Peers, Buccaneers and Downton Abbey: An economic analysis of 19th century British aristocratic marriages

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ARTICLE INFO

ABSTRACT

The decline in late 19th century agricultural prices, by reducing the incomes of aristocratic landed estates and of non-aristocratic landed families, led to richly dowried American heiress brides being substituted for brides from landed families in British aristocratic marriages. This reflected a wider 19th century phenomenon of aristocratic substitution of foreign brides for landed brides and the substitution of daughters of British businessmen for daughters of landed families when agricultural prices declined. The results are consistent with positive assortative matching with lump-sum transfers (dowries), where landowning family dowries are cash constrained in periods of agricultural downturn.

EARL GRANTHAM: Do you think she would've been happy with a fortune hunter?

COUNTESS GRANTHAM: She might've been. I was.

Downton Abbey, Series 1, Episode 1.

1. Introduction

Lady Cora's mild rebuke of her husband's hypocrisy in the opening episode of the internationally highly popular TV series *Downton Abbey* (Fellowes, 2012) is designed to remind him that it was the handsome dowry she brought with her, when she relocated in the 1880s from her native industrial Pittsburgh to rural Yorkshire to marry into the British aristocracy, that had saved the eponymous stately home and Earl Grantham's family from financial ruin a quarter of a century earlier. Another work of historical fiction, Edith Wharton's novel, *The Buccaneers,* published posthumously in 1938, chronicles the story of four American women from newly rich families who marry into the British aristocracy during the late 19th century. These fictional

storylines are, however, based on a real-world trend that ran through four decades until the outbreak of World War I, during which period one hundred American business magnates' daughters were wedded to titled members of the British aristocracy[1]: forty to younger sons of aristocrats, sixty to eldest sons and

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[1] I use the term 'aristocracy' in this letter to denote hereditary British lords, i.e. hereditary members of the British House of Lords during the period under analysis. This includes the five categories of hereditary lordship titles (in order of descending rank): duke, marquess, earl, viscount and baron. All of these titles are lordships. The title of baronet, holders of which may be styled 'Sir', ranks below baron, is not a lordship and at no time carried with it the right to sit in the House of Lords. A knighthood, ranked below a baronetcy, is similarly not a lordship and while a knight may also be styled 'Sir', their title is conferred on them as a lifetime appointment. I exclude baronets and knights from my definition of the aristocracy. I use the term 'peerage' as synonymous with 'aristocracy' and 'peer' as synonymous with 'lord'. I use the term 'commoner' to denote a British person without any title at all, i.e. anyone who was not a British lord, baronet or knight. I use the term 'gentry' to denote commoner landowners.

heirs to titles, and six to holders of the highest aristocratic rank of duke (Montgomery, 1989; De Courcy, 2017); or, calculated another way, 'Between 1870 and 1914, fully 10 percent of [male] aristocratic marriages followed this novel pattern' (Cannadine, 1990, p. 347). Given that the British aristocracy was generally regarded as the most exclusive club in the world outside of the British royal family, this is a remarkable phenomenon, which I investigate in this letter.[2] My hypothesis is that the accelerated decline in agricultural prices in the late 19th century, which reduced the income of aristocratic landed estates at the same time as it reduced the income of the British landed gentry, led to richly dowried American brides being substituted for women from the landed gentry (i.e. untitled land owners)—traditionally the chief source of women marrying into the British aristocracy. As noted by Stone (1961), for example, the tradition among the British aristocracy was not to fix the marriage settlement according to any fixed tariff but rather to allow it to be determined by 'the simple factor of the laws of supply and demand' of the marriage market and the willingness to pay of the father of the bride, the latter being largely determined (for landed families, at least) by agricultural prices.

The British agricultural depression is usually dated from the early 1870s to the end of the century (Fletcher, 1973; Thompson, 1963), and was largely caused by the fall in grain prices that followed the opening up of the American prairies to cultivation in the 1870s, the late 19th century expansion of the American railway transport system, the advent of inexpensive international transportation with the rise of steamships, and other advances in agricultural technology (Conacher, 1973; Fletcher, 1973). For these reasons, the British Corn Laws having been repealed in 1846, cheap imports of vast amounts of American prairie wheat were able to flood the market and undercut and overwhelm British wheat farmers, a large proportion of whom were tenant farmers on landed estates: 'The effects were to be seen in mounting arrears of rent, bankrupt and ruined tenants, and falling rent rolls' (Thompson, 1963, pp. 308–309).

It was during exactly this period that there was an influx of American heiresses into the British aristocracy, and I demonstrate below the substitution of rich foreign brides for British landed brides during this time. In addition, however, I also show that – at the same time but to a lesser extent – brides from British business families were also substituted for landed brides, and that this substitution phenomenon of foreign and business brides for landed brides was prevalent, albeit to a lesser extent, for the whole of the 19th century when agricultural prices declined.

2. Data

My source of historical data on marriages of the British aristocracy is Thomas (1972). The total number of aristocratic marriages studied is 1727, from 315 families, made up of 22 dukedoms, 14 marquessates, 127 earldoms, 32 viscountcies and 120 baronies. I also use data on London wheat prices from Solar and Klovland (2011) as well as a historical series on the British retail price index from Clark (2021).

3. Empirical analysis[3]

Table 1 shows data on marriages by the British aristocracy to partners from *outside* of the aristocracy (exogamous or out-marriages), for cohorts of aristocratic males born in 20-year periods for a one-hundred year period beginning 1780, including exogamous marriages to the daughters of knights, baronets, untitled British commoners and foreigners. Hollingsworth (1964), notes the remarkable stability of the mean age at which aristocratic males married during the 19th century, namely aged 33.[4] Hence, we can infer that the likely period of marriage of each cohort is around 33 years later (so that, e.g., the cohort born 1860–1879 was likely married in the period 1893–1912). While Thomas (1972) records details of aristocratic exogamous marriages to foreign – i.e. non-British – brides, he does not provide a further breakdown by nationality. However, his count of aristocratic out-marriages to foreigners for the cohorts born 1840–1859 and 1860–1879 is $42 + 51 = 93$ (Table 1), covering a likely marriage period spanning 1873–1912. Given Montgomery's count of 100 aristocratic out-marriages to American women over the period 1870–1914 (Montgomery, 1989, Appendix A), this implies that Thomas's count of foreign brides is a close proxy for the number of American brides marrying into the aristocracy in the four decades before World War I.

Table 1 shows that, while the percentage of exogamous marriages to daughters of British commoners is relatively stable during the 19th century, at around three quarters, there is a downward movement to just two-thirds for the cohort born 1860–1879 (marriages around the period 1893–1912). But most striking is the dramatic increase in the percentage of exogamous marriages to foreigners towards the end of the century, which more than doubles for the 1840–1859 cohort and increases again for the following cohort to around 20%, these two cohorts having likely marriage periods spanning 1873–1912, overlapping with the agricultural depression.

In Table 2, I exclude marriages of the daughters of knights and baronets and consider only exogamous marriages to British commoners and foreigners. I then break down this total according to: the profession of the father of the exogamous commoner bride, whether the bride's family was landed, and whether the bride was foreign.

Table 2 illustrates that the standard way for a family to gain admission to the aristocracy was to become landed: aristocratic marriage alliances with untitled landed families comprised by far the largest proportion of exogamous marriages to commoners in all periods. Marriages to daughters of clergymen or military officers compose the next highest proportion of exogamous marriages to British commoners during most of the 20-year periods prior to the agricultural depression years (which is not surprising, given that the military and the church were the career paths of most younger sons of aristocratic families who did not inherit titles because of the laws of primogeniture). In contrast, exogamous marriages to daughters of men classed as being in business never breaks single figures as a percentage of the whole during either century: wealth 'tainted by trade' needed purification through the possession of land before it became acceptable in the very highest social circles. Presumably because of the wealth attached to business families, however, the proportion of exogamous business brides nevertheless dominates exogamous marriages to daughters of men engaged in other upper-middle

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[2] Indeed, one such 'buccaneer', Frances Ellen Work, daughter of New York stockbroker Franklin H. Work, married into the aristocracy in 1880 (her husband later becoming the 3rd Baron Fermoy) and became the matrilineal great-great-grandmother of Diana, Princess of Wales, and a direct matrilineal forebear of the present second and third heirs to the British throne (Williamson, 1981; De Courcy, 2017, pp. 272–277).

[3] Further analysis of the data, extended to the 18**th** century, is available in Taylor (2021).

[4] Of the four 19th century aristocratic cohorts examined by Hollingsworth (1964), that for 1850–1874 has a mean age at marriage of 34 while the other three are 33: Hollingsworth (1964, Table 2, p. 11).

Table 1

Out-marriages of the British peerage to daughters of foreigners, knights, baronets and British commoners.

Cohort born	Total out-marriages	Marriages to daughters of:							
		Foreigners	%	Knights	%	Baronets	%	British commoners	%
1780–99	221	8	3.6	7	3.2	24	10.9	182	82.3
1800–19	278	27	9.7	17	6.1	27	9.7	207	74.5
1820–39	245	16	6.5	12	4.9	34	13.9	183	74.8
1840–59	291	42	14.4	10	3.4	21	7.2	218	74.8
1860–79	252	51	20.2	10	4.0	23	9.1	168	66.7

Table 2

Out-marriages of the British peerage to daughters of foreigners and British commoners, broken down by foreigners and family profession of British commoners.

Cohort born	Total to foreigners and British commoners	Marriages to daughters of:									
		Foreigners %	Landed %	Military %	Business %	Church %	Law %	Admin. %	Academic, art and science %	Medicine %	Misc. and unknown %
1780–99	190	4.2	46.3	11.1	5.3	10.0	1.6	1.6	1.6	0.5	17.9
1800–19	234	11.5	39.7	14.5	5.6	9.0	2.1	2.1	0.9	0.4	14.0
1820–39	199	8.0	41.2	18.1	1.5	10.1	2.5	3.5	2.0	1.0	12.1
1840–59	260	16.2	33.8	15.8	4.2	11.2	3.1	3.5	1.9	0.8	9.6
1860–79	219	23.3	29.2	19.2	6.8	4.1	4.6	0.9	0.0	0.9	11.0

class professions such as law and medicine. Coincident with the late 19th century decline in the percentage of exogamous landed marriages, it is noticeable that the percentage of out-marriages to foreigners rises, doubling as a percentage of the whole of the untitled or foreign marriages, to over 16 percent for the 1840–1859 cohort (likely married 1873–1892, during the agricultural depression) and increasing again to around a quarter of all exogamous marriages for the following cohort.

These informal results are consistent with my hypothesis and suggest that it may be worthwhile pursuing more formal tests, as described next.

3.1. Small-sample inference with a century of data

Thomas (1972) reports only cohort-level data for 20-year co-horts, making statistical analysis difficult because of the resulting small number of overall observations. However, it is important to note that while the number of observations is small, they never-theless span 1727 marriages during a period of over a century, and a breadth of 315 aristocratic families, and are aggregated over 20-year periods, so one would expect movements in the data to represent fundamental economic and social forces, with a low noise-to-signal ratio. I therefore apply inferential statistical techniques appropriate to such a scenario.

In order to test for the effect of the agricultural depres-sion on these variables, I constructed a real wheat price series, *RWheat(+33)*, as a general indicator of agricultural estate in-comes.[5] In particular, I constructed this series as the 20-year average wholesale price of wheat in London (shillings per quar-ter), deflated by the retail price index, with initial period as the base, for 20-year periods corresponding to the same birth cohort periods as before but 33 years later; thus, for example, the real wheat price observation $RWheat(+33)$ for 1840–1859 is the av-erage London real wheat price during the likely years of marriage

of the cohort born 1840–1859, namely 1873–1892, given that the average age of marriage of male peers was uniformly around 33 years (Hollingsworth, 1964).

In Table 3, I show the sign of the change (Δ) in the series *Foreigners, Landed, Business* (from Table 2) and $RWheat(+33)$ from the previous 20-year period, i.e. whether the change from the previous period is positive or negative. If declines in agricultural prices led to declines in the proportion of exogamous marriages to landed brides, then changes in the landed proportion, $\Delta Landed$, should be the same sign as changes in the real wheat price, $\Delta RWheat(+33)$. We have data on these signs for 4 periods or 'trials'. Now if the two series are truly independent then, for any given sign of $\Delta RWheat(+33)$, the probability of this being matched by the sign of $\Delta Landed$ is 50% or 0.5. In fact, we can see from Table 3 that this sign match occurs in all 4 periods. We can therefore refer this to the binomial probability distribution to calculate the probability of 4 successes occurring in 4 Bernoulli trials when the probability of success in each trial is 0.5. As shown in Table 3, this probability is $0.5^4=0.0625$, and we can there-fore reject at the 7% significance level the null hypothesis that these two series are statistically unrelated against the alternative hypothesis that they are related as I suggest.

Further, if foreign brides were substituted for landed brides as agricultural prices declined, one would expect $\Delta Foreigners$ to be *opposite* in sign to $\Delta RWheat(+33)$. This sign pattern also occurs in all 4 periods, which again has an overall probability of occurring of 0.0625 if the sign of $\Delta Foreigners$ in each period were truly ran-dom given the sign of $\Delta RWheat(+33)$ (4 successes in 4 Bernoulli trials each with 0.5 probability of success); so we can again reject at the 7% level the null hypothesis that the series are unrelated against the alternative that they are related as I suggest. The same is true of business brides: the predicted sign pattern (sign of $\Delta Business$ opposite to the sign of $\Delta RWheat(+33)$) occurs in all 4 periods (probability 0.0625) so that we can reject at the 7% level the null hypothesis that the business bride and real wheat price series are unrelated against the alternative hypothesis that they move in opposite directions as business brides were substituted for landed brides as the wheat price declined.

Indeed, the predicted sign patterns occur for *all* series in *all* 4 periods (Table 3). The probability of all signs occurring as predicted when they are in fact unrelated and random is quite low. If the probability of any individual sign occurring is an

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[5] Thompson points out that the fortunes of arable and livestock farmers diverged somewhat, although rents on most estates fell during this period, re-gardless of farming specialization (Thompson, 1963, pp. 310–311), so that wheat prices should be a good general agricultural economic indicator. Replacing the real wheat price with an index constructed as the equally-weighted harmonic mean of normalized wholesale wheat and beef prices (the latter also from Solar and Klovland, 2011) yields qualitatively identical results.

Table 3
Qualitative changes in the proportions of out-marriages of the British peerage to daughters of foreigners and of British landed and business families, and in the real price of wheat.

Cohort born	$\Delta Business$	$\Delta Foreigners$	$\Delta Landed$	$\Delta RWheat(+33)$	Likely marriage period
1800–1819	+	+	−	−	1833–1852
1820–1839	−	−	+	+	1853–1872
1840–1859	+	+	−	−	1873–1892
1860–1879	+	+	−	−	1893–1912
# sign as predicted	4	4	4		
	[0.0625]	[0.0625]	[0.0625]		
# all signs as predicted				4	
				$[2.44 \times 10^{-4}]$	

Note: The table shows the sign of the change (Δ) in the series *Foreigners, Landed, Business* and *RWheat*(+33) from the previous period. '*#sign as predicted*' denotes the total count of cases when the sign of the change is opposite to the sign of $\Delta RWheat(+33)$ (for $\Delta Business$ and $\Delta Foreigners$) or the count of cases where the sign of $\Delta Landed$ matches the sign of $\Delta RWheat(+33)$, for the periods indicated. '*#all signs as predicted* ' denotes the total count of cases when the sign of all changes are as predicted, given the sign of $\Delta RWheat(+33)$. Figures in square brackets denote the probability of the various counts occurring, referred to the appropriate binomial probability distribution under the null hypothesis that the sign of any change in exogamous marriage proportion in the table occurs independently with equal probability of being positive or negative.

Table 4
Qualitative changes in the proportions of out-marriages of the British peerage to daughters of military officers and of clergymen, and in the real price of wheat.

Cohort born	$\Delta Military$	$\Delta Church$	$\Delta Landed$	$\Delta RWheat(+33)$	Likely marriage period
1800–1819	+	−	−	−	1833–1852
1820–1839	+	+	+	+	1853–1872
1840–1859	−	+	−	−	1873–1892
1860–1879	+	−	−	−	1893–1912
# sign as predicted	2	3	4		
	[0.375]	[0.250]	[0.0625]		
# all signs as predicted				1	
				[0.335]	

Note: The table shows the sign of the change (Δ) in the series *Military, Church, Landed* and *RWheat*(+33) from the previous period. '*#sign as predicted*' denotes the total count of cases when the sign of the change matches the sign of $\Delta RWheat(+33)$, for the periods indicated. '*#all signs as predicted* ' denotes the total count of cases when the sign of all changes match. Figures in square brackets denote the probability of the various counts occurring, referred to the appropriate binomial probability distribution under the null hypothesis that the sign of any change in exogamous marriage proportion in the table occurs independently with equal probability of being positive or negative.

independent 0.5, then for any given sign of $\Delta RWheat(+33)$ the probability of the compound event of the sign of all 3 of the other changes falling in line in any one period as predicted is $0.5^3 = 0.125$; and the probability of 4 successes in 4 Bernoulli trials (4 periods) in which the probability of success is 0.125 is $0.125^4 = 2.44 \times 10^{-4}$.[6] Hence, we can reject at the 1% level the joint hypothesis that the series were completely unrelated during the whole of the 19th century against the alternative hypothesis that both domestic business brides and foreign brides were substituted for landed brides as agricultural incomes declined in real terms (and conversely as agricultural incomes rose).

At first sight, it might be thought that the categories of aristocratic marriages that we have been examining are not independent because they are measured as a proportion of exogamous marriages. However, as shown in Table 2, there are in fact 10 such categories, or 7 degrees of freedom when analyzing 3 of the 10 categories of exogamous marriages. To demonstrate this, consider Table 4, which displays a similar analysis for the other major categories of exogamous marriages, namely exogamous marriages to the daughters of military officers and of clergymen (*Military* and *Church* from Table 2), together with $\Delta Landed$ and $\Delta RWheat(+33)$.

Table 4 shows that the signs of $\Delta Military$ and $\Delta Church$ match that of $\Delta RWheat(+33)$ in 2 and 3 of the 4 time periods, respectively, with binomial probabilities $\binom{4}{2}0.5^4 = 0.375$ and $\binom{4}{1}0.5^4 = 0.25$ under the null hypothesis of independence, so

that we cannot reasonably reject the hypothesis of independence from the real wheat price for either series. In fact, The signs of $\Delta Military$ and $\Delta Church$ match in only 1 one period out of the 4, for the cohort 1820–1839, when indeed all signs match (the only discernible systematic pattern) but with an equally unimpressive overall binomial probability of $\binom{4}{1}0.125^1(1-0.125)^3 = 0.335$ (for 1 success in 4 trials).

4. Conclusion

In this letter, I have examined the phenomenon of the significant proportion of British male aristocratic exogamous marriages that were to American heiresses during the four decades leading up to World War I. My hypothesis is that the accelerated decline in British agricultural prices in the late 19th century, which reduced the income of aristocratic landed estates at the same time as it reduced the income of commoner landed families, led to richly dowried American brides being substituted for brides from untitled British landed families—traditionally the chief source of women marrying into the aristocracy. I provided both informal and formal empirical analysis that is strongly supportive of this hypothesis. I also showed, however, that this was part of a wider phenomenon whereby foreign brides were substituted for British exogamous landed brides during the whole of the 19th century when agricultural prices declined. Further, there is also significant evidence of substitution of British business brides for landed brides during the 19th century when agricultural prices fell. These results are consistent with a form of positive assortative matching in the aristocratic marriage market (Becker, 1973), supplemented by a lump-sum transfer to the bridegroom (i.e. dowry; Becker, 1991, pp. 126–129). During a period of agricultural decline there

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6 Equivalently, the binomial probability can be calculated as the probability of 12 successes in 12 Bernoulli trials each with probability 0.5 of success, i.e. $0.5^{12} = 2.44 \times 10^{-4}$.

may be cash constraints on the lump-sum transfer from landed families, allowing unlanded but nevertheless rich families to offer higher lump-sum transfers in order to compensate for the lower level of prestige associated with non-landholders, a phenomenon which may perhaps be aptly termed the Downton Abbey Effect (Taylor, 2021).[7]

Acknowledgments

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[7] See Goñi (2020) for an application of positive assortative matching to the aristocratic marriage market.