Economic debts and political gains: electoral support for the NAZI party in agrarian and commercial sectors, 1928-1933

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Economie Debts and Political Gains:
Electoral Support for the NAZI Party in Agrarian
and Commercial Sectors, 1928-1933

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Abstract: It is by now a well-established fact that the
NSDAP fared best in the protestant rural parts of Ger-
many and among the (again protestant) self-employed.
Both groups were affected during the depression by de-
creasing prizes, reduced business transactions and lower
income. The following analysis is trying to figure out by
means of correlation, regression and path analysis what
part was played by the economic crisis and especially
agrarian and non-agrarian debts in the genesis of this
very strong affinity of the protestant farming and non-
farming old middle class to National Socialism. The re-
sults of various bivariate and multivariate analyses qui-
te strongly indicate that there was an independent effect
of the incidence of agrarian and non-agrarian debts on
the electoral success of the Hitler movement. We may
thus conclude that there is indeed a very high probabi-
lity that the relative numerical significance of economic
debts furthered the rise of National Socialism at the bal-
lot box.

1. There is a striking parallel between the rise of unemployment and the
electoral surge of the NSDAP in Weimar Germany after 1928. This almost

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identical development of the two curves has convinced many a historian that it were - among others - mainly the unemployed who had voted in disproportionate numbers for the NSDAP. This persuasion dominated historical interpretations of the period for decades. In the meantime, however, we have been able to demonstrate by means of new data and somewhat more refined statistical tools that in contradistinction to the once prevailing view the NSDAP vote varied inversely with the percentage of unemployed at the level of counties and communities: The higher the proportion of unemployed in the electorate (or the population or the available work force), the lower, on average, the NSDAP share of the vote; and vice versa, the higher the NSDAP vote, the lower the mean percentage of unemployed. (1)

2. The at first sight contradictory relationship between unemployment and the Nazi vote at the Reich and the county level clearly results from a positive longitudinal and a negative cross-sectional correlation. (2) This finding so far withstood all kinds of refuting efforts; it therefore has to be accepted - at least for the time being - as a relatively corroborated result of electoral history. Furthermore, there is some evidence (established by multivariate ecological regression analysis) that not only the counties or communities with a higher than average level of unemployment but also the unemployed themselves voted less than average for Hitler and his movement. (3)

3. The longitudinal relationship between the development of the crisis of the years 1929 to 1933 and the surge of the NSDAP vote suggests that the economic catastrophe radicalized the electorate by shattering the confidence of a majority of the German population into first the established Weimar parties and ultimately the whole political system. More and more people lost faith into the political competence of the ruling elites to deal with the immediate effects of the crisis (such as extremely high levels of unemployment, bankruptcy, the foreclosure sale of farms and other financial fiascoes). The cross-sectional relationship, on the other hand, conveys that this radicalizaron was channeled by the prevalent political regionally defined and class-based traditions: the city dwellers and the unemployed (some 80 percent of them were blue-collar workers) mainly got radicalized towards the left, i.e. the communist KPD, the rural population and the self-employed turned towards the right, i.e. the National Socialist Hitler Movement. (4)

4. These are, of course, a posteriori interpretations which fit our data but are by no means fully covered by them. The electoral history of the Weimar period has to rely on aggregate data; there are no opinion surveys

available for this period which meet any advanced methodological stan-
dards. Our data sets thus contain hundreds of electoral, demographical,
economical, and social-structural variables on a county or community ba-
sis. Unfortunately they do not include any direct information on the mo-
tivations or attitudes of the voters. For this reason the potential of histo-
rical election studies is somewhat restricted if we compare it to modern
electoral analysis. What we can do, however, is to reconstruct the objective
situation of the act of voting, i.e. we may discern possible influences acting
upon the voters and find out if they are related to their political beha-
vior. (5) This has been done in regard to the working class and unemploy-
ment. In regard to the old middle class some hypotheses about the impact
of the economic crisis upon voting behavior have been published; (6) but
up to now they have seldom been adequately researched. (7) In the follo-
wing I will try to find out if there is a statistical relationship between some
indicators of crisis-related effects upon the old middle class and the Nazi
vote.

5. It is by now a well established fact that the NSDAP fared best in the
protestant rural parts of Germany and among the (again protestant) self-
employed. With no exception the strongest Nazi constituencies were loca-
ted in some of the most agrarian and protestant parts of Germany. In
Rothenburg o.T. (Land) the NSDAP got 83 percent of the valid vote as
early as in July 1932, 81 percent in Uffenheim, 79 percent in Neu-
stadt/Aisch, 76 percent in Ansbach (Land) etc. In the predominantly pro-
testant rural counties the Nazi vote thus amounted to an average of 41
percent of the eligible voters in July 1932 (compared to an average of 31
percent in the whole Reich and a mere 18 percent in the predominantly
catholic rural areas). (8) If our ecological regression estimates are correct,
about 42 percent of all self-employed and an impressive 55 percent of the
non-catholic old middle class (both including »helping family members«)
voted NSDAP at the July 1932 election. (9) What part was played by the
economic crisis in the genesis of this very strong affinity of the farming
and non-farming old middle class to National Socialism?

6. Naturally, both the farming population and the self-employed in trade
and commerce were not directly threatened by unemployment. They were,
however, indirectly affected by decreasing prizes, reduced business trans-
actions and lower income. Thus, the economic crisis not only boosted un-
employment but also led to dangerously growing debts, an ever increasing
number of bankruptcies and the enforced foreclosure sale of farms and
small enterprises. Between 1925 and 1933 the yearly income of the self-
employed fell from 3,540 to 2,500 RM while that of the gainfully employed
dropped »only« from 1,710 to 1,520 RM. No wonder that in 1932 exactly

18,393 farms went into insolvency (more than ever before), that almost 50,000 business firms went bankrupt between 1930 and 1932, that more and more farmers and small businesspersons earned less than they had to spend for mortgages, loans and supplies. (10) The farmers in particular, especially those in the eastern and north-eastern parts of Germany, were hit twice in less than a decade: first by the agrarian crisis after 1925 and again by the Great Depression of 1929 and the years following. As a consequence they first left their traditional parties, especially the conservative, right-wing German Nationalists, in order to join agrarian interest parties which in turn for many rural voters served as a kind of catalyst on their way to the Nazis. Outside of the agrarian sector the old middle class left the liberal and conservative parties after the inflation period and flocked into a variety of newly founded interest parties. But did economic strains really play any significant role in that turnover of formerly conservative or national-liberal voters to the NSDAP?

7. Unfortunately on the level of all counties or larger communities of the Reich there is no published data on the foreclosure sale of farms or on bankruptcies. There is some official information available, however, on debts in both the agrarian and the commercial sector of the economy. (11) Therefore, I will concentrate in the following on questions relating to the impact of debts on the NSDAP vote; for example it will be interesting to find out if the propensity to vote NSDAP was furthered by agrarian and non-agrarian debts, as Kaltefleiter or Heberle proposed some twenty years ago. (12) I will do this in three consecutive steps, beginning with a kind of tree analysis, then turn to multivariate regression analysis and finally end with a variety of latent variables path analysis.

8. Before we turn to the findings of our statistical analysis a few words about the theoretical meaning and the operationalization of the debt indicators used should be said. In the official census statistics agrarian and non-agrarian debts are reported for the (about 1000) counties or (about 350) minor financial districts in Reichsmark. Additional information is supplied on the number of indebted farms, their acreage and total value in Reichsmark (on the basis of minor financial districts); other official figures deal with the number and the net value of the indebted non-agrarian enterprises and the number of all enterprises (on the basis of counties). Normally in the official statistical accounts of the Weimar period the relative indebtedness of a county is calculated either as a percentage of debts on the basis of total values of the indebted farms and enterprises or, for farms only, as debts per hectare (one hectare equals roughly 2.5 acres). The same types of debt measures are used by Heberle, Kaltefleiter and the American scholar Waldman in their inquiries of the NSDAP constituency.

All three of them do indeed find a positive (bivariate) relationship between agricultural debt and the Nazi vote. But, as pointed out elsewhere, Heberle's study is restricted to one agricultural area, Schleswig-Holstein in the North of Germany, Katltefleiter's interpretations are based on a comparison of only a handful of extreme, arbitrarily selected cases, and Waldman's analysis is restricted in regard to his debt indicator to the 26 state financial districts (Landesfinanzamtsbezirke). In addition, nobody to my knowledge has yet tried to extend the investigation to all counties or regions of the Weimar Republic, or to include non-agrarian debts.

9. In the first step of the following empirical analysis I will work with the same kind of debt indicator as Heberle, Kaltefleiter and Waldman do. I am aiming here at a replication of their findings for the entire Reich. In Table 1 some zero-order correlation coefficients are reported for all counties of the Reich; (13) in Table 2 these counties are split up into three subgroups (terciles) according to the percentage of farming population living in each county. (14) Between 1930 and 1933 the relative intensity of agrarian debts and the percentage of NSDAP votes indeed seem to vary simultaneously both on the level of all counties *and* within the three county-subgroups. Where farm debts are comparatively high the NSDAP vote tends to be slightly above average, and where agrarian debts are low the NSDAP vote is expected to fall somewhat below average. The same is true when we correlate farm debts and the increase or decrease of the NSDAP vote. The relationship is especially strong in the agrarian parts of Germany: The higher the agrarian debts the stronger in general the increase of the NSDAP vote between 1928 and 1930, and the more pronounced the decrease of the Nazi party in November, 1932. In regard to non-agrarian debts there too is some covariation between the percentage of indebted firms and the share of the NSDAP vote, but there is no such clear-cut relationship as with the agrarian debts.

10. These preliminary results seem to corroborate some of the earlier findings. But are these commonly used debt indicators really a good measure of indebtedness for cliometric purposes? According to my view the operationalizations used in Tables 1 and 2 may lead to somewhat artificial results and spurious correlations because there is no control for the relative importance of farming or commerce within each county. Thus, in a given county there may be only a handful of farms; if a majority of them were exceedingly indebted, this would result in a very high value of the debt indicators, but only very few voters would actually be affected by debts at all. In another case, in a predominantly agrarian county again, a majority of farms could be moderately indebted (which would result in a much lower value of the debt indicator); but this time a substantial

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amount of voters could positively be afflicted by debts. The same is true, in essence, in regard to the indicator measuring debts per acre or hectare and in regard to the two measures of non-agrarian debts in Tables 1 and 2. Both indicators, debts per hectare and debts as a percentage of total value or gross income, therefore do not adequately describe the »true«, i.e. in terms of voting behavior relevant indebtedness of a territorial unit.

Since we want to explain or predict *past voting behavior* with the help of agrarian and non-agrarian debts we should instead construct our debt indicators in such a way that they genuinely reflect the potential impact of debts on the electorate. For this reason we will deal in the following mainly with an indicator which tries to measure the relative numerical significance of agrarian and non-agrarian debts for the electorate; in the succeeding sections the percentage of indebted farms (or enterprises), calculated on the basis of the eligible voters of a county, will serve as our main indicator of the relative numerical significance of debts for the electorate. (15)

11. On a bivariate level the percentage of NSDAP votes is positively correlated with the relative numerical significance of agrarian and non-agrarian debts in some elections and social contexts, in others it is not (s. GRAPHS 1A and 1B). In contrast to the positive correlation between non-agrarian debts and the NSDAP vote there is no interpretable statistical association between farm debts and the NSDAP vote in 1928 and 1930 on the level of all counties; after 1930, however, the NSDAP vote tends to be above average where agrarian debts are more widespread. That this may represent a spurious correlation becomes clear when dividing up our 831 territorial units into 593 counties with a predominantly rural and 238 counties with a predominantly urban population. In the more rural regions the positive correlation between agrarian debts and the NSDAP vote withers away; only in 1933 a small positive relationship prevails. The correlation between the non-agrarian debts and the NSDAP vote, on the other hand, even increases in size. The spuriousness may result from the fact that debts *and* NSDAP votes tend to be more numerous in the protestant parts of Germany. In a second step we therefore split up the rural and urban counties according to their religious composition. We now are able to demonstrate that in catholic rural counties there is - with the exception of March, 1933 - not a positive but even a negative statistical relationship between agrarian debts and the electoral success of the Nazi party. The non-catholic rural parts of Germany, on the other hand, show a quite strong correlation between the two variables. In the more urbanized counties (where we look at the relationship between non-agrarian debts and the NSDAP vote) religious denomination does not make such a difference. In the last step of our tree comparison we again divide the different county

categories according to an above or below average farm size (in the rural counties) or city size (in the urban counties). In the predominantly catholic and rural areas farm size does not make much of a difference, in the protestant counties with larger farms, however, the NSDAP vote was somewhat higher where agrarian debts were above average. Irrespective of religious denomination in the urban parts of Germany the (mainly positive) correlation between (non-agrarian) debts and the NSDAP vote is significantly stronger in the smaller municipalities than in the larger towns and cities.

12. If we direct our attention to the percentage change of the NSDAP vote between pairs of consecutive elections (GRAPH 2) we get some additional information on the relationship between debts and the electoral success of the Nazi party. Thus we find that the electoral gains of the NSDAP in July, 1932 and March, 1933 are somewhat higher, on the average, where the percentage of indebted farms was above the Reich level, and a little bit lower, where the indebtedness was below the Reich mean. The same is true for the relationship between non-agrarian debts and the NSDAP vote gains in 1930 and July, 1932. Undeniably, the differences between counties with an above and below average incidence of debts are far from overwhelming, but they are consistent from the first to the last splitting level of our tree; in magnitude they are comparable to the effects of many other explanatory variables of the NSDAP vote such as the percentage of blue-collar voters, unemployed, civil servants etc. The discriminative effect of Catholicism, of course, is much stronger in regard to the surge of National Socialism, especially in its interaction with the urban-rural variable. Nevertheless the results of this tree comparison quite strongly indicate that there may be indeed an independent effect of the incidence of agrarian and non-agrarian debts on the electoral success of the Hitler movement.

13. Since the results of the above tree comparisons depend to a certain degree on the choice of cutting points it is advisable to countercheck them by means of multiple regression analysis, using the same variables as in GRAPHS 1 and 2. Normally regression analysis yields more or less the same results as tree comparisons do. This is also the case in regard to the regression coefficients in Table 3: The relative numerical significance of debts indeed seems to have inflated the average NSDAP vote. In the more urbanized counties the incidence of non-agrarian debts in 1930 and 1933 even displayed about the same relative influence as religious denomination.

14. Although two of the most important predictors of the NSDAP vote, namely confession and urbanization, have been included in the above

regression models the statistical influence of the various debt variables may still result from their strong correlation with the percentage of self-employed or farming population (with correlation coefficients ranging between r= 0.63 and r= 0.85, depending on operationalization and social context). It therefore seems advisable to control for the potential influence of the self-employed variable and see if there is still a residual effect of debts on the NSDAP vote. In doing this we must, of course, be aware of multi-collinearity problems which may arise from the strong correlation of both kinds of variables.

That multicollinearity does not play a significant role can be seen by a comparison of the regression coefficients in Tables 3 and 4 which are identical in their first three predictors (with %INDEP introduced in a step-wise regression model as the last predictor of Table 4). Adding the percentage of self-employed does neither significantly change the explanatory power of the regression model nor the influence of the debt variable on the NSDAP vote. Only in regard to the March, 1933 elections and only in respect to the NSDAP vote-change the self-employed variable seems to take over some of the predictive power of the debt variable. In all other instances debts continue to exert a positive effect both on the share and on the change of the Nazi vote.

15. In order to control for other potentially disturbing factors we have computed virtually dozens of regression models, using a variety of alternative predictors and operationalizations of the debt concept. Limits of space and time do not allow to present any of these equations. There was, however, not a single case where (agrarian and non-agrarian) debts did not relate in a positive manner with either the NSDAP share of the vote or its change from election to election. To go one step further we developed a number of path models with latent variables as predictors. They represent a blend of factor and regression analysis based on partial least squares estimation and allow to include many more variables into one explanatory model than simple regression analysis would do. We developed these path models for three different types of dependent variables: (a) the share of the NSDAP vote (measured as a percentage of the total electorate), (b) the percentage change of the NSDAP vote (measured as the difference between the second and first election of each pair of elections) and (c) the share of the NSDAP vote (measured as in [a] but treated as a lagged endogenous variable). We thus obtained three different latent path models with religion, urbanization, self-employed, wealth and agrarian and non-agrarian debts as predictors of the NSDAP vote. In all three models debts exert an independent effect on the NSDAP vote comparable to that of the regression analyses of Tables 3 and 4. Since the results of models (a) and (b) largely correspond to the results of our multiple regression analyses of

Tables 3 and 4 I will restrict the graphical representation of the results to the third model, i.e. the model using lagged endogenous variables. In this model the percentage of NSDAP votes is both explained by its predecessor and the other variables. Following the logic of this model our two debt indicators serve as predictors of the NSDAP increase from election to election (the November, 1932 election was left out of the models for reasons of parsimony). Again there is some positive effect exerted by agrarian and non-agrarian debts. This effect is particularly pronounced in the July, 1932 and March, 1933 elections to the Reichstag. These results are largely consistent with our regression findings. We may thus conclude that there is indeed a very high probability that the relative numerical significance of economic debts furthered the rise of National Socialism at the ballot box.

16. From a methodological point of view the hypothesis that part of the electoral successes of the Nazis could be explained by indebtedness withstood a whole series of falsification efforts. Our analysis thus not only supports the notion of the Hitler movement as a catch-all party of protest (16) but may stand as a good historical example of the influence of economic hardships on electoral behavior and the possible fate of democracies in times of severe crises. By turning away from the (more or less democratic) Weimar parties large segments of the German old middle class (and many voters of the other strata of society as well) seem to have exerted a kind of punishing behavior, blaming first the established political forces and eventually the whole political system for apparently not being able to cope with the urgent demands of the social and economic crisis of their country. For quite obvious reasons I hesitate to interpret this type of punishing behavior as being »rational« in terms of rational choice theory. But from a strictly formal perspective it may well fall under this label. (17)

Notes

(1)   S. Jürgen W. Falter, Unemployment and the Radicalization of the German Electorate 1928-1933: An Aggregate Data Analysis with Special Emphasis on the Rise of National Socialism. In: Peter Stachura (ed.), Unemployment and the Great Depression in Weimar Germany, London 1986 (MacMillan), pp. 187-208. Furthermore Jürgen W. Falter, Pitfalls in Scientific Model Building: Unemployment, the Unemployed and the Nazi Vote, 1930-1933. In: Herman Wold (ed.), Theoretical Empiricism: A General Rationale for Scientific Model-Building, New York 1989, S. 183-200. Neither Courtney Brown (The Nazi Vote: A National Ecological Study. In: American Political Science Review, 76, 1982, S. 285-302) nor Thomas Childers

(s. footn. 15), Richard D. Wernette (Political Violence and German Elections: 1930 and July, 1932. Ph.D.-Diss., University of Michigan, Ann Arbor 1974), Richard Hamilton (Who Voted for Hitler?, Princeton 1982) or Dirk Hänisch (Sozialstrukturelle Bestimmungsgründe des Wahlverhaltens in der Weimarer Republik. Eine Aggregatdaten-analyse der Ergebnisse der Reichstagswahlen 1924 bis 1933, Duisburg 1983) introduce any debt variables into their analyses of the NSDAP electorate.

(2)   S. Jürgen W. Falter et al., Hat Arbeitslosigkeit tatsächlich den Aufstieg des Nationalsozialismus bewirkt? In: Jahrbücher für Nationalökonomie und Statistik, 200, March 1985, pp. 121-136.

(3)   S. Falter in Stachura 1986 (footn. 1), p. 205.

(4)   We once measured »political tradition« by the propensity of a county to vote for Hindenburg in the presidential elections of 1925; after controlling for the effects of other, well-established determinants of the NSDAP vote such as religion, urbanization and the percentage of blue-collar workers in a county, the Hindenburg vote (which served as a proxy for other, not so readily available indicators of political tradition) still accounted for a substantial amount of the variance of the NSDAP vote in 1930 and 1932. S. Jürgen W. Falter/Dirk Hänisch, Die Anfälligkeit von Arbeitern gegenüber der NSDAP 1928-1933. In: Archiv für Sozialgeschichte, 26, 1986, pp. 177-216. For a more detailed analysis of the two Weimar presidential elections see Jürgen W. Falter, The Two Hindenburg Elections of 1925 and 1932. A Statistical Analysis. Paper Delivered at the Annual Convention of the American Historical Association, Cincinnati, Dec. 1988 (to be published in: Central European History, 1992; furthermore s. Falter, »Hitlers Wähler«, München 1991, chs. 5.6 and 9.4).

(5)   For further detail on the potential and limits of aggregate-data electoral analysis and the data sets used in the following see Jürgen W. Falter/Reinhard Zintl, The Economic Crisis of the 1930's and the Nazi Vote. An Attempt at Explanation by Means of a Rational Choice Approach and Ecological Regression Analysis. In: Journal of Interdisciplinary History, 19, 1988, pp. 55-85.

(6)   S. Werner Kaltefleiter, Wirtschaft und Politik in Deutschland. Konjunktur als Bestimmungsfaktor des Parteiensystems. Köln/Opladen (Westdeutscher Verlag) 1966, pp. 42; Rudolf Heberle, Landbevölkerung und Nationalsozialismus. Eine soziologische Untersuchung der politischen Willensbildung in Schleswig-Holstein 1918-1932. Stuttgart (DVA) 1963 (1946), pp. 120.

(7)   Waldman, who has addressed this question in his quite sophisticated dissertation on the NSDAP voters, restricts his analysis to the level of the 26 Landesfinanzamtsbezirke (state financial districts) which

he mistakenly translates as »rural financial districts«. S. Loren K. Waldman, Models of Mass Movements. The Case of the Nazis. Ph.D.-Diss., Univ. of Chicago 1973. However, these units are far too large and heterogeneous to permit any meaningful statistical analysis. S. Falter et al., Hat Arbeitslosigkeit tatsächlich...(footn. 2).

(8) S. Jürgen W. Falter/Thomas Lindenberger/Siegfried Schumann, Wahlen und Abstimmungen in der Weimarer Republik. Materialien zum Wahlverhalten 1919-1933. München (Ch. Beck) 1986, p. 200. Jürgen W. Falter, Hitlers Wähler. München (C. H. Beck) 1991, ch. 6.5.

(9) S. Falter/Zintl 1988 (footn. 5).

(10) S. Statistisches Jahrbuch für das Deutsche Reich 50 (1931), 51 (1932), 52 (1933), 53 (1934); Dietmar Petzina et al., Sozialgeschichtliches Arbeitsbuch III. Materialien zur Statistik des Deutschen Reiches 1914-1945. München (Ch. Beck) 1978, pp. 104.

(11) S. Statistisches Reichsamt (Hrsg.), Die Besteuerung der Landwirtschaft. Einzelschriften zur Statistik des Deutschen Reiches Nr. 12, Berlin 1930; Statistik des Deutschen Reiches, NF, Bde. 392, 526.

(12) S. Kaltefleiter 1966; Heberle 1963 (footn. 6)

(13) Since agrarian debts were only reported on the level of minor financial districts (Finanzämter) these 350 districts had to be disaggregated in order to synchronize them to the 831 county units of our data set.

(14) The counties are split up into terciles; non-agrarian counties count less than 21.3 percent agrarian population, agrarian counties more than 47.7 percent and the mixed counties range between 21.3 and 47.7 percent agrarian population.

(15) An alternative indicator which tries to measure the intensity of debts has been used in an earlier publication. S. Falter et al., Wahlen und Abstimmungen, p. 208 (footn. 8). It combines the intensity dimension dealt with in Tables 1 and 2 (debts per total value or per hectare) with the dimension of relative numerical importance (i.e. the percentage of indebted farms or non-agrarian enterprises in terms of the eligible voters). This indicator gives high values if both the intensity and the relative numerical significance of debts are high; it yields low values where both are low; and it ranges somewhere in between where either one of them is low and the other high or both are medium. This indicator is operationalized as following: agrarian debts per total farm value * indebted farms per voter (an alternative could be: agrarian debts per acre * indebted farms per voter; or non-agrarian debts per total enterprise value * indebted enterprises per voter). This indicator also yields a positive relationship between indebtedness and the NSDAP share of the vote.

(16) Thomas Childers, The Nazi Voter. The Social Foundations of Fascism in Germany, 1919-1933. Chapel Hill (University of North Carolina Press) 1983, p.268.

(17) This line of argument is delineated in regard to the (presumed) electoral preferences of the unemployed by the two Swiss economists Bruno S. Frey and Hannelore Weck, Hat Arbeitslosigkeit den Aufstieg des Nationalsozialismus bewirkt? In: Jahrbuch für Nationalökonomie und Statistik, 196, 1981, pp. 1-31, especially pp. 9/10.

TABLE 1: THE CORRELATION BETWEEN AGRARIAN AND NON-
AGRARIAN DEBTS AND THE NAZI VOTE 1928-1933

All counties	1928	30	32J	32N	33	28/30	30/32	32/32	32/33
Agrarian debts									
1. Debt/total value	-12	27	29	26	32	36	22	-24	14
2. Debt/hectare	-08	24	21	18	11	31	13	-25	-16
Non-agrarian debts									
1. Debt/net value	01	05	-11	--12	--16	05	-21	02	-09
2. % indebted firms	05	22	11	07	03	23	-02	-21	-09

County level data, N = 831; weighting factor: average number of eligible
voters per county for the electoral period 1928-1933; cell entries: Pearson's
r * 100.

TABLE 2: THE CORRELATION BETWEEN AGRARIAN AND NON-
AGRARIAN DEBTS AND THE NAZI VOTE 1928-1933 IN PREDO-
MINANTLY AGRARIAN, PREDOMINANTLY NON-AGRARIAN
AND MIXED COUNTIES

Agrarian counties									
Agrarian debts									
1. Debt/total value	-29	38	31	28	34	48	19	-33	11
2. Debt/hectare	-20	33	24	21	23	41	11	-25	02
3. % indebted farms	00	05	03	05	10	05	01	05	12
Non-agrarian debts									
1. Debt/net value	-15	26	25	21	24	32	19	-29	02
2, % indebted firms	-22	23	20	16	19	31	13	-27	04
Mixed counties									
Agrarian debts									
1. Debt/total value	-03	31	30	26	30	36	21	-30	05
2. Debt/hectare	05	27	27	23	20	28	19	-28	-14
Non-agrarian debts									
1. Debt/net value	-01	02	-09	-08	-08	02	-15	06	00
2. % indebted firms	-01	12	11	07	13	14	08	-21	12
Urban counties									
Agrarian debts									
1. Debt/total value	-08	21	28	27	28	29	24	-15	-00
2. Debt/hectare	-16	21	30	26	25	35	27	-28	-06
Non-agrarian debts									
1. Debt/net value	03	02	-17	-17	-16	10	-28	06	07
2. % indebted firms	15	31	24	20	26	30	09	-27	17

Cell entries: Pearson's r * 100. Same data base and weighting factor as
Table 1.

TABLE 3: THE VARIABLES OF GRAPH 1 AND GRAPH 2 IN THE MULTIPLE REGRESSION MODEL
(Standardized regression coefficients * 100)

1. All counties

%NSDAP	DEBTS	%CATH	%URBAN	Expl.	%CHANGE	DEBTS	%CATH	%URBAN	Expl.
1928	21	-08	20	2%					
1930	15	-52	06	27%	1928/30	08	-56	-02	31%
1932J	27	-74	-13	62%	1930/32	29	-69	-24	64%
1932N	26	-70	-15	56%	1932/32	-15	51	-01	26%
1933	38	-60	-21	58%	1932/33	30	24	-15	27%

2. Predominantly rural counties

%NSDAP	ADEBTS	%CATH	FSIZE	Expl.	%CHANGE	ADEBTS	%CATH	%FSIZE	Expl.
1928	12	-22	-08	5%					
1930	04	-62	08	40%	1928/30	01	-61	12	40%
1932J	22	-86	-00	70%	1930/32	30	-83	-06	65%
1932N	23	-81	-02	61%	1932/32	-02	60	-10	39%
1933	38	-77	03	61%	1932/33	32	21	12	19%

3. Predominantly urban counties

%NSDAP	CDEBTS	%CATH	USIZE	Expl.	%CHANGE	CDEBTS	%CATH	%USIZE	Expl.
1928	27	10	01	8%					
1930	30	-27	-02	18%	1928/30	22	-38	-03	21%
1932J	38	-51	-04	45%	1930/32	30	-56	-04	44%
1932N	30	-51	-04	39%	1932/32	-41	22	-00	24%
1933	37	-39	-03	32%	1932/33	16	39	05	16%

```
Same operationalization of debt variables as in GRAPHS 1 and 2.
DEBTS  = agrarian debts + non-agrarian debts;
ADEBTS = agrarian debts;
CDEBTS = non-agrarian debts;
URBAN  = percent population in towns over 5000 inhabitants;
USIZE  = percent population in agglomerations over 20000 inhabitants;
FSIZE  = farm size (in hectare);
EXPL   = explained variance (percent).
```

TABLE 4: ADDING PERCENT SELF-EMPLOYED TO THE REGRESSION MODELS OF TABLE 3
(standardized regression coefficients * 100)

1. All counties

%NSDAP	DEBTS	%CATH	%URBAN	%INDEP	Expl.	%CHANGE	DEBTS	%CATH	%URBAN	%INDEP	Expl.
1928	14	-11	30	18	3%						
1930	15	-52	05	-02	27%	1928/30	12	-55	-07	-10	31%
1932J	25	-75	-10	05	62%	1930/32	25	-71	-19	09	64%
1932N	23	-71	-10	08	56%	1932/32	-19	49	04	10	26%
1933	30	-63	-09	21	59%	1932/33	17	19	03	32	29%

2. Predominantly rural counties

%NSDAP	ADEBTS	%CATH	FSIZE	%INDEP	Expl.	%CHANGE	ADEBTS	%CATH	%FSIZE	%INDEP	Expl.
1928	07	-25	-08	08	5%						
1930	06	-61	08	-03	40%	1928/30	05	-58	12	-06	40%
1932J	18	-88	-01	06	70%	1930/32	22	-87	-06	12	65%
1932N	19	-83	-02	06	61%	1932/32	-00	61	-10	-02	39%
1933	22	-87	04	26	64%	1932/33	02	04	13	47	27%

3. Predominantly urban counties

%NSDAP	CDEBTS	%CATH	USIZE	%INDEP	Expl.	%CHANGE	CDEBTS	%CATH	%USIZE	%INDEP	Expl.
1928	15	12	-04	27	13%						
1930	19	-25	-06	24	22%	1928/30	15	-37	-06	14	23%
1932J	34	-50	-05	08	46%	1930/32	36	-56	-02	-12	45%
1932N	27	-50	-06	08	39%	1932/32	-39	22	-00	-03	24%
1933	31	-38	-05	13	33%	1932/33	11	39	02	13	17%

```
Same operationalization of debt variables as in GRAPHS 1 and 2.
DEBTS   = agrarian debts + non-agrarian debts;
ADEBTS  = agrarian debts;
CDEBTS  = non-agrarian debts;
URBAN   • percent population in towns over 5000 inhabitants;
USIZE   = percent population in agglomerations over 20000 inhabitants;
FSIZE   • farmsize (in hectare);
INDEP   = percentage of self-employed and helping family members;
EXPL    = explained variance (percent).
```

GRAPH 1A: A TREE COMPARISON OF THE CORRELATION BET-WEEN DEBTS AND THE NSDAP VOTE 1928-1933 (PEARSON'S R * 100)

ALL COUNTIES

Type of debts	Agrarian	Non-Agrarian
	01	16
	-04	18
	20	22
	22	28
	42	25

Rural		Urban
06		26
-10		32
01		44
04		37
20		42

Catholic	Protestant	Catholic	Protestant
07	11	19	30
-33	19	19	34
-07	47	36	49
-02	43	39	39
31	57	36	45

Farm size						City size	
small	large	small	large	small	large	small	large
07	-14	11	16	44	-01	33	24
-31	-29	06	31	50	-08	51	00
03	-07	37	60	51	33	65	10
08	03	31	59	54	30	57	01
33	31	47	69	54	29	62	05

Number of counties							
159	81	179	174	44	16	145	43

Variable definitions/cutting points:
Rural branch = agrarian debts; urban branch = non-agrarian debts.
"Agrarian debts": number of indebted farms per eligible voter * 100;
"Non-agrarian debts": number of indebted business firms per eligible voter * 100.
"Rural": less than 56 percent/"Urban": more than 56 percent living in towns with 5000 inhabitants and more; "Catholic": more than 50 percent/"Protestant": less than 50 percent of county population are Catholic; "Farm size small": average farm size below/"Farm size large": average farm size above the national mean; "City size small": less than 50 percent/"City size large": more than 50 percent living in towns with 20 000 inhabitants and more.

GRAPH IB: A TREE COMPARISON OF THE RELATIONSHIP BET-
WEEN DEBTS AND THE 1928-1933 NSDAP VOTE IN DIFFERING
SOCIAL CONTEXTS
(cell entries: percent of eligible voters).

```
|      All counties      |      Urbanization      | Confession      | Farm-/Citysize   |  N|
|------------------------|------------------------|-----------------|------------------|---|
|YEAR   28 30 32 32 33   |YEAR   28 30 32 32 33   | 28 30 32 32 33  | 28 30 32 32 33   |   |
|             J  N       |             J  N       |       J  N      |       J  N       |   |
|                        |                        |                 | Small            |   |
|                        |                        | Catholic        | A 1  9 20 17 32  |135|
|                        |                        | A 1  9 19 16 32 | B 1 11 20 18 30  | 24|
|                        |                        | B 2 12 20 18 30 | Large            |   |
|                        |                        |                 | A 2  8 17 14 32  | 80|
|                        |Rural  A 2 15 34 29 43  |                 | B 6 17 23 19 35  |  1|
|                        |       B 2 15 32 28 40  |                 |                  |   |
|                        |                        |                 | Small            |   |
|                        |                        | Protestant      | A 3 16 41 35 48  |139|
|                        |                        | A 2 18 42 36 49 | B 3 16 38 33 44  | 40|
|                        |                        | B 2 16 36 31 42 | Large            |   |
|Farm   A 2 15 34 29 43  |                        |                 | A 2 19 43 36 50  |148|
|debts  B 2 15 29 25 36  |                        |                 | B 1 16 34 28 40  | 26|
|                        |                        |                 |                  |   |
|Other  A 2 16 34 29 41  |                        |                 |                  |   |
|debts  B 2 14 18 24 37  |                        |                 | Small            |   |
|                        |                        | Catholic        | A 3 13 22 18 31  | 36|
|                        |                        | A 2 12 22 18 31 | B 1  7 14 12 23  |  8|
|                        |                        | B 2 12 20 16 28 | Large            |   |
|                        |                        |                 | A 1 11 22 18 31  |  7|
|                        |Urban  A 2 16 31 26 37  |                 | B 2 13 20 16 29  |  9|
|                        |       B 2 14 26 22 33  |                 |                  |   |
|                        |                        |                 | Small            |   |
|                        |                        | Protestant      | A 3 19 37 31 41  |112|
|                        |                        | A 2 17 34 28 39 | B 1 13 25 22 32  | 33|
|                        |                        | B 2 15 28 24 34 | Large            |   |
|                        |                        |                 | A 2 16 31 26 37  | 16|
|                        |                        |                 | B 2 16 30 26 36  | 17|
|YEAR   28 30 32 32 33   |YEAR   28 30 32 32 33   | 28 30 32 32 33  | 28 30 32 32 33   |   |
|             J  N       |             J  N       |       J  N      |       J  N       |831|
```

Same variable definitions as in GRAPH 1A.
A = debts above national average; B = debts below national average.
Reading example: In November, 1932 the NSDAP was elected by 50 percent of the
eligible voters in predominantly protestant, rural counties with an above
average size of farms and an above average frequency of indebted farms; in rural
protestant counties with an above average farm size where farms debts were below
the national average the Nazis were elected by only 40 percent of the eligible
voters etc.

GRAPH 2: A TREE COMPARISON OF THE RELATIONSHIP BET-
WEEN DEBTS AND THE PERCENTAGE CHANGE OF THE
1928-1933 NSDAP VOTE IN DIFFERING SOCIAL CONTEXTS
(county data; cell entries: percentage points $t_2 - t_1$)

All counties	Urbanization	Confession	Farm-/Citysize	N
PAIR 28/30 32 32 33 J N	PAIR 28/30 32 32 33 J N	28/30 32 32 33 J N	28/30 32 32 33 J N	
			Small A 8 11 -3 15	135
		Catholic	B 10 9 -2 12	24
		A 8 10 -3 16	Large	
		B 10 8 -2 12	A 6 9 -3 18	80
	Rural A 13 19 -5 14		B 11 6 -4 16	1
	B 13 17 -4 12		Small A 13 25 -6 13	139
		Protestant	B 13 22 -5 11	40
		A 16 24 -6 13	Large	
Farm A 13 19 -5 14		B 14 20 -5 11	A 17 24 -7 14	148
debts B 13 14 -4 11			B 15 18 -6 12	26
Other A 14 18 -5 12				
debts B 12 14 -4 13			Small A 10 9 -4 13	36
		Catholic	B 6 7 -2 11	8
		A 10 10 -4 13	Large	
		B 10 8 -4 12	A 10 11 -4 13	7
	Urban A 16 31 26 37		B 11 7 -4 13	9
	B 14 26 22 33		Small A 16 18 -6 10	112
		Protestant	B 12 12 -3 10	33
		A 15 17 -6 11	Large	
		B 13 13 -4 10	A 14 15 -5 11	16
			B 14 14 -4 10	17
PAIR 28/30 32 32 33 J N	PAIR 28/30 32 32 33 J N	28/30 32 32 33 J N	28/30 32 32 33 J N	831

Same variable definitions as in GRAPH 1A.
A = debts above national average; B = debts below national average.
Reading example: Between the elections of September, 1930 and July, 1932
in the predominantly rural and protestant counties with an above average
indebtedness the NSDAP increase amounted to 24 percentage points while
in the same type of counties with a below average indebtedness the
NSDAP increase was »only« 20 percent.

GRAPH 3: A LATENT VARIABLES PATH ANALYSIS (LVPLS) OF THE
IMPACT OF DEBTS ON THE NSDAP VOTE 1928 - 1933
(standardized path coefficients * 100)
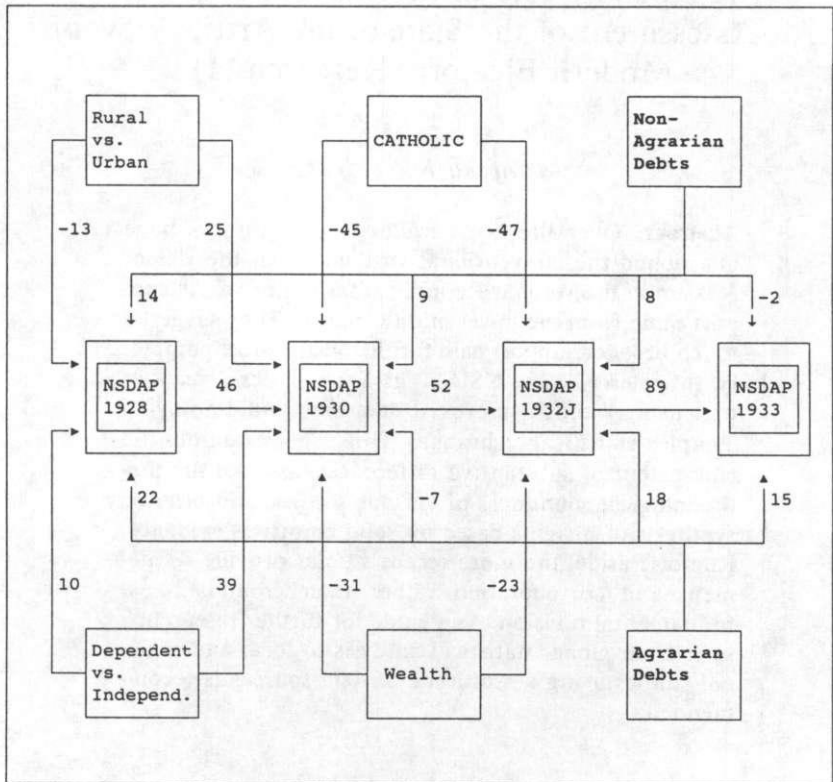
Manifest variables written in majuscular, latent variables in small letters.
Definition of latent variables; first figure = factor weights (equivalent to
partial regression coefficients); second figure = factor loadings (correla-
tion of each manifest variable with latent variable).
- Rural vs. Urban: population (-21/-64), density (-30/-73), square miles
(38/53), ^agrarian population (50/90).
- Dependent vs. independent: %selfemployed (-19/-74), %helping family
members (-24/-88), %civi\ servants (25/83), %white collar (29/94), %blue
collar (-9/-23), ^domestic servants (23/78).
- Wealth: per capita income 1928 (48/97), per voter income (55/97).