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# Internal Migration in Friesland, 1750–1805    The so-
cial history of preindustrial Europe has been radically rewritten
by the scholarship of demographic historians in the past two or
three decades. A great many of our received notions regarding
marriage customs and household formation in "traditional" so-
cieties have been proved to be wrong. Moreover, our understand-
ing of the interaction between mortality, nuptiality, and fertility
has been significantly improved by the numerous local family
reconstitutions based on parish records. Yet despite the intensity
of research in this field, our knowledge of migration patterns
within European communities remains limited. This article fills
that lacuna for one province in the Dutch Republic during the
second half of the eighteenth century.[1]

As the techniques of historical demography have become
more sophisticated—resulting in more and better estimates of
birth and death rates across Europe—the scarcity of well-founded
migration data has been an obstacle to a fuller understanding of
the preindustrial demographic regime. Without migration data
conclusions are difficult to reach about the growth of the popu-
lation in different regions and about its distribution between rural
and urban areas. Moreover, the decision to migrate is the most
deliberate of all of the demographic indicators. Although influ-
enced by the state of the economy, fluctuations in mortality and
fertility only provide an imperfect mirror of economic change
because they are mediated by natural events beyond human con-
trol, most obviously climate and the movements of pathogens.
By contrast, migratory patterns directly reflect the structure of
the preindustrial economy and, particularly, the function (or dys-
function) of the labor market.

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1   For a good survey of the literature in this field, see Steven Hochstadt, "Migration in
Preindustrial Germany," *Central European History*, XVI (1983), 195–224.

Internal migration research has been stymied by two obstacles. The first is the prevalent belief that preindustrial societies are by definition relatively static; in other words, there was no migration to study. Shorter summarized this position well by stating that in traditional societies "the vast majority of the population stayed firmly in place." He discounted the importance of any movement, whether social or geographical, prior to the emergence of "modernity."

The second obstacle arises from the nature of the sources. Parish registers are wholly unsuited for the study of migration because the people who migrate are precisely those who cannot be followed over time and therefore never show up in a family reconstitution.[2]

Increasingly, evidence is mounting against the notion that the preindustrial world was an immobile one. Numerous local studies have, often inadvertently, revealed extensive mobility among our ancestors. Most of this work has been done in France and England, leading Tilly to conclude that "if the sheer frequency of moves is the criterion, it is not at all clear that industrialization produced a major increase in the European population's mobility." Hochstadt extends this conclusion to central Europe as well. He argues that "in all probability, German urban communities in the centuries before industrialization housed a more mobile population than they do now."[3]

Despite the paucity of migration research on the Netherlands, these conclusions fit well with what is known about the Dutch experience in the seventeenth century. A characteristic feature of this period was the rapid rise in population in all of the provinces. This growth resulted from both immigration—principally from the southern Netherlands and German lands—and an accelerated rate of natural increase. Concomitant with the increase of the total number of Netherlanders was their significant concentration in urban areas. Even in the relatively rural province of Friesland, the trend toward concentration was significant. Between 1511 and 1689, the population of Friesland doubled, while the urban share of the population grew from 23 to 33 percent. This same period

2 Edward Shorter, *The Making of the Modern Family* (New York, 1975), 47.
3 Charles Tilly, "Migration in Modern European History," in William McNeill and Ruth Adams, *Human Migration* (Bloomington, 1978), 63. Hochstadt, "Migration," 209.

witnessed the development of *vlekken*—urbanized villages spe-
cializing in trade and manufacture—which eventually gained a 15
percent share of the total population. For the Friesian economy
this concentration was probably more influential than the increase
in population.

Evidence of such rapid urbanization removes any doubt that
internal migration played a crucial part in the preindustrial demo-
graphic system of the northern Netherlands. In fact, a study of
the origins of marriage partners registered in Amsterdam between
1601 and 1800 revealed that only 56 percent of brides and 40
percent of grooms were native born; of the remaining newlyweds,
half were from other areas in the Netherlands and half from
abroad. Although this study looked only at migrants who were
successful in the marriage market, Hart concluded that the pop-
ulation growth of Amsterdam was largely due only to high rates
of in-migration.

The logic behind Hart's assertion becomes more compelling
in light of the higher mortality typical in urban areas vis-a-vis
rural areas. This mortality differential, according to de Vries,
made "rural-urban migration an important regulator of rural pop-
ulation growth." Or, stated from the perspective of the individual,
migration to a city or rural center of industry opened up the
possibility of marriage and of household formation for many of
the younger sons of farmers for whom there was no open niche
in the rural economy. Rural-urban migration limited rural pop-
ulation growth and spared the Dutch peasantry the impoverish-
ment faced in other areas of western Europe.[4]

The eighteenth century presents an altogether different pic-
ture. Not only did the Dutch lose their commercial dominance,
but the population stagnated as well. The role of internal migra-
tion in producing these changes is not as straightforward as it was
in the "golden age," which was characterized by rapid population
growth and urbanization. Given the evidence of relative economic
decline, the temptation is to assume a priori that migration was

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4   Simon Hart, *Geschrift en Getal* (Dordrecht, 1976), 121. For a complete discussion of
the "law of urban natural decrease" see Jan de Vries, *European Urbanization, 1500–1800*
(Cambridge, Mass. 1984), 175–198. *Idem,* "The Population and Economy of the Prein-
dustrial Netherlands," *Journal of Interdisciplinary History,* XV (1985), 666. See also Em-
manuel Le Roy Ladurie, *The Peasants of Languedoc* (Chicago, 1976), for a provocative
discussion of the consequences of rapid rural population growth in Languedoc.

not important during the eighteenth century. Yet, the process of adjusting to decline—or moving to a "new equilibrium," as van Houtte has suggested—is the key point of interest for economic historians. In particular, we want to understand the role played by the labor market—as measured by internal migration—in facilitating such a process.[5]

Fortunately we have direct evidence of the incidence of migration in Friesland in the second half of the eighteenth century. A census was taken in 1748/49 to improve the efficiency of tax collection. Called the *Quotisatiekohieren,* the census counted all households and included information on the name and occupation of the head of household, family size, tax rate, and home village within each administrative jurisdiction. Annual updates, called the *Speciekohieren,* registered heads of households moving into or out of each jurisdiction. The register listed both the village or origin and the village of destination, for each migrant providing a way to measure the distance of each move. With the fall of the Batavian Republic in 1805, the registration of migrants ceased due to administrative changes in the tax collection procedure.

During the period covered by these registers, Friesland was divided into forty-one jurisdictions; thirty were rural (called *grietenijen*), although some contained large settlements (called vlekken) which displayed urban characteristics but did not have urban status. The remaining eleven jurisdictions consisted of Friesland's eleven cities. The composition of these administrative districts along such clearly rural-urban lines makes the data unusually well suited for economic analysis. Of the forty-one jurisdictions, data from thirty-five were available for this article. Nine were urban, including the capital city Leeuwarden, and the remaining twenty-six were evenly distributed among the four rural land-use regions making up the province.

Of the jurisdictions included, nine have more than forty years of complete records, seven cover between twenty and forty years, and the rest range from four to nineteen years of coverage, except Leeuwarden, for which the registers of only two years remain. The combined data set is composed of 21,136 observations. Fortunately, all of the extant *Speciekohieren,* except for those from

5  J. A. van Houtte, *An Economic History of the Low Countries* (London, 1977), 225.

Haskerland and Schoterland, fall somewhere in the decade 1796 to 1805, so it is possible to look at migration patterns cross-sectionally as well as over time.

An important limitation to the data is that for the vast majority of the recorded moves nothing is known about the migrants other than their names (and, by implication, their sex), their destinations, and whether their spouse was deceased. Missing are data on occupations, ages, and whether they moved singly or as a family. For nine of the jurisdictions with records dating back to 1750, some migrants can be nominally linked to their records in the Quotisatiekohieren, to obtain auxiliary personal information. However, the percentage of migrants found in the original tax census diminishes rapidly from 1750 forward.

Another important concern is the consistency of reporting methods across jurisdictions and over time. The most obvious test of consistency is the comparison of the percentage of the population that moved each year from each grietenij and from each city. Some fluctuation is to be expected in this measure—particularly if the labor market was pulling people in a directed way—but the variation between jurisdictions is not so great as to suggest systematic differences in the types of moves which were recorded in the registers from different places. Only Engwirden stands out with an exceptionally high rate of out-migration which may be accounted for by the predominance of peat digging in its economy and the depletion of local fields (see Table 1).

More evidence of consistent recordkeeping can be found in the auxiliary notes regularly made by the scribes in all of the registers concerning the status of a migrant as someone's son, daughter, maid, or servant. These notes indicate that the move of others besides taxable heads of households were registered and that this "over-reporting" was generally practiced. (The tax burden of a household was in part determined by the number of its members, so the emigration of any member would be of interest to the reporting authorities.) Furthermore, of a total 21,136 recorded moves, only 1,499 or 7.1 percent were to unknown destinations. Whereas moves to known destinations may not be representative of moves to unknown destinations, the percentage is low enough that even in the case of extreme bias the results of this study would not be significantly affected.

*Table 1* Migration Annual Percentage Rate

| GRIETENIJ | YEARS OF DATA | NUMBER OF YEARS | TOTAL MOVES | MEAN ANNUAL MIGRANTS | POPULATION IN 1796 | ANNUAL RATE |
|---|---|---|---|---|---|---|
| Leeuwarderadeel | 1796–1805 | 10 | 338 | 33.8 | 4,586 | .74% |
| Wymbritseradeel | 1759–1797[a] | 27 | 1,005 | 38.2 | 4,831 | .77% |
| Wonseradeel | 1784–1802 | 19 | 903 | 47.5 | 6,989 | .68% |
| Region I: Kleiweidestreek | | | | 119.5 | 16,406 | .73% |
| Hemelumer Oldeferd | 1767–1797[a] | 25 | 712 | 28.5 | 2,191 | 1.30% |
| Doniawerstal | 1751–1799[a] | 42 | 658 | 15.7 | 1,746 | .90% |
| Gasterland | 1796–1804 | 9 | 106 | 11.8 | 2,050 | .57% |
| Haskerland | 1750–1795[a] | 44 | 1,085 | 24.7 | 3,888 | .63% |
| Engwirden | 1796–1804 | 9 | 237 | 26.3 | 839 | 3.14% |
| Utingeradeel | 1752–1805[a] | 51 | 638 | 12.5 | 2,507 | .50% |
| Rauwerderhem | 1796–1805 | 10 | 98 | 9.8 | 1,477 | .66% |
| Idaarderadeel | 1784–1797[a] | 13 | 215 | 16.5 | 3,029 | .55% |
| Region II: Veenweidestreek | | | | 145.8 | 17,727 | .82% |
| Dantumadeel | 1796–1802 | 7 | 223 | 31.9 | 3,965 | .80% |
| Tietjerksteradeel | 1751–1805[b] | 44 | 1,750 | 39.8 | 5,673 | .70% |
| Achtskarspelen | 1796–1802 | 7 | 98 | 14.0 | 4,690 | .30% |
| Smallingerland | 1751–1805[a] | 54 | 1,791 | 33.2 | 4,682 | .71% |
| Opsterland | 1752–1805[b] | 34 | 1,082 | 31.8 | 6,715 | .47% |
| Schoterland | 1751–1766 | 16 | 511 | 31.9 | 5,903 | .54% |
| Ooststellingwerf | 1796–1805 | 10 | 133 | 13.3 | 2,480 | .54% |
| Weststellingwerf | 1796–1805 | 10 | 142 | 14.2 | 4,828 | .29% |
| Region III: deWouden | | | | 210.1 | 38,936 | .54% |
| Kollumerland | 1762–1797[a] | 34 | 511 | 15.0 | 3,875 | .39% |
| Oostdongeradeel | 1796–1802 | 7 | 153 | 21.9 | 4,312 | .51% |
| Westdongeradeel | 1789–1792 | 4 | 81 | 20.3 | 4,145 | .49% |
| Ferwerderadeel | 1797–1803 | 7 | 101 | 14.4 | 4,607 | .31% |
| Menaldumadeel | 1763–1796 | 30 | 929 | 31.0 | 4,596 | .67% |
| Franekeradeel | 1752–1805 | 53 | 1,472 | 27.8 | 2,449 | 1.13% |
| Barradeel | 1751–1804[a] | 52 | 1,318 | 25.3 | 3,632 | .70% |
| Region IV: Kleibouwstreek | | | | 155.7 | 27,615 | .56% |
| All rural grietenij | | | | 631.1 | 100,684 | .63% |
| Leeuwarden | 1795, 1797 | 2 | 310 | 155.0 | 15,525 | 1.00% |
| Bolsward | 1751–1805[a] | 48 | 832 | 17.3 | 2,783 | .62% |
| Franeker | 1790–1805[a] | 15 | 432 | 28.8 | 3,891 | .74% |
| Sneek | 1751–1804[b] | 46 | 1,140 | 24.8 | 4,893 | .51% |
| Dokkum | 1761–1794 | 34 | 464 | 13.6 | 2,682 | .51% |
| Sloten | 1790–1805 | 15 | 95 | 6.3 | 557 | 1.14% |
| Workum | 1752–1797[b] | 39 | 909 | 23.3 | 3,157 | .74% |
| IJlst | 1796–1805 | 10 | 117 | 11.7 | 1,144 | 1.02% |
| Hindeloopen | 1796–1805 | 10 | 47 | 4.7 | 1,500 | .31% |
| All cities | | | | 285.5 | 36,132 | .79% |

[a] Break of five years or less in the series.
[b] Break of more than five years in the series.

MIGRATION PATTERNS    The most striking characteristic of the data is the difference in average distance traveled depending on the rural or the urban character of both the sending and receiving location. The average distance of all of the moves within the
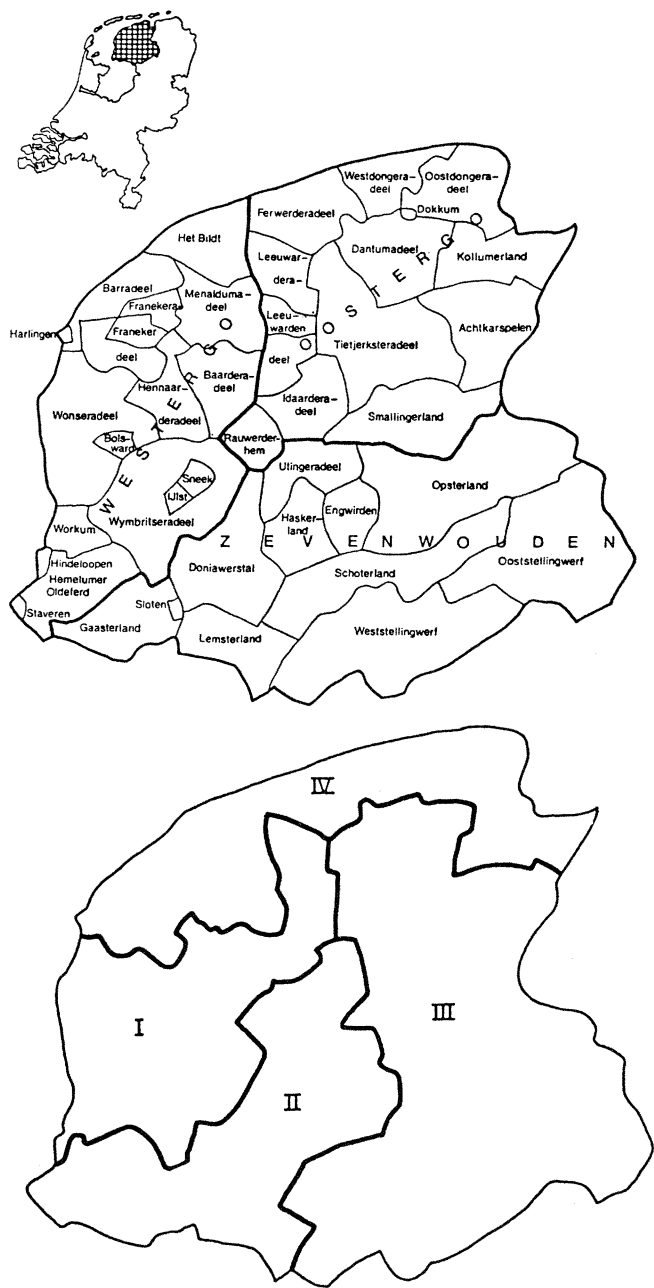
geographical limits of Friesland was 11.6 km. (st. dev. 9.6). On average, the distance of moves beginning in rural places was below this mean and those beginning in cities was above it. More specifically, the distance traveled followed a clear upward pattern across the four possible combinations of moves. Rural-to-rural moves averaged 10.1 km. (st. dev. 8.4), rural-to-urban moves 11.6 km. (st. dev. 10.4), urban-to-rural moves 13.2 km. (st. dev. 10.8), and urban-to-urban moves 18 km. (st. dev. 9.6). Not surprisingly, a great deal of variation is obscured by these aggregated means. Despite the general validity of these results, a closer examination of the data reveals that not all rural areas were equally rural.

Following Faber, the province has been divided into four agricultural land-use regions.[6] Region I, the Kleiweidestreek, is characterized by clay soil suitable for cattle raising. Region II, the Veenweidestreek, is characterized by peat soil also suitable for cattle raising. Region III, de Wouden, is an area of poor quality sandy soil, and region IV, the Kleibouwstreek, consists of a good quality marine clay soil suitable for arable farming. Regions I and IV both bordered the Zuider Zee with easy water access to Holland and thus larger markets. These areas were commercialized at an early date and the majority of Friesland's cities became concentrated there. A higher percentage of moves from these regions was to cities than from the other two regions (40.8 percent and 34.3 percent for I and IV, compared to 18.9 percent and 8.7 percent for II and III), and the mean distance traveled to cities from the former was significantly lower than from the latter. (See Table 2.)

Of the twenty-six rural districts, only four (Leeuwarderadeel, Wymbritseradeel, Wonseradeel, and Barradeel) show a statistically significant higher mean distance of migration to rural areas than to urban ones, and all of them are located in regions I and IV. For example, the average migrant from Wymbritseradeel had to travel only 4.4 km. to reach Sneek; one from Barradeel had to travel only 2.1 km. to reach Harlingen, the largest port city of the province. But an average migrant from Smallingerland in de Wouden had to travel 20.4 km. to reach the nearest city, Leeu-

6   Johannes A. Faber, *Drie Eeuwen Friesland* (Wageningen, 1972), 610.

*Fig. 1*   The Province of Friesland and its Land–Use Regions

*Table 2*  Distribution of Migration Between Regions

| DESTINATION | ORIGIN | | | | |
|---|---|---|---|---|---|
| | REGION I: KLEIWEIDESTREEK | REGION II: VEENWEIDESTREEK | REGION III: de WOUDEN | REGION IV: KLEIBOUWSTREEK | URBAN |
| Kleiweidestreek | 12.55% (340) | 11.13% (413) | 3.41% (194) | 14.34% (651) | 15.72% (678) |
| Veenweidestreek | 10.59% (287) | 35.00% (1299) | 8.73% (497) | 1.21% (55) | 8.60% (371) |
| de Wouden | 2.99% (81) | 22.15% (822) | 46.18% (2629) | 9.93% (451) | 5.35% (231) |
| Kleibouwstreek | 9.12% (247) | 1.62% (60) | 6.39% (364) | 32.78% (1488) | 7.97% (344) |
| Urban | 40.86% (1107) | 18.86% (700) | 8.69% (495) | 34.58% (1570) | 38.73% (1671) |
| Out of province | 12.07% (327) | 8.30% (308) | 13.75% (731) | 5.55% (252) | 18.71% (807) |

NOTE    The numbers in parentheses are the frequency of moves to each destination from each point of origin.

warden. For the commercialized farmers in Region I, the move to a city may have been less difficult (and possibly more economically rewarding) than a move to another rural grietenij.

To test more precisely the relative effects of distance and population size on the destination choices of migrants, a useful tool is the gravity model developed by spatial geographers. The model—based on empirical results, not theory—postulates that the incidence of movement between two places will be directly proportional to the mass of the two places and inversely proportional to the distance between them.

Distance is relatively easy to compute by using the average of all the moves between two jurisdictions, but the mass component of the equation is not so straightforward. The mass component is intended to represent the attractive (or repellent) force of each location, and, ideally, would include some measure of business activity, job opportunities, quality of life, and sheer population size. However, in the context of historical study, such data are rarely available. In fact, the only reliable and complete data which exist for this period are population statistics from the 1796 census; thus population must serve in this gravity equation as a proxy for mass. The final equation is:

$$M_{ij} = (P_i \star P_j)^{b1}/(D_{ij})^{b2}.$$

The loglinear transformation of this equation is:

$$\ln M_{ij} = a + b_1 \ln(P_i \star P_j) - b_2 \ln(D_{ij}).$$

Although the model cannot offer reliable predictive capabilities, the coefficients $b_1$ and $b_2$ can serve as an indication of the relative strength of each of these factors in determining the observed pattern of migration. A dummy variable was also added to the equation to differentiate urban destinations from rural ones, in order to improve the reliability of the population proxy for mass. Because of the varying geographic size of the rural districts, their population alone could be misleading as an indicator of their attractive power.[7]

As noted, the number of years covered in the extant registers varies between the jurisdictions, and not all of the registers have data for even a single year in common. Thus, the frequency of each combination of moves could not be used for $M_{ij}$. Instead, the twenty-year period 1786 to 1805, which centered on 1796 and which included every jurisdiction, was selected. From these twenty years the frequency of each combination of moves was determined and divided by the number of years of available data. This calculation gave an annual average number of moves between each district in a 34 × 40 matrix—34 possible points of origin and 40 possible points of destination within Friesland. As expected, 560 of the cells contained zero moves despite the original specification of up to twenty years of data.

The coefficients were estimated using ordinary least squares regression. The overall performance of the gravity equation in explaining the total variation in $M_{ij}$ was good but not excellent. This regression resulted in an $R^2$ of .6444, with the following coefficient values (the t-statistic is given in parentheses):

| Constant | Population | Distance | Urban |
|---|---|---|---|
| −5.29074 (−10.61) | .50089 (16.49) | −1.40387 (−35.11) | .39949 (6.72) |

The population coefficient, $b_1$, measures the degree to which a unit change in the population product of two locations affects the movement between them. As predicted by the theory behind

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7  Earlier versions of the equation included a dummy variable for bordering *grietenijen* as well as a deflator variable for the number of square kilometers in each jurisdiction. Although both variables tended to reinforce the results presented, they were left out of the final equation because neither was statistically significant.

the model, the sign is positive. Yet the value .50089 is below the generally expected value of 1 for the population exponent. This value indicates that an increase in the number of inhabitants living in a grietenij exerted only a diluted force on the number of moves from or, more likely, to it. Yet the positive sign on the urban dummy variable indicates that cities did have an attractive power beyond that created by population size alone. A one unit change in the distance between two locations leads to a greater than one unit change in migration between them, although as the theory behind the gravity model would predict, this change is negative. Taken altogether, the model behaves fairly much as expected for a primarily agrarian economy: distance was a greater deterrent to moves far from home than size was an inducement.[8]

Although these results offer no real surprises, it is still interesting to compare the value of $b_2$ found here with the $b_2$ calculated by de Vries for the use of canal transportation in Friesland during the period 1660 to 1670. He found that when assuming a population exponent of 1 the optimal distance exponent was 1.9, a full half point higher than my coefficient of 1.4. This discrepancy raises two possibilities: the first is that people were willing to travel farther when making a permanent move than is suggested when all types of travel (both short- and long-term) are looked at together. The theory of "intervening places" does not hold well for permanent moves. For example, people journeying to market need only to reach the closest one, whereas at least some people moving to find employment may need to pass the first intervening place and continue on before finding an appropriate position. The second possibility is that a dramatic change occurred in the role of urban places as intervening opportunities between the mid-seventeenth and the late eighteenth centuries. If as Faber argues, urban areas were in relative decline after 1650, then we might expect not only the population exponent to decrease, but the distance exponent to decrease as well as a city in midroute became less of a deterrent to further movement.[9]

These issues can be further clarified by calculating the expected number of annual migrants between each set of points based on the regression coefficients obtained from the gravity

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8   De Vries, *Barges and Capitalism* (Wageningen, 1978), 290.
9   *Ibid.*, 291; Faber, *Drie Eeuwen,* 11.

equation and from the original values of Pop and $D_{ij}$. When the matrix of expected moves is compared with the matrix of actual moves, two characteristics of the data become apparent.

The first is that for every district of origin the actual number of moves was significantly higher to bordering jurisdictions than the gravity model predicted. Although the distance variable should be closely correlated with the status of two jurisdictions as bordering places, it nonetheless underestimates the relationship. This observation can partially be explained by the measurement of $D_{ij}$ as the mean distance of all moves from the $i^{th}$ to the $j^{th}$ grietenij (or in the absence of any moves the distance between two central points). For people who had merely to step over the border, the mean distance would clearly overstate the length of the move. Furthermore, bordering localities may share more economic qualities and social customs than mere distance can capture in a linear model.

The second characteristic is that cities were more effective in attracting migrants than can be accounted for by their population size alone. Even though rural districts rarely experienced more in-migration than expected (and eleven of them experienced less), the pattern for cities was different. Nine of Friesland's eleven cities had a positive mean value for the differential between expected and actual in-migration averaged over each of the 34 sending jurisdictions. A good example is Leeuwarden, which received on average an extra .64 persons per year from every other place in Friesland. The only rural districts to come within range of the cities were Achtklarsplen, Tietjerksteradeel, and Schoterland; the latter two were most likely affected by Bergum and Heerenveen, the thriving vlekken situated within their borders.

The two cities which do not have positive mean differentials or demonstrate "deficient" in-migration, are both explained with relative ease. IJlst is adjacent to the much larger city of Sneek, which must have deflected some of the former's potential migrants. The other city, Hindeloopen, was a seaport past its prime and no longer much more than a village. Despite any relative decline in the importance of cities since the golden age, urban areas in the late eighteenth century still demonstrated an attractive force not explained by population size alone.

This recognition notwithstanding, 36 percent of the total variation in $M_{ij}$ remains to be explained. This residual may be

part of the pattern, reflecting the existence of "systematic randomness" in migration decision-making behavior. By this statement I mean that the choice of any given individual may be made systematically, but the overall effect of many people's choices yields the appearance of randomness. The highly directed movement of people which a close-fitting regression requires may not occur in a still highly agrarian society characterized by slow growth. Besides the high out-migration from Engwirden (suggesting a depletion of the peat fields there) and the unusual behavior of Leeuwarden, all of the jurisdictions seem to dispel and to attract roughly similar numbers of migrants. With job opportunities scarce in the face of a growing population, many individuals must have passed while traveling in opposite directions on the road to personal fortunes. Despite the lack of clear direction, their travel indicates the hand of the labor market at work.

In fact, much remains to be said about the net effect of all this movement. Because only some of the forty-one jurisdictions are represented in the data set and those which are do not always cover the same time period, the only useful way to look at regional patterns is in percentages. Given the four land-use regions suggested by Faber, we would expect that, ceteris paribus, the majority of people leaving their home district would go somewhere else in the same region. Yet a quick glance at Table 2 shows that only Region III exhibits this tendency, with 46.2 percent of all moves originating in de Wouden remaining there. The next highest groups are the 8.73 percent of the moves to the Veenweidestreek and the 8.69 percent to the cities, both below the percentage of economically local moves. Region II comes close to the expected pattern of behavior with 35.0 percent of all its moves within the area. The unexpected 22.2 percent of moves from the Veenweidestreek to de Wouden can be explained by the large number of people moving from Haskerland to Schoterland—a bordering grietenij, with an important vlek, Heerenveen, within its borders.

Region IV also behaves somewhat as expected, with 32.8 percent of the moves originating and staying in the Kleibouwstreek. However, in this case the 34.6 percent of all moves which were to cities is clearly a reflection of the region's urban orientation and the proximity of Franeker and Harlingen. This trend toward cities is most obvious in the case of Region I, where the

highest percentage—40.9—of moves is to cities, with local rural moves falling a distant second, with 12.6 percent. Finally, and not unexpectedly, people leaving cities were most likely to go to other cities—38.7 percent of urban moves fall into this category. The second highest group is the 15.7 percent of the urban migrants who moved to a rural district in Region I. This migration is further evidence of two-way movement and of the relatively high number of cities located in or near the geographical boundaries of the Kleiweidestreek.

THE URBAN DEMOGRAPHIC REGIME     The preceding description of what is essentially local movement, is of most interest to specialists in Dutch history, but the data collected here also address a much larger concern of demographic historians: is the decline of urban dwellers in the total population a result of out-migration from the cities or a reflection of different demographic regimes in rural and urban areas? Altogether, 23.3 percent of the moves beginning in rural areas ended in cities and 37.6 percent of moves beginning in cities ended in the rural sector. These percentages by themselves are not meaningful because the chance of a random move ending in the countryside was approximately three times as great as the chance of it ending in a city. In 1796, 72 percent of all Friesians lived in the rural sector, so a much smaller percentage of them would be needed to cancel out the number of migrants resulting from a relatively high percentage of urbanites moving to the countryside.

Because these percentages can be misleading, it is useful to estimate the number of people who moved each year in each direction (assuming for now that each move equaled one person). Since no reason exists to doubt that the data for the twenty-six rural districts and nine cities are representative of the whole province, the estimating procedure is straightforward. Rural districts averaged an out-migration rate of .63 percent per annum. The total population in 1796 of the rural grietenijen was 112,672 persons, of which an average of 709.8 people migrated annually. Of the 709.8 migrants, 23.3 percent or 165.4 people went to cities. Urban districts averaged an out-migration rate of .79 percent per year. Of a total urban population of 44,824, 354.1 people migrated every year. Of these, 37.6 percent went to rural areas, for a total

of 133.1 moves from cities to countryside. This total suggests a net flow of 32.3 people to cities every year. Despite the absolute uncertainty of these numbers, the cities were without a doubt net gainers in the game of internal migration. If we could measure the number of migrants and not just the number of household moves, this conclusion almost certainly would be strengthened due to the higher average household size in the grietenijen than in the cities.[10]

How then can we reconcile these findings with the knowledge that the relative size of cities was declining in the eighteenth century? The most obvious suggestion is that some sort of stage migration—the movement of people first to a local city and then to places further afield—was taking place, so that even if the cities were gaining in absolute numbers from rural migration they were losing an even greater number of people from migration out of the province altogether. Indeed we find that 18.7 percent of all urban moves terminated outside of Friesland, whereas only 9.7 percent of rural moves did so.

Once again, however, the percentages can be misleading. Applying the same formula used above, we find that approximately 68.9 rural dwellers and 66.2 urban dwellers left Friesland each year. Thus, the rate of the extra–provincial migration for the four rural regions collectively was equal to, or slightly higher than, that of the cities, despite the evidence of stage migration. This loss is expected given that the total population at risk of moving outside the province from a rural area was two and a half times as great as that from a city. The more likely explanation, is that cities did in fact experience higher mortality than the countryside and that even positive net flows of rural migrants could not overcome such losses. Appendix A suggests that even the relatively small cities of Friesland suffered crude death rates ranging from 6.2 to 9.2 points higher than those of their hinterland.

Despite the urban mortality differential, the observation made earlier in this article that urban destinations have a slight advantage over rural ones for attracting migrants finds additional

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10    Based on the moves which were linked to the *Quotiesatiekohieren,* the average rural household size was 2.89 persons, whereas the urban equivalent was only 2.69 persons.

support from the time series evidence extracted from the thirteen jurisdictions (four urban and nine rural) with nineteen or more years of registers. When the total time period of the study is broken down into four subperiods (1750–1769, 1770–1785, 1786–1795, and 1796–1805), we can examine the change over time in the percentage of those who move from each of these thirteen grietenijen to the various possible destinations. The second half of the eighteenth century can be characterized by both a strengthening of the attractive power of cities compared to rural areas, and by the increasing integration of Friesland with the rest of the Netherlands.

Franekeradeel provides a good example of the first phenomenon, with rural destinations as a percentage of the total decreasing from 60.2 percent in the first time period to 53.0 percent at the turn of the century. Over the same time, moves to urban areas were increasing from 37.7 percent of the total to 46.3 percent. Because few moves (2.7 percent) from Franekeradeel were to destinations outside the province and even fewer (2.0 percent) were to vlekken, these results are a reliable reflection of the changes inferred and not just the statistical effects of other disturbances. All of the jurisdictions studied over time follow this pattern with the exception of Smallingerland, which strengthened its ties not to an urban network but to the neighboring province of Groningen.[11]

As a whole, the temporal evidence points to the increasing importance of cities—with a tapering off after 1795—in determining the migratory patterns of Friesians in the second half of the eighteenth century. More and more people who migrated in search of work, found that their travels led them to a city, notwithstanding the fact that they almost certainly faced higher mortality upon their arrival. But this migration is precisely what we expect to find in light of Faber's assertion that after 1750 Friesland enjoyed a resurgence of economic growth, albeit at a low rate. For even in this predominantly agrarian region, the course of economic growth was inextricably tied to the fate of urban areas.

11    The mobility rates for each grietenij reported in Table 1 reflect all of the data available. When they were adjusted to compensate for any possible bias resulting from the time trend in migration and the different periods of data availability for each district, no grietenij had a statistically significant change in its annual average number of migrants. Therefore the data were used in their original form.

It was cities which stimulated market activity and prevented the proletarianization of the countryside.[12]

INDIVIDUAL MIGRATION BEHAVIOR     Although information is scarce, some observations can be made about the migration behavior of individuals. These comments are most helpful as a launch point for further investigation rather than as evidence for final conclusions. As already noted, the only source of personal information available is the Quotisatiekohieren of 1749, which was nominally linked to the annual migration registers. The linkage process suffers from the usual difficulties due to incomplete data. People with common names were difficult to link with certainty when the name was the only source of matched information. Moreover, the Quotisatiekohieren included only those heads of households that were already established, so migrants in the process of achieving this status could not be linked. Finally, the later the date of migration was after 1749, the greater the chances were that a migrant was not in the grietenij at the time of the census. As a result, only grietenijen with records dating back to the 1750s were eligible for the linkage process. Still the registers of seven grietenijen and two cities were linked with the *Quotisatie* for the years 1751 to 1760. As a whole, the rural linkage rate was better than the urban, with a high of 43.2 percent for Utingeradeel and a low of 27.8 percent for Haskerland. The find rate for Sneek was 38 percent, but for Bolsward only 16.6 percent.

The total number of linked moves is small, only 779. The data were sorted into eleven categories on the basis of the occupation of the head of household. Table 3 shows that tradesmen and professionals traveled farther on average than did farmers and day laborers—10.1 to 14.6 km. compared to 8.4 to 9.3—which suggests that job opportunities for the agrarian work force were more frequent and more closely spaced than those for the secondary and tertiary sectors. This observation is consistent with the evidence that people moved farther to reach cities than they did to reach rural destinations, as the nonfarm activities were concentrated in the more densely populated nodes of commercial activity.

12   Jan de Vries, *The Dutch Rural Economy in the Golden Age* (New Haven, 1974), 10.

*Table 3*  Distance Traveled and Tax Paid by Occupation

| OCCUPATION | MEAN DISTANCE | STANDARD DEVIATION | MEAN TAX | STANDARD DEVIATION | FREQUENCY |
|---|---|---|---|---|---|
| Professional | 13.45 | 9.78 | 54.90 | 56.30 | 34 |
| Agriculture | 8.35 | 6.74 | 36.84 | 15.51 | 205 |
| Hunting/fishing | 10.30 | 8.25 | 14.56 | 9.20 | 9 |
| Food processing | 14.55 | 10.30 | 26.82 | 11.98 | 32 |
| Textiles | 10.14 | 10.69 | 13.00 | 7.11 | 21 |
| Crafts | 13.67 | 11.09 | 19.77 | 8.00 | 63 |
| Trade/merchant | 11.14 | 10.26 | 24.64 | 13.58 | 77 |
| Day labor | 9.31 | 9.09 | 13.27 | 4.96 | 205 |
| Not working[b] | 10.29 | 7.77 | 16.73 | 15.21 | 75 |
| Unemployed | 9.68 | 4.16 | 0.00 | 0.00 | 3 |

[a] Frequency of 1 for the mean tax paid.
[b] Mainly widows.

The destination choices of migrant agrarian workers further suggests that they were finding new employment in the same sector. Table 4 reports the distribution of migrants by occupation and destination. For instance, 74.1 percent of farmers and 62.6 percent of day laborers remained in rural Friesland. Why did they move? The answer cannot be ascertained from the limited data, but we can speculate that better land (or, in the case of laborers, better wages) was the prime motivator. For the already unemployed, the opportunities in the agrarian economy clearly were not so good. Only one of the six migrants elected to move to another rural area; four moved either to a city or out of the province altogether. (The small sample size prevents these results from being statistically significant.)

The tax data on these migrants also tell a story of relative rural prosperity. Separating the migrants from Sneek and Bolsward from those of the rural grietenijen shows that the two groups represent different tax-paying populations. The mean tax paid by the latter was 23.4 guilders, and the former only 15.3 guilders—the difference between them being significant at the 95 percent confidence level. This result could arise from two sources. Either the rural districts were generally wealthier and residents paid higher per capita taxes than did the residents of the cities, or cities were more likely to expel poorer members. Because we know from the tax assessment records of 1749 that the eleven cities were assessed at a higher rate overall than the thirty rural

*Table 4*   Percentage of Migration Destinations by Occupation

| OCCUPATION | RURAL | VLEK | URBAN | NETHERLANDS |
|---|---|---|---|---|
| Professional | 54.3%<br>(19) | 14.3%<br>(5) | 22.9%<br>(8) | 8.6%<br>(3) |
| Agriculture | 74.1%<br>(146) | 8.1%<br>(16) | 15.2%<br>(30) | 2.5%<br>(5) |
| Hunting/fishing | 57.1%<br>(4) | 0.0%<br>(0) | 42.9%<br>(3) | 0.0%<br>(0) |
| Food processing | 36.7%<br>(11) | 13.3%<br>(4) | 40.0%<br>(12) | 10.0%<br>(3) |
| Textiles | 36.8%<br>(7) | 21.1%<br>(4) | 10.5%<br>(2) | 31.6%<br>(6) |
| Crafts | 40.0%<br>(24) | 13.3%<br>(8) | 36.7%<br>(22) | 10.0%<br>(6) |
| Trade/merchant | 45.2%<br>(33) | 17.8%<br>(13) | 12.3%<br>(9) | 24.7%<br>(18) |
| Day labor | 62.6%<br>(114) | 9.9%<br>(18) | 17.6%<br>(32) | 9.9%<br>(18) |
| Service | 49.2%<br>(130) | 6.1%<br>(16) | 34.5%<br>(91) | 10.2%<br>(27) |
| Not working | 52.9%<br>(36) | 20.1%<br>(14) | 14.7%<br>(10) | 11.8%<br>(8) |
| Unemployed | 16.7%<br>(1) | 16.7%<br>(1) | 32.3%<br>(2) | 33.3%<br>(2) |

NOTE   Numbers in parentheses are number of observations.

grietenijen (10.1 guilders per capita versus 8.4 guilders), the first explanation can be ruled out. This conclusion suggests that the migrants from the cities—or at least those from Sneek and Bols-ward—were living closer to the margins of society than the migrants from the countryside.[13]

The mean tax paid by migrants also varied by their choice of destination. From both rural and urban origins, migrants who left the province altogether paid less taxes than did those who remained somewhere inside Friesland. The latter paid an average tax of 23.7 guilders, and the former an average of 18.9 guilders. Those traveling to destinations in the rest of the Netherlands, or out of the country, were substantially poorer than those who remained at home. For some of those headed for the wider world

13   Pieter Nieuwland (ed.), *De Quotisatiekohieren* (Leeuwarden, 1980).

outside of Friesland, adventure was surely the goal; however economic factors were still a motivation for long distance travel. Nevertheless, most people would leave their home (and native language area) only if prodded by economic necessity or, more positively, economic opportunity.

We began this inquiry by speculating on the importance of a properly functioning labor market to an economy recovering from a century of stagnation and decline. Prolonged economic growth cannot be sustained if resources are not allocated efficiently. In a preindustrial economy where the two most important capital inputs in the production process—land and inanimate energy—are geographically fixed, labor must be mobile if it is to be put to its best possible use. Herein lies the importance of determining the incidence, and the demographic consequences, of migration in early modern Europe.

The material on eighteenth-century Friesland depicts a society accustomed to the frequent arrival and departure of families, widows, and other unmarried adults to and from even the smallest of its villages. Although our data speak little to the issue of household and farm service, a specific type of contract in rural early modern Europe, the frequent reference in the registers to sons or daughters leaving home without the mention of betrothals is a good indication that these young men and women were setting out as servants. As Kussmaul has found for England, this life cycle institution accommodated the needs of the labor market well. It served to spread young adult labor throughout the countryside where it was needed most and offered farmers a secure source of farm labor. Yet because contracts were made on an annual basis, the system was flexible enough to meet the demands of a changing economy. Nonetheless, this type of migration was relatively local, as were almost all of the moves in our observation.[14]

Faber asserts that Friesian society was stable over the three centuries from 1500 to 1800. Clearly, migration did little to upset this stability. The period from 1750 to 1805 covered in this study,

14 See Ann Kussmaul, *Servants in Husbandry in Early Modern England* (Cambridge, 1981), for a complete discussion of the movement of household servants throughout the English rural landscape.

although one of renewed growth in the economy, was not marked by any dramatic shifts in population from one region of the province to another, or from one industry to another. In fact, the pattern of migration at the aggregate level was so faint that the temptation is to pass off all of the movement as random. However, when examined regionally, the data show that the labor market was at work allocating human resources throughout the province and beyond. Of particular note is the stream of rural to urban migrants. The urban mortality differential created a greater need for replacement workers in the cities than in the countryside, and people migrated faithfully, filling this need.

Every person, to a greater or lesser extent, possesses a unique set of skills and experiences. This human capital, which cannot be measured by historians, provides the main impetus to migration. When two people pass each other on the road to opportunities which are better suited to their qualifications, the net migration rate of zero is seriously misleading. For precisely this exchange leads to greater productivity at both locations. There can be no doubt that migration, regardless of its seemingly local character, played an important role in the renewal of economic vitality in Friesland during the second half of the eighteenth century.

## APPENDIX A

ESTIMATION OF NATURAL INCREASE

Estimated differential natural increase

| Population | Year | | Total Change |
|---|---|---|---|
| | 1744 | 1815 | |
| Rural | 94,327 | 127,606 | +33,279 |
| Urban | 27,344 | 29,018 | + 1,674 |
| Leeuwarden[a] | 13,462 | 17,077 | + 3,615 |

In-migration was determined by a small sample of *grietenijen* for which the registers of incoming migrants were also extant. The sample includes nine cities (Leeuwarden among them) and seven rural *grietenijen*, of which three were in peat-digging areas. From this sample the following percentages were determined: Rural peat-digging areas received only 16.53 percent of in-migrants from outside Friesland, whereas nonpeat areas received only 1.6 percent. The weighted rural average is 4.59 percent. Leeuwarden received 52.8 percent of in-migrants from outside, and other cities received 13.17 percent of in-migrants from outside.

| Locations | Percent | Years | Population Change |
|---|---|---|---|
| Rural to Leeuwarden = | 34.64 | × 71 | = − 2,459 |
| Rural to urban = | 130.47 | × 71 | = − 9,263 |
| Rural out of pro. = | 69.00 | × 71 | = − 4,899 |
| Rural from urban = | 72.06 | × 71 | = + 5,116 |
| Rural from Leeuwarden = | 29.98 | × 71 | = + 2,129 |
| In-migration | | | = + 1,786 |
| Urban to Leeuwarden = | 19.94 | × 71 | = − 1,416 |
| Urban to rural = | 72.06 | × 71 | = − 5,116 |
| Urban out of pro. = | 27.30 | × 71 | = − 1,938 |
| Urban from rural = | 130.47 | × 71 | = + 9,263 |
| Urban from Leeuwarden = | 15.25 | × 71 | = + 1,083 |
| In-migration | | | = + 2,165 |
| Leeuwarden to rural = | 29.98 | × 71 | = − 2,129 |
| Leeuwarden to urban = | 15.25 | × 71 | = − 1,083 |
| Leeuwarden out of pro. = | 108.75 | × 71 | = − 7,721 |
| Leeuwarden from rural = | 34.64 | × 71 | = + 2,459 |
| Leeuwarden from urban = | 19.94 | × 71 | = + 1,416 |
| In-migration | | | = + 4,368 |

[a] Calculated separately since only two years of data exist.

APPENDIX A (*continued*)

| | | |
|---|---|---|
| Net change due to migration: | | Natural increase from 1744–1815 |
| Rural | − 7,590 | + 40,869 |
| Urban | + 4,041 | − 2,367 |
| Leeuwarden | − 2,690 | + 6,305 |

| | | |
|---|---|---|
| Natural increase per year: | | Natural increase per 1,000 population in 1796: |
| Rural | 576 | 5.1 |
| Urban | − 33 | − 1.1 |
| Leeuwarden | 89 | 5.7 |

Estimated differential mortality
Two estimates of crude birth rates (CBR) were taken from eighteen towns and villages by Faber. CBRs for Leeuwarden could not be estimated. The rates are per 1,000 population in 1796.

| | Rural | Urban | Difference | Rural | Urban | Difference |
|---|---|---|---|---|---|---|
| CBR | 31.0 | 31.0 | — | 30.0 | 33.0 | — |
| Natural Increase | 5.1 | −1.1 | — | 5.1 | −1.1 | — |
| Estimated Crude Death Rates | 25.9 | 32.1 | 6.2 | 24.9 | 34.1 | 9.2 |

SOURCE   For crude birth rate estimates, see Johannes A. Faber, *Drie Euwen Friesland* (Wageningen, 1972), 410.