

# HISTORICAL LIFE COURSE STUDIES

VOLUME 4  
2017



## MISSION STATEMENT

# HISTORICAL LIFE COURSE STUDIES

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# What the Seasons Tell Us

## The Monthly Movement of Marriages, Economic Modernization, and Secularization in the Netherlands, 1810-1940

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### ABSTRACT

This study focuses on the seasonal pattern of marriages in seven provinces of the Netherlands from 1810 to 1940. We ask whether the prevalence of May as the preferred marriage month was diminishing when industrialization changed the course of workload over the year. And if so, when did this occur, and were there differences between the regions? Given the ban on marriages during Lent and Advent, by studying the number of marriages during these months (approximated as March and December), we can determine which provinces adhered most to the religious rules, and how this pattern developed over time. In doing so, we have an excellent demographic measure for secularization. The analysis is based on the LINKS dataset which currently includes almost 2 million marriages that were contracted in seven Dutch provinces: Groningen, Drenthe, Overijssel, Gelderland, Noord-Holland, Zeeland and Limburg. The main conclusion of this study is that although Dutch society substantially transformed (economically, socially, politically and culturally) during the 19th and early 20th centuries until the Second World War, it was both the agricultural calendar and the Roman Catholic regulations that determined Dutch marriage seasonality.

**Keywords:** Seasonality, Nuptiality, Industrialisation, Secularisation, The Netherlands

e-ISSN: 2352-6343

PID article: <http://hdl.handle.net/10622/23526343-2017-0009?locatt=view:master>

The article can be downloaded from [here](#).

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## 1 INTRODUCTION AND AIM OF THIS STUDY

Demographic behavior of all populations, both in history as well as in the present, is characterized by seasonal patterns. Although the reasons behind this demographic seasonality can be very informative about the lives of our predecessors in history or of our contemporaries in other countries or parts of the world, the number of studies on this topic is relatively limited. Especially the monthly distribution of marriages provides us with promising insights into the motives and behavior of (historical) actors. The date of marriage was and is almost always consciously decided upon by either the partners or their parents. Whoever made the decision took into account what was economically advantageous and what was culturally acceptable or preferred.

This study therefore focuses on the seasonal pattern of marriages in the Netherlands from 1810 to 1940, and as such tries to enrich our knowledge of the demography of the country during a period of structural transformation. Firstly, it changed from a traditional agricultural society into a modern industrialized one. There is an abundance of studies on this process (De Jonge 1968; Mokyr 1977; Van Zanden 1985; Van Zanden & Van Riel 2000) with special attention paid to the relatively late start of the Dutch industrialization. The movement away from the primary sector indeed started slowly, but gained momentum, especially after 1900. In 1807, still 43.1 per cent of the Dutch labor population was active in agriculture, but this percentage declined to 40.3 in 1849, 34.1 in 1899 and 17.5 in 1930 (Van Maarseveen 2008). A second major change involved the secularization of the inhabitants of the country. Although relevant studies focused primarily on a typical Dutch phenomenon, i.e. pillarization, which was the compartmentalization of the population into separate religious groups, underneath all this, the Dutch gradually moved away from clerical rules and customs. Even from the official censuses we can deduce the strength of this development. In 1889, the proportion of non-denominationalists in the country was only 1.5 percent. By 1930, this already had increased to 14.4 percent. (Knippenberg 1998).

The aim of this study is guided by the literature mentioned in the following section, and is threefold. First of all, we want to describe the pattern of marriage seasonality in the long 19<sup>th</sup> century, i.e. from 1810 until the Second World War. We will assess whether there were regional differences within the country, and what, if any, was the development over time. Secondly, we will focus on the effect of the changing workload. This influence depends on the status of the economy. The general conclusion from studies hitherto is that in months when workload was heavy, in most cases the seasons for sowing and harvesting, the opportunities for a marriage were limited. After the harvest, on the other hand, agricultural societies witnessed a slack labor period and on top of that a marriage was financially possible. This resulted in high numbers of marriages in winter (except for the closed periods) and low numbers in summer.

In the Dutch situation May was the preferred month for marriages, being a month with low workload after the sowing period, and the month in which labor contracts and leases were renewed or ended. (Van Poppel 1995). Assuming that May is indeed the most popular marriage month, we want to find out possible regional differences and historical developments. We thus aim to explain both the variance and the evolution. Apart from the information on demographic phenomena we thus gather knowledge on the changing nature of the Dutch economy, more precisely on the timing of the influence thereof on the personal lives of the Dutch. Consequently, we ask whether the prevalence of May marriages was diminishing when industrialization changed the workload over the year. And if so, when did this happen and are there differences between the regions?

The last objective is to establish the strength of religious regulations. The ban on marriages in Lent and Advent had an effect that is directly recognizable in seasonality graphs. Although the period of Lent changes every year, the month of March is always included, and December covers the period of Advent almost completely. Marriages in these two months therefore are indicative of the strength of the marriage ban's influence. By studying the number of marriages in Lent and Advent (approximated by the months of March and December, respectively), we can ascertain what provinces adhered most to the rules, and the development over time. In doing so we have an excellent demographic measure for secularization.

So, like May marriages are considered to approximate economic modernization, marriages in March and December show cultural modernization. Therefore, although we start by showing the seasonal pattern in the Netherlands using all months, special attention will be paid to the three months mentioned.

Our first hypothesis is that economic modernization diminished the importance of May as the favorite marriage month, especially in those regions that industrialized early. Secondly, we hypothesize that the Netherlands witnessed a slow movement away from clerical rules with regard to appropriate marriage months.

The next section summarizes the literature leading up to this approach of marriage seasonality.

## 2 PREVIOUS STUDIES

From a theoretical point of view studies hitherto came up with two major explanations for the monthly variation in marriages. The dominant reasoning points to the economic rationality for choosing a marriage date. Kussmaul, for instance, explicitly stated for 16<sup>th</sup> to 18<sup>th</sup> century England that the “main driver (of seasonality of marriages) was changes in the seasonality of work” (Kussmaul 1985:756). She followed up on research by Wrigley and Schofield (1981) who made a distinction between the agricultural and the pastoral seasonality in marriages, a distinction based on the differences in changing workload over the year. And for Northern Serbia (1869-2011) Arsenovic et al. conclude that “seasonality of marriage changed along with the system of production” (2015:756). Sanna and Danubio (2008) found that in Andorra between 1606 and 1960 the relaxation of marriage seasonality went hand in hand with socioeconomic change, because in the view of these authors seasonality depended heavily on the mode of production. See also Gonzales-Martin (2007). Dribe and Van de Putte (2012) even showed that for southern Sweden the emergence of the industrial revolution mitigated the monthly fluctuation in marriages, simply because the workload was more evenly spread over the year. The number of publications emphasizing the importance of (changes in) economic circumstances can be extended to include several other studies (cf. e.g. Coppa et al. 2001; Ruiu & Gonano 2015; Dannubio & Amicone 2011). All of the authors mentioned emphasize that the changing workload over the year determined what months were favorite for marriages.

In other studies we find the opinion that relying on economic explanations alone is not sufficient. They emphasize the influence of the cultural, mainly religious, environment (Lesthaeghe 1989; Lesthaeghe & Lopez-Gay 2013; Engelen & Lin 2011; Vallis et al. 2014; Matthijs & Van de Putte 2001). In their view, couples-to-be also had to take into account how they were expected to behave. In the Catholic Church, for example, Lent and Advent were considered inappropriate periods for a marriage, until the Second Vatican Council. If a couple still wanted to marry in these periods, it needed dispensation and the service in church was extremely sober. Surprisingly, this regulation was so strong that non-Catholic parts of the population also embraced it (cf. Wrigley & Schofield 1981; Van Poppel 1995). Even studies that heavily rely on the economic explanation for marriage seasonality mention this factor, be it as a secondary variable. An example of this approach is a study on a military region in southern Russia. The authors reach the conclusion that “the abandonment of an agricultural way of life appears a necessary prelude to secularization, but it is not sufficient” (Bonneuil and Fursa 2013:83). Some studies, however, take the cultural explanation as their point of departure. In his study on seasonality in “Old and New England” Cressy, for instance, found that although the religious marriage restriction was less strictly observed in Anglican England than in France, it was still visible. He also cites a British saying that corroborates this conclusion: “If you marry in Lent you’ll live to repent” (Cressy 1985:7). On the other hand, Cressy also concludes that the settlers in New England quickly abandoned the clerical rules of the Old World.

Interestingly, although many authors start out by studying both economic and cultural explanations for marriage seasonality, in the end they find that the relative importance of the two predictors clearly differs. Faragó (1994), for instance, concludes that at least in Hungary there are not one but many regional patterns of marriage seasonality. Also, these patterns were determined by religious denomination rather than by agricultural workload. Concomitant factors were urbanization, literacy, the strength of tradition, and social stratification. Similarly, Ruiu and Breschi (2015) found for the Italian regions (1862-2012) that although the country witnessed a revolutionary economic modernization, the effect of the Lent ban remained strong, in some regions even until today. On top of that, the north of the country, and thus the most modernized regional economies, showed the strongest influence of the Lent ban. Again, the cultural/religious factor seems stronger than the influence from economic variables.

The only elaborate study on marriage seasonality in the Netherlands is a publication by Frans van Poppel (1995). Before we turn to our own findings, we therefore first present his conclusions in more detail. Van Poppel too refers to religion and economy as the relevant conditioning forces. He studies them at three levels of aggregation. The *national level* data show the expected characteristics for this part of Europe. May was the most favorite month for marriage, followed at a distance by April and November. Van Poppel attributes this to changes of the (agricultural) workload over the year. May also was the month in which agricultural laborers could change their contract and in which smallholders' leases were renewed. Compliance with the rules about the prohibited months of Lent and Advent was shown by a low number of marriages in March and December. There is also a clear development over time, according to Van Poppel. After 1900, the prevalence of May marriages gradually diminished, and by 1940 it "had nearly completely disappeared" (Van Poppel 1995:221). Also, in the 20<sup>th</sup> century the marriage ban for March and December became less influential.

When looking at *provincial level* data, many of the abovementioned conclusions remain the same, although regional differences did occur. The popularity of May, for instance, was most noticeable in the northern provinces, where the agricultural sector was dominant. Limburg had a specific position since in this province the peak of marriages occurred in April. Van Poppel only provides us with a tentative explanation, pointing at the cross-border labor migration into Germany. The influence of the ban on marriages in Lent and Advent was clearly visible in the two almost universal Roman Catholic provinces of Limburg and Noord-Brabant.

In order to assess the influence of the exact date of marriage (and thus approximate Lent and Advent more precisely) and of the occupation of the groom, Van Poppel also studied marriage certificates from 22 municipalities between 1811 and 1912. Again, despite the socio-economic and denominational differences between the municipalities, a number of common characteristics were found. May was clearly most popular everywhere, although in the catholic municipalities the non-prohibited days of February, March and April were also preferred. Few marriages were contracted in the forbidden days of March and December. When the population is divided by socio-economic group, couples in the agricultural sector indeed avoided the summer (i.e. harvest) months and preferred May. An important conclusion reached with regard to the catholic municipalities is that there were no differences visible between socio-economic groups for observance of the closed marriage periods. By way of general conclusion, Van Poppel states that when marrying, Dutch couples adhered to the labor rhythm that was characteristic for their region, "irrespective of the socio-economic group to which they belonged. In the nineteenth-century Netherlands, regional habits and cultures thus played a crucial role in marriage seasonality" (Van Poppel 1995: 251). In this way, the economic and cultural explanations are pooled together in an indistinguishable set of factors. We will return to this conclusion later.

### 3 DATA SOURCES AND METHODOLOGY

The data we use are collected in the so-called LINKS-dataset. LINKS stands for LINKing System for historical family reconstruction. This reconstruction is based on the data of the Genlias Database, which is a digitized index of all civil certificates from 1810 until 1940.<sup>1</sup> LINKS at this moment includes almost 2 million marriages contracted in seven of the then-eleven Dutch provinces, namely Groningen, Drenthe, Overijssel, Gelderland, Noord-Holland, Zeeland and Limburg. Although the number of observations is impressive, the dataset also has its limits. First, it presents us with data of the civil marriage, whereas for many inhabitants the marriage was only official after it was also contracted in church. Still, legally the civil marriage always had to be contracted first, and in many cases the time between the two marriages was limited.

The lack of data on marriages in the remaining four provinces is another problem. We would have liked to compare the Friesland data with those of Groningen and Drenthe, in order to see whether the north of the country had special characteristics. In the case of Noord-Brabant, we cannot compare the seasonality in this province with the other nearly completely Roman Catholic region. In both cases our conclusions could have been more robust. Also, the marriages included in our dataset are all first marriages; for this reason, we cannot assess whether first and later marriages had a different seasonality pattern. A last disadvantage is the limited number of variables included. We would have

<sup>1</sup> <http://www.iisg.nl/hsn/projects/links.html>

liked information on the denomination of every individual couple, but we have to work with aggregate data on the provincial level. Table 1 contains information on the number of marriages by province and period on which our analysis is based.

Table 1 *Number of marriages in dataset by province and period*

Province	Period			Total
	1810-1849	1850-1899	1900-1939	
Groningen	46,346	92,601	100,666	239,613
Drenthe	17,380	44,727	49,343	111,450
Overijssel	49,288	102,114	102,776	254,178
Gelderland	83,355	167,591	100,849	351,795
Noord-Holland	117,310	239,767	248,460	605,537
Limburg	50,602	81,032	88,320	219,954
Zeeland	44,483	72,328	65,547	182,358
Total	408,764	800,160	755,961	1,964,885

In order to understand the differences between the provinces we also present data on occupational structure in Table 2. Using the HISCLASS categories (Van Leeuwen & Maas 2011) the occupational population was divided into five categories: Elite (HISCLASS 1-2), Middle Class (HISCLASS 3-4), Skilled Worker (HISCLASS 5-7), Farmer (HISCLASS 8) and Lower/Unskilled Worker (HISCLASS 9-13). If we take the number of marriages as indicative of the size of the population the differences between the provinces was already visible in Table 1. Now, in Table 2, the variation in economic structure also shows. Noord-Holland was the most economically advanced province with a relatively low number of farmers on the one hand, and a large number of skilled workers and middle class on the other hand. Zeeland and Groningen were provinces with a smaller number of farms employing relatively many laborers. In Drenthe, Overijssel, Gelderland and Limburg small-scale farming played a major role in economy (cf. [Van Zanden 1985](#)).

Table 2 *Occupational classes of the grooms in percentages*

	Elite	Middle Class	Skilled Worker	Farmer	Lower/Unskilled	N
Groningen	3.8	14.4	19.3	10.8	51.6	239,242
Drenthe	2.4	9.4	13.2	23.5	51.6	110,075
Overijssel	3.0	8.9	18.0	24.2	46.0	253,907
Gelderland	3.2	8.5	19.5	18.8	50.0	342,911
Noord-Holland	3.2	14.0	29.8	5.5	47.6	604,350
Limburg	2.8	7.2	20.1	24.8	45.1	212,721
Zeeland	4.0	9.2	16.3	8.6	61.9	180,257

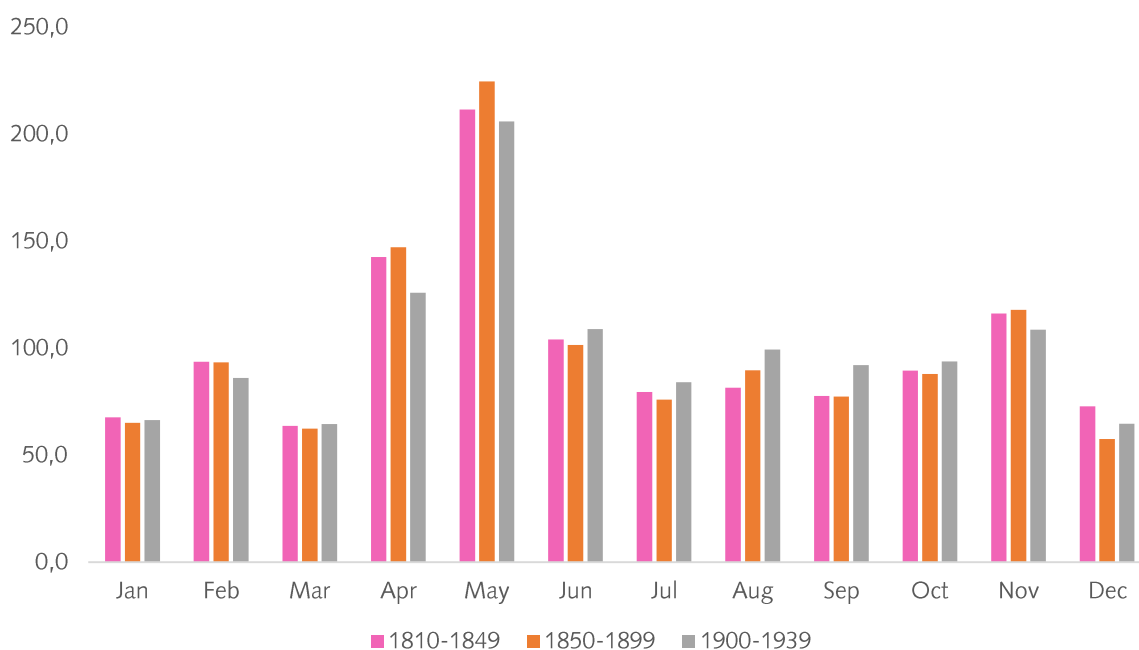
The monthly indices of marriage used in this paper were calculated by dividing the number of marriages in each month by the number of marriages in that year, after correcting for the number of days in the month. This result is multiplied by 1200 so that a value of 100 stands for the expected number of marriages, a value over 100 means the month in question witnesses relatively many marriages, and vice versa.

## 4 THE SEASONAL PATTERN, ITS DEVELOPMENT OVER TIME AND REGIONAL DIFFERENCES

Figure 1 shows the monthly variance of all included marriages for three sub-periods. Given the literature on the subject, the overall picture is hardly surprising, because the pattern is typical for most countries in northwest Europe, more specifically England, Germany and Belgium (Van Poppel 1995). When we focus on the development over time, the most surprising conclusion is the persistence of the pattern throughout the 19<sup>th</sup> and early 20<sup>th</sup> century. Despite revolutionary changes in economy and society, the prevalence of some months above others is striking. As expected, the peak in May is apparent. Although in the last period the peak is less explicit, it still exceeds the yearly average by more than 80 per cent. So, the suggestion that the May preference had disappeared by 1940 can be rejected, at least as a general conclusion. We can also observe a second peak in April and one in November, although the last one is less pronounced. Although the general pattern is visible throughout the entire period covered here, we can witness a decline in the May, April and November prevalence. Given the historical developments of the Netherlands we would predict the most marked changes in the first half of the 20<sup>th</sup> century. As already mentioned, these changes left the traditional pattern still visible. On the other hand, the changes between the second and the third period point in the expected direction. May and April witness a loss of about 20 per cent in marriages, whereas the summer months June until September gain up to 16 per cent.

The influence of the Catholic rules shows in the low numbers of marriages in March and December. Again, this is a valid conclusion for the entire period. From 1900 on, however, the number of marriages in the 'forbidden' months was slowly rising. For now, it is interesting to note that even at the start of the Second World War the influence of the agricultural calendar was visible in the marriage pattern, and that secularization on the other hand was hardly visible in the number of marriages contracted during Lent and Advent.

Figure 1 Seasonality of marriages in the Netherlands, 1810-1940, by period (indices; average=100)

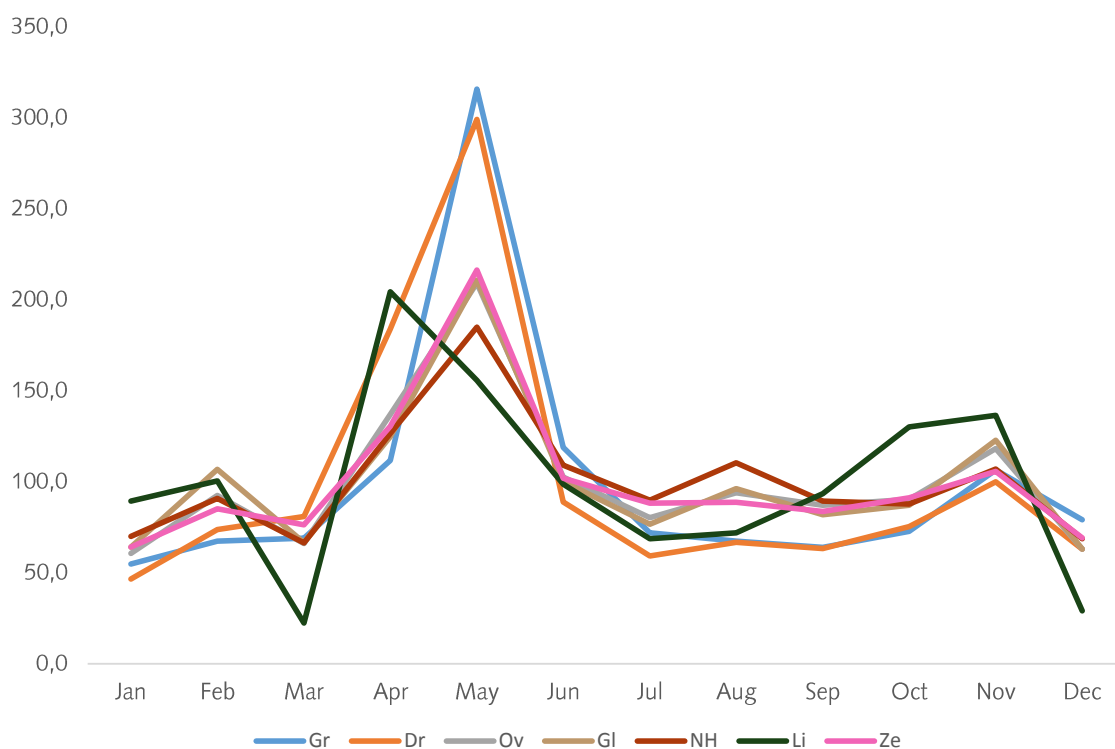


The obvious next question is whether or not this national average conceals regional differences within the country (figure 2). Again, all provinces included here show the same basic pattern in the graph, with a dominant peak in May and smaller peaks in April and November, and troughs in March and December. The differences we find are differences *within* this general pattern. The two northern provinces of Groningen and Drenthe have the most prominent peak in May marriages. The graphs for the provinces of Gelderland, Overijssel, Noord-Holland and Zeeland look very much alike, characterized especially by a lower index for the May month. Relatively low numbers of marriages in March and December are visible here too. In Noord-Holland we find a situation closest to what Van Poppel (1995) described. Although the month of May still witnesses most marriages, the difference compared



to the other months is less pronounced. Only in the most southern province of Limburg we find an exceptional pattern. First of all, the peak in marriages occurred here in April instead of May. We will return to this finding later. Also, in this almost homogeneous catholic province the ban on marriages in Lent and Advent was very strictly observed.

Figure 2 Seasonality of marriages in the Netherlands, 1810-1940, by province, (indices; average=100)



Note: Gr=Groningen, Dr=Drenthe, Ov=Overijssel, Gl=Gelderland, NH=Noord-Holland, Ze=Zeeland and Li=Limburg

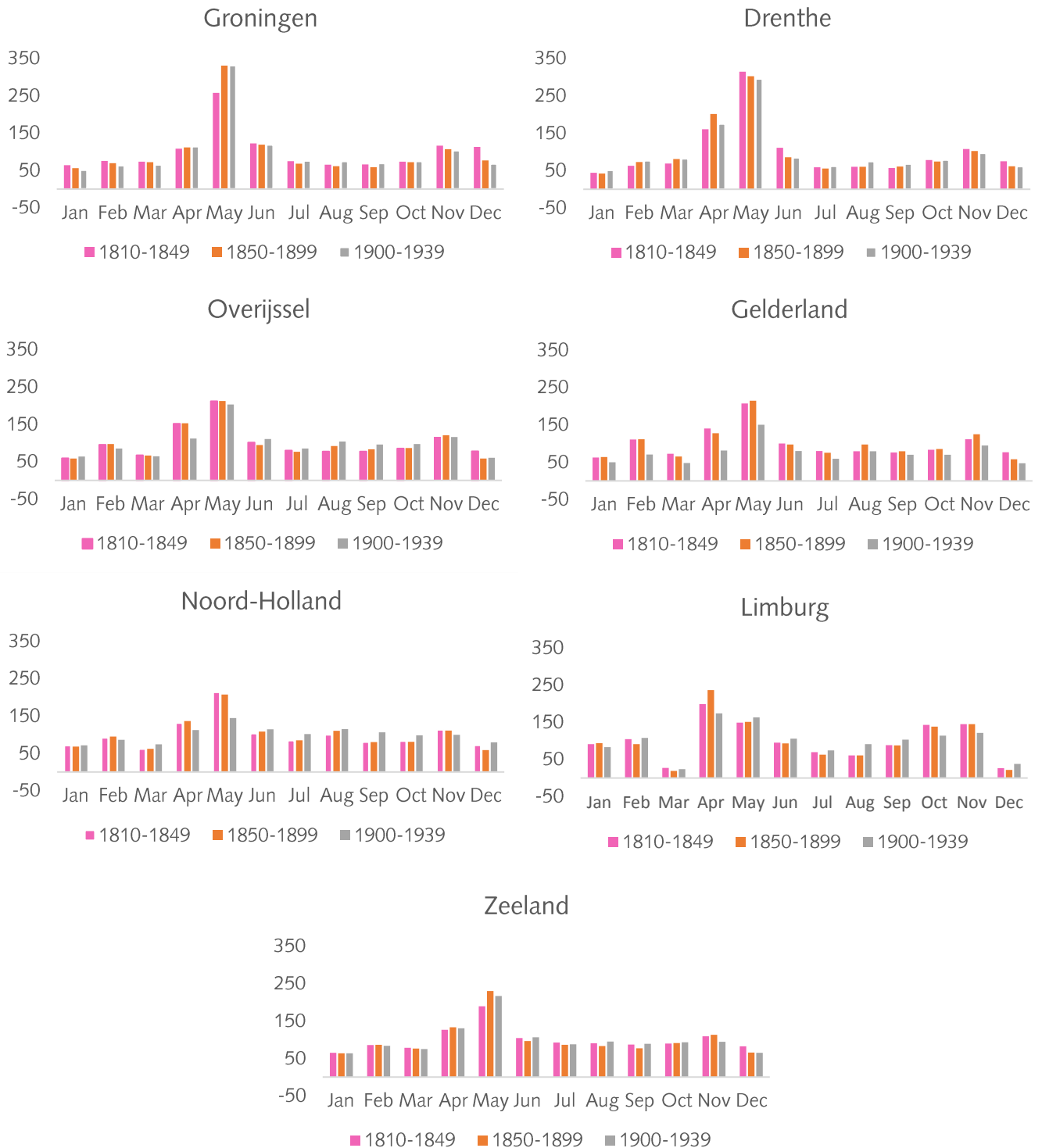
After investigating the historical developments and the regional variation, we will now focus on the combination of the two. This is the more interesting since the economic and cultural modernization was unevenly spread over the Netherlands (see Table 2), and thus may have differential effects on marriage seasonality. In Graph 3 the development of seasonality is plotted for every province. Essentially the graphs show that within the same basic pattern we can distinguish three groups of provinces. In the north of the country, the provinces Groningen and Drenthe, May has the most pronounced peak in the number of marriages. Also, this remains the case until 1940. On the other hand, the impact of the religious ban of marriages in March and December appears to have been minimal on the Groningen and Drenthe couples. In both characteristics they differ from the rest of the country.

At the opposite end of the country, the couples in the province of Limburg adhere strictly to clerical rules. We find a very low number of marriages in Lent and Advent. This is not surprising since the province is almost completely Roman Catholic. The April peak in marriages is surprising though. As in the rest of the country, May is a favorite month to marry, but April even exceeds this. For the time being, there are two possible explanations for this finding. First of all, since the marriage ban was strictly observed, the number of marriages in the months preceding or following March and December are expected to have relatively many marriages. The other explanation may be of a purely geographical nature. Given the fact that spring arrived earlier in the southern part of the country, the period of sowing ended before it did in other provinces. In the half century following 1900 the average yearly temperature in Limburg was 1.4 degrees Celsius higher than in Groningen, in April and May even up to 1.7 degrees.<sup>2</sup>

<sup>2</sup> <http://projects.knmi.nl/klimatologie/daggegevens/selectie.cgi>

The marriage seasonality in the remaining provinces, Overijssel, Gelderland, Noord-Holland and Zeeland is very much alike, although in Noord-Holland and Gelderland the peak in May marriages clearly diminishes in the last period.

Figure 3 Seasonality of Marriages, Dutch provinces, 1810-1940, (indices; average=100)



## 5 MARRIAGES IN MAY AND ECONOMIC MODERNIZATION

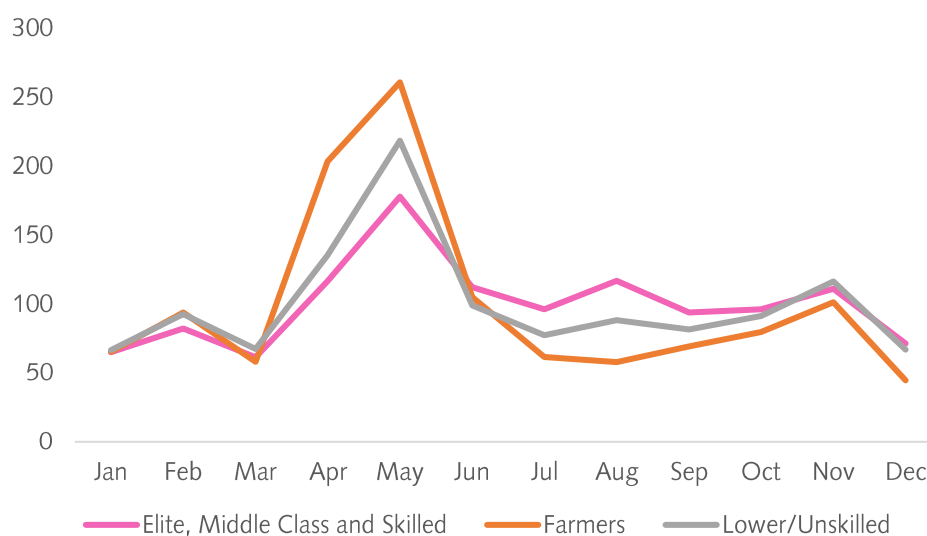
We already noticed that most couples married in May, and we also pointed at the reasons for this according to the existing literature. May and, to a lesser degree, April are often said to be the quiet period between sowing and harvesting. But most influential, many researchers state, is the fact that the contracts of Dutch agricultural laborers changed in that month, though this also was possible in November. So, when both bride and groom could change position, and both received a major part of their salary, the timing was right for a marriage festivity. The impact of this custom was enormous since the consequences are found for domestic servants, day laborers, craftsmen and tenant farmers, and thus involves in some provinces the majority of the population.

These findings then are received wisdom. If we want more detailed information we have to look into the *development over time*. Since modernizing economies witnessed a move from agriculture to the secondary and tertiary sector, we expect the impact of varying agricultural workloads to diminish. In the introduction we already described that this was indeed the case in the Netherlands. Do we also find such a shift in marriage seasonality? In our LINKS dataset we have information on the occupation of the groom. We can thus distinguish between the economic activities of the couple involved. Again, all research on the subject concludes that the major difference is between people working in agriculture and those employed outside agriculture.

Still, we included at first the 5 categories mentioned earlier. The elite group married mostly in April, May and August, whereas the first three months of the year were very unpopular, as was December. Middle class couples essentially shared the same pattern, as did the class of skilled workers. For the sake of clarity we therefore present them together in one line in figure 4. The seasonal marriage pattern of farmers clearly differed from the other occupational categories in that they married significantly more in April and May, and less in the harvest months. It is remarkable that the November peak hardly differed from the non-agricultural groups. The relative distribution of the marriages of lower/unskilled workers was in between the higher social groups, on the one hand, and farmers, on the other hand, in the months April and May, and also in summer. Another general conclusion is that for the first and last three months of the year, the pattern is remarkably similar.

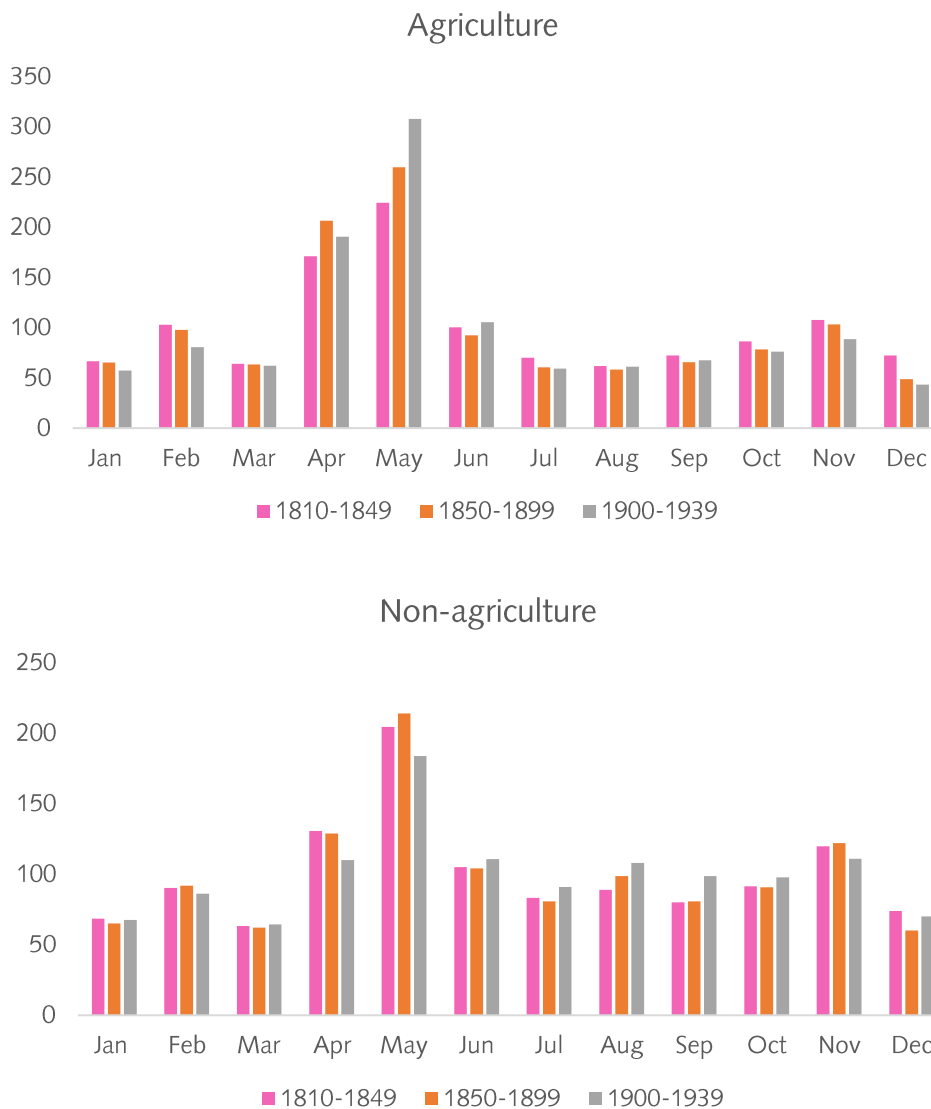
The graph also presents us with a question though. As already mentioned, most authors explain the popularity of May by referring to the low workload in agriculture and the changing of contracts in this sector. Now that we find that elite and middle class couples favor May too, be it less explicitly, we have to think of alternative explanations.

Figure 4 Seasonality of marriages by occupational categories, 1810-1940 (indices; average=100)



Another new finding from our data has to do with the development in time (figure 5). A comparison of the three periods used here reveals that in the agricultural sector the month of May gained momentum and even reached its highest peak in the first half of the 20<sup>th</sup> century. Those working in other sectors of the economy show the exact mirror image: the May peak slowly becomes smaller as time continues.

Figure 5 Seasonality of marriages by occupation, 1810-1939 (indices; average=100)



We will now turn to a statistical analysis of the influences on the decision to marry. We calculate the effects of region, of historical period and of economic activity on the timing of marriage, which are the characteristics currently available in our databases. Our questions therefore are: in what part of the country, at what moment in time did couples of several occupational groups choose to marry in May, and what behavioral changes can be traced? Since our dependent variable is of a categorical nature (May or not May) we use a binary logistic regression to assess the impact of the independent variables. The results are expressed as odds ratios in relation to a reference category. We calculate the odds of marrying in May for the seven provinces involved, and for the periods 1810-1849, 1850-1899 and 1900-1939. Since many studies argue that the agricultural shift of the workload over the year generated a seasonality of marriages with a peak in May, we first of all divided the couples into those with an agricultural background and those with an occupation in other sectors. But we also expect differences between the various occupational categories.

The odds of marrying in May are very different in the Dutch provinces. When compared to Zeeland, the two northernmost arable provinces have a much higher chance of marrying in May. At the other end of the continuum we find Limburg with a significantly lower chance compared to the reference category. This was to be expected since we already mentioned that this province showed a peak one month earlier, in April. Looking at the historical development, we can only conclude that the differences between the periods were relatively small. We do find, however, that in the second half of the 19<sup>th</sup> century May was more popular than before and after this period. From 1900 on, the attraction of May seems to be fading. Again, this is certainly not to the extent that we can conclude that it disappeared.

Table 3 *Logistic regression of the odds of marrying in May (Dutch marriages 1810-1939)*

	<b>May</b>
<b>Province (Zeeland=ref.)</b>	
Groningen	1.677***
Drenthe	1.507***
Overijssel	0.945***
Gelderland	0.968***
Noord-Holland	0.875***
Limburg	0.677***
<b>Period (1810-1849=ref.)</b>	
1850-1899	1.079***
1900-1939	0.981***
<b>Agriculture (Agric.=ref.)</b>	
Non-agriculture	0.775***
<b>Occupational status (lower/unskilled worker=ref.)</b>	
Elite	0.682***
Middle Class	0.779***
Skilled Worker	1.040***
Farmer	1.042***
Chi-Square	29.234
Nagelkerke R2	0.024
N	1,943,463

\*\*\* p&lt;0.001

We do wonder, of course, whether this change in the 20<sup>th</sup> century could be the result of a modernizing economic structure. The industrialization of the Netherlands came relatively late and a major shift from the first to the second and third economic sector started only in the first decades of the 20<sup>th</sup> century. The regression results indeed show that the odds of marrying in May for couples in which the groom was not active in agriculture was markedly lower than for their agricultural counterparts. The question remains whether the divide between the agricultural and non-agricultural sector was the only relevant distinction. We also calculated the influence of the HISCLASS categories. Again, also when calculated in this way the agricultural sector was overrepresented in May marriages, and the higher the occupational status the less this month was a favorite to marry. Elites and the middle class understandably had a different and probably more evenly-spread workload during the year.

## 6 SECULARIZATION: MARRIAGES IN MARCH AND DECEMBER

The other dominant factor determining the marriage seasonality was the Catholic calendar. As already mentioned, between Ash Wednesday and Easter and in the four weeks preceding Christmas, Catholic couples were only allowed to marry after dispensation. Even then they had to keep the festivities sober. In the earlier graphs we noticed the influence of this rule. The months of March (always a part of Lent) and December witnessed few marriages. Ron Lesthaeghe formulated a measure for this adherence to Catholic regulations, or, viewed from the other side, for secularization. He called it MLA (Marriages in Lent and Advent). It is calculated by assuming that if the months of March and December had their relative share of marriages, this should be 2/12<sup>th</sup> of the annual total. The index is calculated in such a way that if MLA is 100, this means the two months had their representative share of marriages. Less than 100 points at a lower number of marriages than statistically warranted. Lesthaeghe uses MLA as a measure for secularization (Lesthaeghe 1989). Following this line of reasoning we expect the MLA index to rise in our research period.

Unfortunately, we do not have information on the denomination of the individual couples. We therefore have to approximate the influence of this variable in another way. As a first attempt to assess the impact of Catholicism on marriage behavior, we selected a province with few Catholics, Groningen, in addition to the dominantly catholic province of Limburg. In the census of 1899, 98 per cent of the Limburg population was Roman Catholic, for Groningen this percentage was 6.6. Although there were minor changes in these percentages during our research period these provinces can be treated as representative for a catholic and a non- catholic region. We therefore present the MLA indices for Limburg and Groningen in Table 3. Since the two months referred to here had indices way below 100, they were obviously not favored by marrying couples in both provinces. Cressy already noted that in France even protestants followed the Catholic calendar since “the custom was so deeply engrained that they too avoided marrying during Advent and Lent” (Cressy 1985:3-4). Still, the difference between Groningen and Limburg is clear, especially in the 19<sup>th</sup> century.

Table 4 *MLA\* (Marriages in Lent and Advent) for Groningen and Limburg*

	Groningen	Limburg
1810-1849	93	27
1850-1899	74	21
1900-1939	66	31

Source: LINKS Database

We also notice that in the second half of that century Catholics in Limburg were even stricter than in the first half. For those familiar with the history of Dutch Catholicism it will be clear that the restoration of the clerical hierarchy in 1854 and the following ethical resurgence played a role. The 20<sup>th</sup> century on the other hand witnessed a rise in the number of marriages in the closed period of the year, or, in Lesthaeghe’s words, witnessed secularization. The question remains however whether we can treat Lent and Advent in one measure. It is possible that in the experience of the couples-to-be the ban was stricter in one of the two periods? In the multivariate analysis we will control for possible differences by regressing them separately next to MLA.

We first look at the results for MLA (column 2 in Table 5). When comparing the provinces, we see that Groningen couples were least inclined to follow the catholic regulations regarding appropriate dates for marriage, which is not surprising since the proportion Catholics in the province was very small. In Limburg on the other hand the number of marriages in the banned periods was much lower than the value in the control province Zeeland. This confirms our earlier findings from the descriptive statistics. The historical development of the compliance to the marriage ban is informative too. Even if we control for other variables, the conclusions from Table 3 remain valid. In the second half of the 19<sup>th</sup> century Dutch couples were stricter in following the rules than in the first half of that century, and from 1900 on the restriction was less effective. Still, the relative value in the 20<sup>th</sup> century remained below the level of the period 1810-1849. When the groom was working in agriculture, chances of marrying in Lent or Advent were slightly smaller than when he worked in other sectors. This finding is confirmed by the regression including all occupational categories. It also is clear that elite couples were less inclined to live up to the rules. This last observation is in line with the conclusion in many studies, for instance that for the fertility decline the upper social classes lead the way in accepting new behavior.

Table 5 *Logistic regression of the odds of marrying in the banned periods, and in March and December separately (Dutch marriages 1810-1939)*

	MLA	March	December
<b>Province (Zeeland=ref.)</b>			
Groningen	1.028**	0.905***	1.160***
Drenthe	ns	1.073***	0.944***
Overijssel	0.905***	0.873***	0.953***
Gelderland	0.901***	0.880***	0.937***
Noord-Holland	0.927***	0.880***	ns
Limburg	0.331***	0.281***	0.420***
<b>Period (1810-1849=ref.)</b>			
1850-1899	0.853***	0.968***	0.769***
1900-1939	0.933***	1.018*	0.866***
<b>Agriculture (Agric.=ref.)</b>			
Non-agric.	1.041***	ns	1.096***
<b>Occupational status (lower/unskilled worker=ref.)</b>			
Elite	1.033*	0.884***	1.177***
Middle Class	ns	0.968**	1.084***
Skilled Worker	0.877***	0.859***	0.908***
Farmer	0.831***	0.903***	0.762***
Chi-Square	15.304	8.277	8.010
Nagelkerke R2	0.016	0.012	0.012
N	1,964,885	1,964,885	1,964,885

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; ns  $p > 0.05$

Does this finding for MLA also stands for the months of March and December separately? The answer is, only partly. Except for Drenthe, the odds for Dutch couples of marrying in Lent were lower than for marrying in December. When assessing the development over time we conclude that the number of marriages both in Lent and in Advent increased in the third period, but only the March marriages surpassed the early 19<sup>th</sup> century level. With regard to MLA the results for farmers and other occupations are as was to be expected. Farmers comply, whereas elite and middle class couples are more inclined to make their own choices. Still, we also find a clear difference in the attitude towards Lent and Advent. Especially the higher occupational classes followed the rules in Lent, but were more inclined to marry in December than the other occupations.

## 7 CONCLUSION AND DISCUSSION

After studying the seasonality of almost 2 million Dutch marriages in the long 19<sup>th</sup> century, we conclude that even with a limited number of variables we can reach interesting results. Our first observation must be that the tenacity of historically grown customs with regard to the month of marriage appears to be very strong. Whether we look at the provinces, at the individual periods or at the occupational categories, the same basic pattern always persists. Except for Limburg, May is the top month, followed by April and November. This confirms conclusions from earlier studies. It is the changing workload over the year that dictates that these three months are economically best suited for a marriage. We also found that Van Poppel's conclusion on the disappearance of the May peak does not hold. Although the peak was less remarkable after 1900 and although compared to the rest of the Netherlands it was significantly smaller in the commercialized west of the country, it still clearly existed in the whole country until 1940.

We find the same pattern in every province, be it with small regional differences within them. Groningen and Drenthe, the two northernmost agricultural provinces had the highest May peak, whereas Limburg witnessed the highest number of marriages immediately after Lent in April. A subdivision of the population in socioeconomic groups leads to the same conclusion: the basic pattern is visible for all groups. Here too, there are variations *within* this pattern. People working in agriculture preferred marriages in May more than their non-agricultural fellow countrymen. This observation is valid throughout the 19<sup>th</sup> and early 20<sup>th</sup> century, with the surprising finding that couples with an agricultural background favored May even more in the 20<sup>th</sup> century than before.

Our findings also indicate that workload probably is not the only explanation for the peak in marriages in May. Throughout the period studied here, couples from all occupations favored this month, even if their workload was not dictated by the agricultural calendar. Both biology and culture provide potential alternative explanations since spring is celebrated on many occasions and in many ways.

We find March and December to have the lowest number of marriages, an indication of the dominant influence of clerical regulations that prohibit marriages in Lent and Advent. When we compared the almost completely Roman Catholic province of Limburg with the non-catholic province of Groningen the relatively low number of marriages in March and December were visible in both, but the differences between the two provinces were enormous, once again emphasizing the influence of the clerical regulations in Limburg. The Netherlands witnessed a resurgence of the Roman Catholic Church in the second half of the 19<sup>th</sup> century. This is also mirrored in the fact that the compliance with the marriage ban was strictest between 1850 and 1900.

Although in many studies the observance of the Lent ban and the Advent ban are treated as being the same, we chose to disentangle the two. This procedure indeed offered extra information. Dutch couples avoided a marriage in Lent more than they did marriages in Advent. When we control for the socio-economic group, we find that the higher the status the less couples were inclined to live up to the rules imposed on them by the church.

Historical demographic indicators in many cases offer a direct and unbiased insight into the core of a society. Where descriptions and regulations show how people were *supposed* to live, we find their *actual* beliefs and behavior in their reproductive careers. This study once again proves this point. Although Dutch society thoroughly changed during the 19<sup>th</sup> and early 20<sup>th</sup> centuries, economically, socially, politically and culturally, up until the Second World War, both the agricultural calendar and the Roman Catholic regulations determined Dutch marriage seasonality as if practically nothing happened. In the minds of historical actors the past lives on long after reality has changed. Still, changes did occur. In the last period, we witnessed a small, but significant decline in the number of May marriages. Also, secularization increased in the pillarized Netherlands, since after 1900 we find an increase in both March and December marriages.

There are ample questions for future research. We would like to include all provinces of the Netherlands in order to complete our findings and make conclusions more robust. Also, the number of variables is limited. Most of all, information on the denomination of every individual couple is necessary to accurately assess the impact of this factor. Although we do not expect to find big differences, it would be interesting too to differentiate between clerical and civil marriages. And lastly, the findings on May warrant further research into the biological and cultural variables leading to the favorite position this month had for the entire period covered here, and for all provinces and all occupational groups.



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