of Ireland, 1891* (P.P. 1892, XCIII); *Census of Ireland, 1891* (P.P. 1892, XC.1); *Census of Ireland, 1891* (P.P. 1892, XC.635); *Census of Ireland, 1901* (P.P. 1902, CXXII, CXXIII); *Census of Ireland, 1901* (P.P. 1902, CXXIV, CXXV); *Census of Ireland, 1901* (P.P. 1902, CXXVI, CXXVII); *Census of Ireland, 1901* (P.P. 1902, CXXVIII); *Census of Ireland, 1901* (P.P. 1902, CXXIX); *Census of Ireland, 1901* (P.P. 1904, CIX); *Census of Ireland, 1911* (P.P. 1912–13, CXIV); *Census of Ireland, 1911* (P.P. 1912–13, CXV); *Census of Ireland, 1911* (P.P. 1912–13, CXVI); *Census of Ireland, 1911* (P.P. 1912–13, CXVII); *Census of Ireland, 1911* (P.P. 1912–13, CXVIII); *Census of Ireland, 1911* (P.P. 1913, LXXX).

PP: *Joint Stock Companies* (P.P. 1871, LXII); *Joint Stock Companies* (P.P. 1872, LIV); *Joint Stock Companies* (P.P. 1874, LXII); *Joint Stock Companies* (P.P. 1875, LXXI); *Joint Stock Companies* (P.P. 1876, LXVIII); *Joint Stock Companies* (P.P. 1881, LXXXIII); *Joint Stock Companies* (P.P. 1882, LXIV); *Joint Stock Companies* (P.P. 1883, LXIV); *Joint Stock Companies* (P.P. 1884, LXXII); *Joint Stock Companies* (P.P. 1884–85, LXXI); *Joint Stock Companies* (P.P. 1886, LX); *Joint Stock Companies* (P.P. 1892, LXXII); *Joint Stock Companies* (P.P. 1893–94, LXXXII); *Joint Stock Companies* (P.P. 1894, LXXVII); *Joint Stock Companies* (P.P. 1895, LXXXIX); *Joint Stock Companies* (P.P. 1896, LXXVI).

Thom's: Thom's directory (1871, 1881, 1891, 1901, and 1911).

UKDS:

Clarkson, L. A., Kennedy, L., Crawford, E. M., and Dowling, M. W., 'Database of Irish historical statistics: age, 1821–1911', [data collection] UK Data Service, (1997). SN: 3574, http://dx.doi.org/10.5255/UKDA-SN-3574-1.

Clarkson, L. A., Kennedy, L., Crawford, E. M., and Dowling, M. W., 'Database of Irish historical statistics: literacy, 1841–1911', [data collection] UK Data Service, (1997). SN: 3582, http://dx.doi.org/10.5255/UKDA-SN-3582-1.

V&F: Vaughan and Fitzpatrick, *Irish historical statistics*.

Notes continued on the next page

Barony data sources:

CR: *Census of Ireland*, *1861* (P.P. 1863, LIV); *Census of Ireland*, *1861* (P.P. 1863, LV); *Census of Ireland*, *1861* (P.P. 1863, LXI); *Census of Ireland*, *1881* (P.P. 1881, XCVII); *Census of Ireland*, *1881* (P.P. 1882, LXXVII); *Census of Ireland*, *1881* (P.P. 1882, LXXVIII); *Census of Ireland*, *1881* (P.P. 1882, LXXIX.1).

Poor law union data sources:

CR: *Census of Ireland*, *1871* (P.P. 1877, LXXXVII); *Census of Ireland*, *1881* (P.P. 1882, LXXIX.697); *Census of Ireland*, *1891* (P.P. 1890–91, XCV); *Census of Ireland*, *1891* (P.P. 1892, XCI); *Census of Ireland*, *1891* (P.P. 1892, XCII); *Census of Ireland*, *1891* (P.P. 1892, XCIII); *Census of Ireland*, *1891* (P.P. 1892, XC.1); *Census of Ireland*, *1891* (P.P. 1892, XC.635).

PP: *Savings banks (Ireland)* (P.P. 1913, LVII).