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Economic Growth and Lower Class Investments in Nineteenth Century Austria

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Abstract: The paper examines investment behavior in the lower-class population in the Alpine lands of the Habsburg Monarchy between 1820 and 1913. In order to determine how the lower class population responded to institutional changes in the financial market, the paper distinguishes between investments in various kinds of assets and examines the specific preferences of the lower-class population for savings deposits, securities, private debt claims, cash, real estate and movable belongings. In addition to professional factors, the analysis uses overall wealth, family status, age, cultural and regional factors, and the time factor as independent variables. Finally, the article determines whether the structures of portfolios show any additional systematic variation that cannot be explained by the effect of those factors.

Introduction

In several continental European countries, the nineteenth century saw the first decades of slow but sustained economic growth creating a level of welfare at the eve of World War 1 that was higher than ever before. This process was connected with profound transformations in income and wealth distribution, the sectoral structure of the economy, investment behavior, and various other fields.

Clearly, the particulars of this story differ between individual countries. One of the more complex cases is the Habsburg Monarchy, due to its size and its cultural, economic and geographical heterogeneity, which resulted in specific developmental patterns in the different regions. In this paper we focus on those crown lands which constitute the Republic of Austria today, including Lower

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and Upper Austria, Salzburg, Styria, Carinthia, Tyrol, and Vorarlberg. This part of the Monarchy was not uniform in character, but rather showed a variety of regional types such as urban financial, industrial and Service centers, rural industrial regions and agricultural regions of different kinds.

Sustained economic growth in the Habsburg Monarchy began around 1820 or even earlier. Although existing estimates of Austrian growth rates in agricultural and industrial production may be fairly exact, estimates of income growth as a whole can only roughly be put in an order of l-2 percent per year (Pammer 1994/95, Pammer 1997). Growth seems to have continued during the great depression after 1873, though probably at lower rates. In the case of Austria it is hard to detect a short period of sudden and rapid economic growth, and this has led historians to assume that modern economic growth did not begin in Austria before World War I (Gerschenkron 1977). In fact, Austria did not experience a take-off but a slow and continuous economic transformation that took several decades and placed the more developed parts of the Monarchy, which were to form the Republic of Austria and part of Czechoslovakia after 1918, among the most economically successful regions of Europe (Komlos 1983, Good 1984).

How did income growth affect the Situation of the poorer parts of society? It has been argued that the early stages of modern economic growth generally coincided with a widening distribution of income, followed by a narrowing distribution in advanced economies: a pattern caused by other processes connected with the modernization of economies such as sectoral shifts, urbanization, technological change, advances in education, the development of more effcient markets and so on (Kuznets 1955). In Austria the inequality in wealth seems to have widened by a small degree in the course of the nineteenth century. However, this change is due not to a general widening of wealth differentials between lower and upper classes but rather to sectoral shifts – if the sectoral structure of the economy had remained unchanged, the overall degree of inequality would have remained the same as well (Pammer 2000a). In the details, however, we find numerous examples of sectoral as well as regional particularities which suggest that inequality, while remaining unchanged in its overall extent, did nevertheless change its shape during the nineteenth century (Pammer 2000a, Pammer 2000b).

These changes concerned among other things income, savings and investment behavior in the lower classes. In the early stages of industrialization, a major part of the population did not accumulate any wealth in the course of a lifetime: about 20 percent of the overall population, and 30 to 40 percent of the lower class population (day laborers in agriculture, blue collar workers, low-ranking officials, household servants), died without leaving any belong ings (Table l). But even in the lower classes many other people did accumulate some wealth during their lifetime. In Austria the wealth status of the lower classes seems to have remained constant throughout the nineteenth

century. Lower class wealth did not grow, however, and although after 1867 its average was higher than in the previous decades (Pammer 2000a), the changes, while being positive, are not significant.

Savings banks and lower-class savings

Contemporaries saw the need to provide efficient instruments for channelling the funds of the less affluent classes into the financial market. The institutional intermediaries that were intended to fulfill this purpose were savings banks, credit cooperatives, and Post Office savings banks (for the sources on savings institutions, see the appendix). The first savings bank in Austria was founded in Vienna in 1819, and in the Vormärz period most crown lands received either on independent savings bank or a branch of an existing savings bank in a different crown land. From 1860 on, the number of savings banks and savings accounts multiplied; between 1860 and 1913, it rose from 1 to 90 in Vienna, from 10 to 74 in the rest of Lower Austria, from 6 to 50 in Upper Austria, from 1 to 9 in Salzburg, from 4 to 43 in Styria, from 1 to 15 in Carinthia, from 1 to 12 in Tyrol, and from 2 to 4 in Vorarlberg.

The first credit cooperative of the western part of the Habsburg Monarchy was founded in 1847. While the number of credit cooperatives remained small in the first years, it grew rapidly from the 1860s on: Cisleithania had 10 credit cooperatives in 1859, 100 in 1863, 1000 in 1873, and 12000 in 1913. From 1886 on, most of the newly founded credit cooperatives were Raiffeisen cooperatives; in 1913, this branch represented about two thirds of the whole sector. In the early period, growth was especially fast in the Bohemian lands. In the territory of modern Austria growth was fastest in the 1880s and 1890s; in 1913, these crown lands had about 2500 credit cooperatives.

The Austrian Post Office savings bank, the Postsparkasse, began its work in 1883. lt operated through post offices and recruited large numbers of savers with small deposits. On average, individual deposits in savings banks or credit cooperatives were 10 to 14 times as large as Post Office savings deposits.

Credit cooperatives were much smaller than savings banks. In the Alpine lands, they had 150 to 300 members on average, while the average savings bank had 6000 to 9000 savings accounts between 1860 and 1913. On the eve of World War 1, savings banks had about 4.5 million savings deposits, credit cooperatives had about 3 million members, and the Postsparkasse about 2 million savers. Savings in all Cisleithanian savings banks drawn together amounted to 3.3 billion Austrian florins[1], savings in credit cooperatives

[1] Numbers throughout this paper are given in Austrian (silver) florins, a currency which was introduced in 1858. In 1892, the gold crown was introduced. 1 florin equalled 2 crowns.

Table 1: Proportion of inventories with positive wealth, negative wealth, zero wealth and private assets above zero, by profession.

	Positive Wealth	Negative Wealth	Zero Wealth	Private Assets	N
Farmer	92	5	2	98	792
Day laborer	65	1	34	66	277
Retired farmer or artisan	85	1	14	86	292
Big Business/Vienna	71	6	0	97	354
Business/Vienna	66	10	1	97	418
Business/Province	84	9	7	92	205
Artisan	80	8	12	87	1504
Small artisan	66	6	28	72	612
White collar worker	64	5	31	69	132
Blue collar worker	54	5	42	58	598
Official/high rank	89	3	6	94	172
Official/upper middle rank	80	6	13	87	197
Official/lower middle rank	73	6	21	79	316
Official/low rank	56	6	38	61	166
Free professional	85	5	9	90	301
Cleric	84	10	5	95	116
Artist	67	3	30	70	60
Servant	61	4	36	64	183
Person of private means	73	3	23	77	776
Total population	76	4	19	81	7471

Source: See appendix.

Table 2: Proportion of inventories with various kinds of assets, all cases (a) and cases with assets above zero (b), by profession.

	a						b					
	Savings Deposits	Cash	Movable Belongings	Landed Property	Securities	Debt Claims	Savings Deposits	Cash	Movable Belongings	Landed Property	Securities	Debt Claims
Farmer	4	19	85	90	2	37	4	19	87	92	2	38
Day laborer	7	14	39	8	0	49	10	21	58	12	0	74
Retired farmer or artisan	7	20	49	10	4	80	8	23	57	12	5	93
Big Business/Vienna	8	39	94	42	43	32	8	40	96	43	44	33
Business/Vienna	8	38	95	39	44	29	9	39	98	40	45	30
Business/Province	6	54	88	49	39	59	7	59	95	53	42	63
Artisan	6	32	81	56	9	40	7	37	93	64	11	46
Small artisan	5	16	59	40	3	30	8	22	82	55	4	42
White collar worker	14	27	62	9	19	29	21	40	90	13	27	42
Blue collar worker	10	12	44	15	3	27	16	20	75	25	5	47
Official/high rank	19	64	91	11	58	41	20	68	97	12	61	43
Official/upper middle rank	15	51	81	20	39	46	17	58	93	23	44	52
Official/lower middle rank	8	35	72	16	22	47	10	44	91	21	27	59
Official/low rank	7	22	47	10	10	36	12	36	77	16	16	58
Free professional	17	53	84	35	39	47	18	59	93	38	43	51
Cleric	19	79	91	11	44	68	20	84	96	12	46	72
Artist	7	45	62	8	23	22	10	64	88	12	33	31
Servant	18	26	53	5	11	25	28	40	83	9	18	39
Person of private means	18	37	65	22	25	46	23	48	84	29	33	60
Total population	7	19	66	50	4	39	8	24	81	62	5	48

Source: See appendix.

Table 3: Per capita savings in savings banks, credit cooperatives, and the Austrian postal savings office (Austrian florins).

	Vienna	Lower Austria	Upper Austria	Salzburg	Styria	Carinthia	Tyrol	Vorarlberg
1820	0	0	0	0	0	0	0	0
1830	23	0	0	0	1	0	0	0
1840	49	1	0	0	3	1	0	0
1850	47	3	0	0	5	3	1	0
1860	36	6	5	6	8	4	2	2
1870	48	16	19	14	21	11	7	3
1880	85	43	58	32	45	27	24	10
1890	116	80	105	73	75	51	63	30
1900	127	117	155	136	110	77	120	75
1910	145	161	202	160	144	116	168	126
1913	140	165	204	161	139	111	163	124

Source: See appendix.
Notes: Vienna = Vienna area 1890–1913; Lower Austria = Lower Austria except Vienna. Numbers are deflated according to the consumer price index of Mühlpeck/Sandgruber/Woitek (1979); the base year is 1820.

Table 4a: Binomial logit estimates of presence of certain assets in wealth inventories (columns a, N = 6482) and the proportion of these assets in overall wealth (columns b, N = 5250): Savings deposits and cash.

	Savings deposits				Cash			
	a		b		a		b	
Constant	−93.265[c]	(5.0698)	−96.003[c]	(7.7707)	12.554[b]	(2.8171)	−7.0189	(6.0603)
Year	0.0467[c]	(0.00269)	0.0486[c]	(0.00414)	−0.0089[c]	(0.00152)	0.0023	(0.00326)
Private assets	0.3837[c]	(0.02162)	0.0751[a]	(0.03549)	0.4094[c]	(0.01441)	−0.2186[c]	(0.03113)
Male	−0.0148	(0.10340)	−0.2466	(0.14743)	0.3217[b]	(0.07143)	0.4771[b]	(0.16081)
Age	−0.0012	(0.00330)	0.0094[a]	(0.00477)	0.0119[c]	(0.00227)	0.0138[b]	(0.00476)
Unmarried	1.2506[c]	(0.12143)	1.3949[c]	(0.17623)	1.1414[c]	(0.08892)	0.8996[c]	(0.17191)
Widowed	0.6615[c]	(0.12555)	0.5980[b]	(0.19356)	0.5753[c]	(0.08623)	0.3826[a]	(0.19075)
Jewish	−1.1576[b]	(0.26768)	−1.4191[a]	(0.60851)	−0.7136[c]	(0.14928)	0.1601	(0.29747)
Day laborer	0.1697	(0.29394)	0.2028	(0.36364)	−0.6393[b]	(0.23131)	−0.4574	(0.41808)
Blue-collar worker	1.0475[c]	(0.19562)	1.0819[b]	(0.24916)	−0.3073	(0.16841)	−0.4999	(0.33375)
Low-ranking official	0.6969[a]	(0.35239)	0.9346[a]	(0.44139)	0.5969[a]	(0.24195)	−0.3580	(0.54839)
Servant	1.3490[c]	(0.26402)	1.1506[b]	(0.32275)	0.4856[a]	(0.21459)	0.3580	(0.35474)
Vienna	−0.6655[b]	(0.14773)	−0.4936[a]	(0.22889)	−0.5050[c]	(0.09655)	−0.0988	(0.19378)
Lower Austria	−0.2721	(0.18564)	0.0694	(0.25866)	−1.2517[c]	(0.13456)	−0.9430[b]	(0.35364)
Salzburg	−0.5251[a]	(0.21194)	−0.5307	(0.30996)	−0.1958	(0.14292)	−0.1497	(0.29130)
Styria	−0.1188	(0.15543)	−0.0794	(0.21853)	−1.0994[c]	(0.11318)	−0.9736[b]	(0.27030)
Carinthia	−0.4815	(0.27979)	−0.0514	(0.35580)	−1.3631[c]	(0.20149)	−0.2831	(0.36427)
Tyrol	−0.6877[b]	(0.20889)	−0.7522[a]	(0.30098)	−1.3983[c]	(0.16424)	−1.1520[b]	(0.40965)
Vorarlberg	−1.0397[c]	(0.18809)	−1.1542[b]	(0.29981)	−1.8665[c]	(0.12797)	−1.0530[b]	(0.31841)
Provincial cities	0.7832[b]	(0.18549)	0.6866[b]	(0.25385)	0.2128	(0.13843)	0.4612	(0.29858)
LL	−1546.676		−810.8409		−2956.096		−867.1841	
R-LL	−2124.274		−1525.057		−4004.634		−1427.257	
Chi^2 / d.f.	1155.196 / 19		1428.432 / 19		2097.076 / 19		1120.146 / 19	
Pseudo R^2	0.2719		0.4683		0.2618		0.3924	

Source: See appendix.
Notes: Estimates are maximum likelihood estimates; values in parentheses are standard errors. [a] = coefficients significant at the 5 percent level; [b] = coefficients significant at the 1 percent level; [c] = coefficients significant at the 0.001 percent level. LL = log likelihood function; R-LL = restricted log likelihood. Lower Austria = Lower Austria except Vienna.

Table 4b: Binomial logit estimates of presence of certain assets in wealth inventories (columns a, N = 6482) and the proportion of these assets in overall wealth (columns b, N = 5250): Movables and real estate.

	Movables				Real estate			
	a		b		a		b	
Constant	44.357[c]	(3.7081)	17.806[c]	(3.6998)	9.3583[b]	(3.1587)	−0.1931	(2.9608)
Year	−0.0245[c]	(0.00199)	−0.0075[b]	(0.00199)	−0.0069[b]	(0.00170)	−0.0009	(0.00160)
Private Assets	0.6714[c]	(0.01800)	−0.7573[c]	(0.02650)	0.6593[c]	(0.02171)	0.3244[c]	(0.01871)
Male	0.2925[b]	(0.08565)	0.2858[b]	(0.09443)	0.3029[b]	(0.07838)	0.2286[b]	(0.07374)
Age	0.0050	(0.00276)	−0.0051	(0.00294)	−0.0145[c]	(0.00260)	−0.0137[c]	(0.00245)
Unmarried	−0.3894[b]	(0.10431)	−0.2330[a]	(0.11455)	−2.0366[c]	(0.10595)	−1.6932[c]	(0.10611)
Widowed	−0.4112[b]	(0.11294)	0.0243	(0.11931)	−1.0521[c]	(0.09571)	−0.7518[c]	(0.08955)
Jewish	−0.1205	(0.23524)	0.4108[a]	(0.18173)	−0.7211[b]	(0.17749)	−0.7851[b]	(0.17874)
Day laborer	−0.3375	(0.19177)	−1.4041[c]	(0.29215)	−0.6689[a]	(0.29274)	−0.8259[b]	(0.31457)
Blue-collar worker	0.0749	(0.14259)	−0.7600[b]	(0.18167)	−0.0127	(0.17051)	−0.1398	(0.16765)
Low-ranking official	0.1150	(0.25416)	−0.8538[b]	(0.30975)	−0.8494[a]	(0.32993)	−0.7353[a]	(0.32551)
Servant	0.6282[b]	(0.22641)	−1.0187[b]	(0.30707)	−0.7421	(0.41239)	−0.9865[a]	(0.44889)
Vienna	0.0306	(0.14960)	1.1351[c]	(0.12940)	−1.9833[c]	(0.12196)	−1.2389[c]	(0.11068)
Lower Austria	−0.9084[c]	(0.17471)	−0.1863	(0.17473)	0.8699[c]	(0.14038)	0.6767[c]	(0.12502)
Salzburg	−0.3286	(0.21078)	−0.1158	(0.20776)	0.2972	(0.16712)	0.3059	(0.15926)
Styria	−1.0557[c]	(0.15229)	−0.0870	(0.14900)	0.5055[b]	(0.12283)	0.3878[b]	(0.11398)
Carinthia	−1.8523[c]	(0.20224)	−0.7078[b]	(0.24942)	−0.0622	(0.19723)	−0.0175	(0.18657)
Tyrol	−2.0308[c]	(0.18958)	−0.6596[b]	(0.25318)	0.9261[c]	(0.17662)	0.7725[c]	(0.16698)
Vorarlberg	−1.2971[c]	(0.15971)	−0.3670[a]	(0.17597)	1.1438[c]	(0.12875)	0.7177[c]	(0.11442)
Provincial cities	0.2401	(0.16500)	0.6172[b]	(0.18967)	−2.3033[c]	(0.17842)	−1.6854[c]	(0.17691)
LL	−1973.735		−1805.516		−2405.158		−2682.221	
R-LL	−3922.858		−3439.302		−4233.427		−3845.949	
Chi^2 / d.f.	3898.247 / 19		3267.572 / 19		3656.538 / 19		2327.457 / 19	
Pseudo R^2	0.4969		0.4750		0.4319		0.3026	

Source: See appendix.
Notes: Estimates are maximum likelihood estimates; values in parentheses are standard errors. [a] = coefficients significant at the 5 percent level; [b] = coefficients significant at the 1 percent level; [c] = coefficients significant at the 0.001 percent level. LL = log likelihood function; R-LL = restricted log likelihood. Lower Austria = Lower Austria except Vienna.

Table 4c: Binomial logit estimates of presence of certain assets in wealth inventories (columns a, N = 6482) and the proportion of these assets in overall wealth (columns b, N = 5250): Securities and private debt claims.

	Securities				Private debt claims			
	a		b		a		b	
Constant	−16.468[b]	(3.6718)	−22.046[c]	(4.3285)	33.905[c]	(2.7292)	18.922[c]	(2.9718)
Year	0.0047[a]	(0.00197)	0.0081[b]	(0.00232)	−0.0201[c]	(0.00148)	−0.0112[c]	(0.00161)
Private assets	0.6604[c]	(0.02428)	0.4074[c]	(0.02507)	0.4527[c]	(0.01418)	0.0672[b]	(0.01710)
Male	0.1131	(0.09633)	−0.0837	(0.11641)	−0.1775[b]	(0.06585)	−0.4192[c]	(0.07169)
Age	0.0106[b]	(0.00305)	0.0148[b]	(0.00368)	0.0025	(0.00211)	0.0043	(0.00236)
Unmarried	1.1855[c]	(0.11418)	1.0952[c]	(0.12966)	0.8450[c]	(0.08258)	0.6097[c]	(0.08839)
Widowed	0.5016[b]	(0.11146)	0.3458[b]	(0.13267)	0.5160[c]	(0.08187)	0.4326[c]	(0.08884)
Jewish	0.5096[b]	(0.16592)	0.2942	(0.16571)	−0.2160	(0.15386)	0.2114	(0.18669)
Day laborer	−2.3722[a]	(1.0149)	–	–	0.9880[c]	(0.17849)	1.3878[c]	(0.19230)
Blue-collar worker	−0.0419	(0.28344)	−0.0510	(0.37690)	0.3669[b]	(0.13515)	0.3368[a]	(0.14930)
Low-ranking official	1.0907[b]	(0.32710)	1.1572[b]	(0.39393)	0.8962[b]	(0.22309)	0.5419[a]	(0.24817)
Servant	0.5699	(0.30276)	0.4452	(0.35086)	−0.0392	(0.22009)	−0.2791	(0.24340)
Vienna	0.4873[b]	(0.12116)	0.7966[c]	(0.14047)	−1.0158[c]	(0.09873)	−0.6656[c]	(0.11462)
Lower Austria	−0.3082	(0.16913)	−0.0862	(0.21541)	−0.4327[b]	(0.12251)	−0.3075[a]	(0.14585)
Salzburg	−0.6791[b]	(0.19833)	−0.7420[b]	(0.26834)	0.3411[a]	(0.14137)	0.3241[a]	(0.15209)
Styria	−1.1920[c]	(0.17323)	−1.1919[c]	(0.24079)	0.1602	(0.10478)	0.2825[a]	(0.11489)
Carinthia	−1.6305[b]	(0.41296)	−2.1016[b]	(0.80462)	0.6241[b]	(0.15718)	0.9373[c]	(0.17081)
Tyrol	−1.4284[c]	(0.23048)	−1.2822[b]	(0.29916)	0.4362[b]	(0.14814)	0.8149[c]	(0.15442)
Vorarlberg	−1.3946[c]	(0.17830)	−1.6356[c]	(0.29946)	0.2498[a]	(0.10830)	0.4753[b]	(0.11568)
Provincial cities	1.3437[c]	(0.18464)	1.3847[c]	(0.23964)	−0.1841	(0.13093)	−0.0956	(0.13749)
LL	−1841.945		−1385.824		−3271.805		−2701.115	
R-LL	−3066.524		−2556.916		−4329.420		−3619.120	
Chi² / d.f.	2449.158 / 19		2342.186 / 18		2115.229 / 19		1836.009 / 19	
Pseudo R^2	0.3993		0.4580		0.2443		0.2537	

Source: See appendix.

Notes: Estimates are maximum likelihood estimates; values in parentheses are standard errors. [a] = coefficients significant at the 5 percent level; [b] = coefficients significant at the 1 percent level; [c] = coefficients significant at the 0.001 percent level. LL = log likelihood function; R-LL = restricted log likelihood. Lower Austria = Lower Austria except Vienna.

Table 5a: Correlations of residuals according to Tables 4a–c, columns a (N = 6482).

	Savings deposits	Cash	Movables	Real estate	Securities
Cash	0.04795[c] (0.00798)				
Movables	–0.03841[b] (0.01096)	0.07213[b] (0.01700)			
Real estate	–0.06060[c] (0.00899)	–0.04831[b] (0.01398)	0.08717[c] (0.01508)		
Securities	0.07577[c] (0.01056)	0.25399[c] (0.01615)	–0.03382[a] (0.01285)	–0.19653[c] (0.01440)	
Private debt claims	0.02387[b] (0.00719)	0.12844[c] (0.01374)	–0.11901[c] (0.01890)	–0.16014[c] (0.01545)	0.05026[b] (0.01831)

Source: See appendix.
Notes: Numbers indicate beta-coefficients; values in parentheses are standard errors; [a] = coefficients significant at the 5 percent level; [b] = coefficients significant at the 1 percent level; [c] = coefficients significant at the 0.001 percent level.

Table 5b: Correlations of residuals according to Tables 4a–c, columns b (N = 5250)

	Savings deposits	Cash	Movables	Real estate	Securities
Cash	–0.06133[b] (0.01629)				
Movables	–0.05484[c] (0.01026)	–0.07925[c] (0.00864)			
Real estate	–0.07659[c] (0.00618)	–0.04315[c] (0.00527)	–0.26078[c] (0.02237)		
Securities	–0.05276[c] (0.00960)	–0.01571 (0.00815)	–0.08105[c] (0.01470)	–0.51639[c] (0.01998)	
Private debt claims	–0.05909[c] (0.00633)	–0.30293[c] (0.03503)	–0.53807[c] (0.02097)	–0.47036[c] (0.01190)	–0.26187[c] (0.02052)

Source: See appendix.
Notes: Numbers indicate beta-coefficients; values in parentheses are standard errors; [a] = coefficients significant at the 5 percent level; [b] = coefficients significant at the 1 percent level; [c] = coefficients significant at the 0.001 percent level.

comprised l.3 billion florins, and Post Office savings comprised 110 million florins. The Alpine lands accounted for about half of Cisleithania's savings in savings banks and Post Office savings, and about a quarter of the savings in credit cooperatives. Altogether, savings accounts were a substantial factor in the Austrian financial market.[2] The savings banks used up to 75 percent of the savings deposits for mortgage credit loans and invested a substantial part of the remainder in state bonds.

Since savings accounts were mostly held by local or regional inhabitants, we can distinguish between savings behavior in different crown lands. Table 3 Shows per capita savings deposits, with all savings deposits in savings banks and credit cooperatives and Post Office savings drawn together. We see that deposits were highest in Upper Austria and lowest in Styria (including Lower Styria), Carinthia and Vorarlberg. Growth happened at different times in different regions, with a most special development in Vienna.

Savings behavior was determined by individual characteristics as well as regional criteria, as can be seen in household wealth data. We gained these data from probate inventories, which were established in every case of death and which theoretically list all belongings of the decedents (for the sources used in this paper, See the appendix). Thus these sources cover the whole population but are subject to an age bias since mortality differs between age groups. This fact must be kept in mind because wealth and the individual composition of wealth change in the course of a lifetime due to saving and dissaving in different stages of the life cycle. We can estimate the effect of age on wealth because in a sample of probate inventories we usually find cases of persons belonging to different age groups, although the age distribution differs from the age distribution among the living population.

However, in the context of an analysis of investments in savings accounts, age is not among the most important factors to explain differences in individual behavior. Instead, individual investment in savings accounts primarily depends on

- the family situation (marriage status),
- cultural factors,
- professional affiliation,
- the overall wealth status,
- the existence of local savings institutions (savings banks, credit cooperatives), and
- other regional characteristics.

[2] At the eve of World War 1, the general state debt of the Habsburg Monarchy (representing debts from the pre-1867 period) amounted to 2.7 billion florins; the Cisleithanian state debt was 3.7 billion florins. The balance of all Cisleithanian banks (not including savings banks) amounted to 8.2 billion florins, including 1.5 billion in mortgage bonds, and 1.2 billion in bills of the Austro-Hungarian Bank.

We will analyze investments in savings accounts in two respects. First we will investigate which factors determined whether a person owned any savings deposits, regardless of the size of these deposits and the extent of overall wealth. Next we will analyze the factors that determined the proportion of overall wealth invested in savings accounts. Finally we will determine the effects of those factors on the size of savings deposits owned by individual persons.

Table 4a presents a binomial logit model for the probability to invest anything in savings accounts (left, column a). We see that personal characteristics like gender and age did not exert a specific influence on these investments. The family situation, however, was relevant: Unmarried persons were significantly more likely to hold savings accounts than married persons; the same is true for widowed persons. These results are not easy to explain; some characteristics of unmarried persons which are obviously important for investment behavior – younger age, higher mobility, different professional structure – are also connected with other factors that are part of the model. The importance of religious affiliation is easier to explain; Jewish persons were significantly less likely than other persons to hold savings deposits due to a different appreciation of risks of various financial investments (other factors connected with religious affiliation like a higher degree of urbanity and a specific professional structure of the Jewish population are covered by different variables).

The extent of overall assets owned by a person correlates positively with the existence of savings deposits in his or her portfolio. The minimal standard error of the coeffcient suggests that this factor is of the highest importance. The result is robust towards alterations of the model, for instance, towards excluding professional factors from it. The profession of wealth holders seems to have been connected with investments in savings accounts in a way similar to what contemporary writers and propagators of the savings banks idea imagined: lower class persons in the secondary and service sectors show a higher propensity to invest in savings deposits than the upper and middle classes. In a more refined model (not shown in the tables) the same pattern can be seen within the agricultural population: day laborers (a mixed group composed of independent day laborers in a narrower sense, and farm laborers living in farmers' households) are signifcantly more likely than farmers to have savings deposits in their portfolios. Among all groups in the secondary sector, blue collar workers show the strongest propensity to invest in savings accounts. The same is true for servants, compared with other groups of the service sector. Thus the tendency is clear: Savings accounts were an offer specifcally important for the lower classes.

The results for the agricultural professions suggest that local conditions modifed the result. People living in cities were more likely to own savings deposits, since access to savings banks was somewhat easier in cities. In addition, access to savings banks depended on regional conditions and changed

over time: the regional value of per capita savings deposits in the respective year[3] determines the occurrence of savings accounts in individual portfolios as much as the extent of overall individual assets. In the model presented here, we use the calendar year instead, due to its high correlation with the extent of per capita savings deposits in any of the regions involved. In addition, we introduce dummy variables for these regions, with Upper Austria as the reference region. We see that, ceteris paribus, the likelihood of detecting savings deposits among individual assets is in all regions lower than in Upper Austria, although the differences are significant only for Vienna, Salzburg, Tyrol and Vorarlberg. Thus it seems that the relatively high per capita savings deposits in Upper Austria, as given in Table 3, are due not only to the economic composition of the Upper Austrian population but also to a especially high propensity of Upper Austrians to make those investments.

The proportion of assets invested in savings accounts need not necessarily depend on the same factors as the decision to make any such investments. In fact, however, we see in the logit model in Table 4a (left, column b) that the independent variables mostly work in the same direction as in the dichotomous case, though the effects are weaker. For instance, overall wealth, which is a decisive factor for the occurrence of savings deposits in a portfolio, is of minor importance for the proportion of assets in savings deposits; this is still an interesting result because it is a priori by no means clear that richer persons should invest a higher proportion of their wealth in savings deposits – we might expect rather higher proportions of investments in securities or landed property and possibly a declining proportion of savings deposits. Again we find differences between professional groups: In a more refined model (not shown in the tables) we see that compared to farmers, most other professional groups display higher proportions of savings deposits in their assets, differences that are even more pronounced for blue collar workers and servants. Regional differences, however, are mostly insignificant, with only Vorarlberg differing markedly from Upper Austria.

Among those who held savings deposits, differences in the value of these deposits are mainly due to overall wealth – not surprisingly, among owners of savings accounts the richer ones had larger savings deposits (these results are not shown in the tables). In the course of time, deposits became somewhat larger, a finding that is in accordance with macro-economic data on the size of average savings accounts. In addition, savings deposits grew in the life cycle – age is positively connected with the value of savings deposited in savings banks. Thus, while age shows no significant connection with the appearance of savings deposits in a portfolio, the value of these deposits was higher for older people. Other effects are mostly insignificant: one-on-one comparisons of

[3] The respective year is the year of the death of a person included in the Sample.

professional groups Show significant differences in the value of savings deposits only in a few constellations (artisans and blue collar workers own, ceteris paribus, larger deposits than farmers). The same is true for most regional comparisons.

Alternative investments

What alternatives to savings deposits did lower class people have when they wanted to invest their savings? The most important kinds of investments apart from savings deposits were

- movable belongings,
- cash,
- landed property,
- securities and
- private debt claims.

Obviously everyone had at least some movable belongings, for instance, clothes. A considerable number of probate inventories, however, does not list any such belongings (Table 2) because the things that those persons had left behind were almost valueless and did not demand the usual process necessary for distributing an estate among heirs. Therefore these files were closed immediately because the heritage did not justify the costs of a regular process. lt is clear, however, that cases with zero wealth are overrepresented in the wealth distribution in our Sample, and in consequence cases with very little, though positive wealth, are underrepresented[4]. These latter cases almost certainly concern people who owned only a few movables. Among middle and upper class persons whose probate inventories include any assets, movables are listed in most cases; among lower class persons this information is often missing, which is probably also due to the low value of the things that they had left behind. Thus the probability of finding movables listed in an inventory depends heavily on overall wealth. Other factors that exerted some influence on the listing of movables seem to reflect different habits of establishing inventories in different crown lands and at different times (Table 4b): For instance, movables become less frequent in inventories in the course of time, and their frequency differs between the regions. Profession seems to have played a minor role in this context – lower class persons who worked as day laborers, blue-collar workers or low-ranking officials have, ceteris paribus, no endowment with movables different from that of other professions. The only exception is servants, who did own movables more frequently than members of other groups.

[4] This can be seen in the distribution of overall assets. Usually such a distribution equals a lognormal distribution (Aitchison/Brown 1969); in our Sample the distribution shows some biases among the very lowest class of wealth holders.

Looking at movables as a proportion of all assets, the picture becomes more complicated (Table 4b, left, column b). We see now that movables actually include two kinds of goods:

- Movables that concerned primary needs comprise a larger proportion of small estates compared to large estates. For instance, compared to rich people, poor people had to invest larger proportions of their wealth in clothes. Therefore the effect of overall wealth on the proportion of movables in all assets is negative and highly signifcant.
- Movables that represented luxury goods had specifc relevance for different professional or cultural groups and show a certain regional diversity. For instance, lower class persons did not own such goods (therefore the coefficients for lower class professions are negative, and highly significant), while the Jewish population showed a particularly high propensity to invest in valuables. Luxury goods were also more important in the urban context. We find the highest proportion of movables in Vienna and in provincial cities, and the lowest proportion in Carinthia, Tyrol, and Vorarlberg. The importance of cultural and regional factors is due also to the fact that landed property as an important alternative to luxury goods was less important in the urban context.

Another item where probate inventories are probably inaccurate is cash. We can assume that most people had some cash, although it does not appear in probate inventories of about 80 percent of the population. There are several reasons for this: Cash could easily be held back, especially in families where surviving family members could easily misappropriate cash left behind by spouses, parents, or children: Widowed persons, having no spouses, were significantly more likely to leave cash than married persons, and unmarried persons, having neither spouses nor children, were significantly more likely to leave cash than both married and widowed persons (Table 4a, right). Both widowed and unmarried persons also show a higher proportion of cash in their overall assets. Secondly, the manner in which cash was treated in the probate process seems to have changed in the course of time, so that cash became less frequent in inventories. This result certainly has nothing to do with the efficiency of the financial market in the last decades before World War I: as we see from the unchanged proportion of cash in overall assets, people obviously did not convert cash into savings deposits or securities. A certain tolerance seems to have developed towards the non-declaration of cash, which contrasts strangely with the almost manic accuracy in listing other things of little value. In spite of these biases, which lead to an underestimation of cash in the portfolios of the population, we still find differences in the data that seem plausible. For instance, day laborers are, ceteris paribus, less likely to own cash than other groups, blue-collar workers do not show any such difference, and lower-class people in the Service sector are more likely to own

cash than the rest of the population which includes some groups with little cash-holding such as farmers. The proportion of cash in the assets of either of the lower-class groups, however, does not Show any difference from the rest of the population (Table 4a, right, column b).

Landed property made up a large part of private wealth. A surprisingly high proportion of the population owned at least some landed property: We find at least a few people who owned real estate in every professional group, and almost all farmers, half of the artisans and small artisans, many free professionals and a considerable proportion of blue-collar workers, private persons and retired farmers owned landed property (Table 2). The factors that determined land-holding display a clear pattern (Table 4b, right):

- Overall wealth played a crucial role in that richer persons were more likely to own land and invested larger proportions of their wealth in land. This factor shows the highest significance among all factors.
- Married persons were more likely to own land and invested a larger proportion of their land in land than both unmarried and widowed persons. In this context the role of family Status as a dependent or independent variable is ambiguous: many people married because they had received land, for instance, by way of a heritage. Many other people married a land-owner and received a share in the land by establishing a joint property, and widowed persons, having lost their marriage partners, often handed over their land to their successors (or elderly persons, having retired and handed over their land to their successors, lost their spouses afterwards).
- The lower class groups were less likely to own land compared to other groups, but the effect is relatively weak and is significant only for day laborers and low-ranking officials. Blue-collar workers did not, ceteris paribus, differ from the rest of the population in terms of investments in land. The same pattern holds for the proportions of lower-class wealth invested in land. Obviously much of the specifics of lower-class behavior is already covered by the effects of overall wealth and family status as described above.
- Urbanity and cultural factors worked in a consistent way: living in Vienna or the provincial cities, and being affiliated to the Jewish community, made for a lower probability of owning real estate and a smaller proportion of wealth invested in real estate. Some of the crown lands are characterized by a specifically high propensity to invest in land. It is no accident that holding real estate was, ceteris paribus, most frequent in Vorarlberg, where much of the Land was parceled out among heirs in equal portions leading to a high rate of land owners, whereas in other regions one principal heir received the land and the other heirs received a compensation.

Only about five percent of the population owned securities, which were most unevenly distributed between professional groups. Persons in agriculture, artisans and Small artisans, and blue-collar workers seem at first glance to

display a particularly low likelihood of holding securities, and lower-class persons in the service sector are not far away from these groups (Table 2). The multivariate model helps to differentiate these findings (Table 4c, left). As a matter of fact, low-ranking offcials show, ceteris paribus, a significantly higher inclination to invest in securities, and invest a higher proportion of their wealth in bonds or stocks. Only day laborers are significantly less likely to make such investments than the rest of the population. Of course, again much of the effects of lower-class status is covered by the effects of overall wealth: both the likelihood of investing in securities and the proportion of one's wealth invested in this way are significantly higher for more affluent persons. In some respect, securities seem to have been a most important alternative to real estate holding: factors that are negatively connected with investments in real estate have often positive effects on investments in securities. This is true for older people, unmarried or widowed people, and people living in Vienna or provincial cities. Clearly retired people at an advanced age, who were often widowed, and unmarried people who had not yet had the opportunity to receive real estate, had to look for alternative investments, and an urban environment made access to the financial market easier. Generally investment in securities became more important in the course of time–this is not surprising since the market for securities of all kinds (similar to the savings bank sector) grew constantly during the period under consideration.

Not all lower-class persons who did not own real estate chose securities as an alternative: day laborers in agriculture were particularly unlikely to invest in landed property or securities and had no specific preference for investing in savings deposits. What assets did day laborers opt for instead?

Day laborers, voluntarily or not, held a high proportion of their wealth as private debt claims, i.e. debt claims against other households (instead of claims against institutional debtors such as savings banks, banks, industrial enterprises, or the state). We find private debt claims in portfolios of all professional groups, but they appear more frequently among assets of day laborers and retired farmers or artisans (Table 2). Day laborers often received a debt claim as a compensation for inheritance rights: if, for instance, one of several children succeeded in their retiring parents' farm, the other children had to receive something in compensation. Since the farm usually represented the major part of all assets of the retiring farmers, the only possibility to compensate the remaining children was to give them a debt claim against their succeeding brother or sister. In fact, these claims were often illiquid for a long time, and in many cases were never paid at all. Thus these assets were hardly the result of a voluntary investment decision. Retired farmers, on the other hand, had normally been free to keep their farm or to retire. Upon deciding for retirement, they received several kinds of debt claims against their successors; these claims might, among others, take the form of a life annuity in kind or mortgaged debt claims. These latter claims were normally illiquid as well, but at least these

were voluntary decisions. The connection between family status and investment in private debt claims is just another side of there circumstances–persons who had to be compensated for real estate which they had not received were often unmarried, while retired farmers were often widowed. Correspondingly, unmarried and widowed persons were more likely to hold private debt claims than married persons (Table 4c, right). All in all, private debt claims represent a typical kind of pre-modern investment: their occurrence in portfolios, and their proportion in overall assets, became less important in the course of the nineteenth century and were less important in Vienna compared to the rest of Austria.

Interaction between different kinds of investments

In the previous sections we showed that the lower-class population developed specific investment preferences in different sectors. While investing in real estate was an option only for blue-collar workers, various kinds of private and institutional financial investment were used in different ways:

- Other things being equal, day laborers in agriculture showed a clear preference for private debt claims and no specific inclination to savings deposits. Securities were not an option for this group.
- Blue-collar workers in the secondary sector held both savings deposits and private debt claims, but had no particular interest in securities.
- Low-ranking officials had the most diversified portfolios, including debt claims and, less importantly, savings deposits and securities.
- Household servants seem to have played the role which propagators of the savings banks idea used to attribute to the less affluent classes in general
- they had a clear preference for depositing their savings in savings banks or credit cooperatives, but had no specific inclination to invest in debt claims or securities.

We might expect that apart from the determining factors used in the previous analyses, there is still covariation in decisions for investment in different kinds of assets. Therefore we tested for covariation between the residuals of the equations given in Tables 4a-c. The results, given in Table 5a and 5b, suggest that apart from factors such as wealth, profession, family status, region and time-related issues like the development of financial markets, there is still an underlying pattern of investment behavior which determines the likelihood of certain combinations of investments in one's portfolio. We can distinguish between two groups of investments:

- one group consisting of savings deposits, private debt claims, cash and securities, and
- the other group consisting of real estate and movables.

Within each group of investments, the occurrence of investments in different kinds of assets correlate positively with each other. Correlations between the groups are negative. lt seems that investors showed either a preference for financial assets on the one hand or (movable or immovable) tangible things on the other, but not an arbitrary mix of both.

When one examines the proportions of those investments in the overall assets of wealth holders, the situation looks different: now all kinds of investment correlate negatively with each other. This result is consistent with our previous findings because raising the proportion of one asset in a portfolio means that the proportions of other assets tend to become smaller. Clearly, this need not necessarily be true in every constellation – we cannot exclude a priori the possibility of a positive correlation between the proportions of two kinds of assets in portfolios. But our results show that in fact such a linkage did not exist, at least not as a general pattern.

Conclusion

At the time when sustained economic growth began in Austria, the founders of the first savings bank projected a new branch of the financial system that was to mobilize capital even from those strata of the population that had not previously been integrated in the financial market. This idea became ever more important during the following decades, and macro-economic data suggest that savings banks and credit cooperatives succeeded in attracting substantial financial means. Does this mean that the lower-class population in all sectors participated equally in this process?

The results presented in this paper suggest that in fact the lower-class population did not display a uniform investment behavior but fell into various segments characterized by specific preferences: The lower class in agriculture, the day laborers, showed a rather traditional behavior, to a large extent holding their wealth as private debt claims. Blue-collar workers were most closely related to the day laborers, holding considerable parts of their wealth as private debt claims as well, but adopting savings deposits as an additional investment opportunity. Household servants conformed most closely to the pattern imagined by the inventors of the savings bank idea – for them, savings deposits were the most relevant form of investment. The most modern pattern, however, can be found among low-ranking officials who tended to diversify their investments, holding different kinds of assets, including securities, at the same time.

Although the savings banks idea was not successful in all sectors, it was most successful in the growing sectors. The agricultural sector became smaller during the nineteenth century primarily because the lower class in agriculture moved to the industrial and service sectors. Sectoral shifts thus favored the integration of the lower classes into the fmancial market and contributed to the

remarkable growth of the fmancial sector in the last decades prior to World War I.

Appendix: Sources

This paper uses data that were collected in the coure of a research project on wealth formation and wealth distribution in those crown lands of the Habsburg Empire that now form the Republic of Austria. The research focuses on the period between 1820 and 1913.

Wealth data were gained from probate inventories established in Austrian manorial, municipal and district courts between 1820 and 1913. Probate inventories include detailed lists of the belongings of deceased persons according to a scheme provided by law. The inventories were used as the basis for the distribution of the estate among the heirs as well as for fiscal purposes. Probating was imperative in any case: for those persons who did not own any wealth, the cases were closed immediately, but they are still part of the probate series. Probate inventories pose numerous problems for historical analysis owing to the way they were established and the purposes they were intended for (for these problems, see Pammer 1998, Appendix).

We used the following archival sources for sampling:

LOWER AUSTRIA: Niederösterreichisches Landesarchiv, A-Akten, BG Amstetten (A 1-20, 22, 26, 28, 32), Aspang (K l-5, 10-l, 16-8, 25-32), Baden (K 3-34), Ebreichsdorf (A 6-10).

VIENNA: Wiener Stadt- und Landesarchiv, Handelsgericht (A 2 Sch. l-41, 45-75, 78, 82, 86-95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 159, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 230, 233, 235, 244, 245, 258, 260; A 11 Sch. 8, 10, 29, 30, 31, 50, 69, 70, 82, 90, 92, 109, 110, 113, 117-8, 129, 130, 150, 165, 170, 190, 210, 219, 220, 230, 240, 250, 258, 260, 270, 289, 290); BG Innere Stadt I (A 2 Sch. l, 3-6, 30-2, 52, 80, 100, 120, 140, 145, 150, 155, 160, 190, 198, 200, 209, 210, 220, 228, 230, 240, 250, 260, 270, 280, 300, 315, 330, 340, 360, 370, 390, 400, 420, 430, 440, 460, 480, 500, 520, 540, 560, 580, 587, 600, 607, 620, 636, 640, 660, 680, 695, 700, 707, 720, 740; 5A 31 Sch. 1, 5, 8, 13; 6A 36 Sch. 47, 51, 53), Leopoldstadt I (A 1850, 1851, A 2 Sch. 6; 1A 11 Sch. 25, 46), Landstraße (A 1875-97; 5A 21 Sch. 43, 49, 61, 65), Wieden (A 2 Sch. 18, 36, 60, 95, 100; A 11 Sch. 71), Mariahilf (A 1850), Neubau (A 2 Sch. 9, 52; 2A 16 Sch. 36).

UPPER AuSTRIA: Oberösterreichisches Landesarchiv, BG/LG Linz (Präs 1854 ff, Abh. Sch. 1000-7, 1009, 1011-2, 1015-6, 1019, 1025, 1027, 1028, 1032-5, 1037, 1040, 1042, 1045, 1047-1051, 1053, 1055-6), BG Braunau (A 54, 64, 91-2, 108), Eferding (A 7, 44), Frankenmarkt (A 4, 12, 71), Freistadt (A 17, 44, 70, 108), Grein (A 16, 53), Grieskirchen (A 16, 46), Grünburg (A 8, 15, 16, 23, 28, 44), Ischl (A 13, 42, 44, 52, 54, 58, 70, 78), Kirchdorf (A 1, 19), Kremsmünster (A 3, 22, 28, 31, 58, 81, 87, 89, 91, 115-6), Lambach (A 8, 17-

8, 34, 42-3, 48), Leonfelden (A 34, 46, 64, 106), Mauthausen (A 2), Mondsee (A 19), Ottensheim (A 10, 17), Pregarten (A 30), Ried (A 3, 55, 65, 78, 96, 119, 137, 140), Schärding (A 73, 106, 110, 115, 134, 185, 194, 200), Urfahr (A 10, 36), Wildshut (A 2, 10, 14, 24), Wels (A 10, 30, 35, 47, 50, 70, 126).
SALZBURG: Salzburger Landesarchiv, BG Salzburg (A Sch. 430, 432, 436, 438, 442, 445, 447, 450, 455, 464, 466, 474, 477, 536, 559, 570, 597, 598, 610; A 1 Sch. 160, 185, 249), Golling (A I Sch. 6-8), Hallein (A Sch. 98, 107, 109, 111, 117, 121, 122, 129, 130, 145, 146), Lofer (IV A Sch. 7, 9, 16), Mattsee (Sch. 17, 19), Mittersill (A Sch. 226-9, 231-6, 240, 243-5, 248-59, 269, 270, 274, 277, 285, 288, 289, 291), Neumarkt (l A 1898-9, 1909-11), Oberndorf (IV 1861; IV A 1869 57; IV 1870; IV A 1874 63), Saalfelden (A Sch. 67, 142, 148-9), St. Gilgen (A Sch. 21, 29), Tamsweg (P 89), Thalgau (A 8, 29, 30), Werfen (A Sch. 60, 75, 76, 122-5, 132-3), Zell am See (A 7a, 13, 29).
STYRIA: Steiermärkisches Landesarchiv, Landesgericht (A 1903, l-13), BG Aflenz (A 1884, 1904), Birkfeld (A 1850), Bruck (A 1865, 1871, 1872-3, 1879, 1893, 1912), Eisenerz (A 1858-61), Fürstenfeld (A 1871-2, 1906-7), Gleisdorf (A Sch. 22), Graz (D 1853, 1856, 1860, 1862, 1867, 1869, 1871, 1873, 1882, 1886, 1891, 1892, 1895; A 8 1899, 1901, 1905, 1910, 1912), Graz-Umgebung (A 1868), Gröbming (A 1899-1903), Hartberg (A Sch. 48, 228), Irdning (A Sch. 10, 88), Judenburg (A Sch. 57, 73, 74, 77, 80, 84, 89), Knittelfeld (A 1850, 1898, 1900, 1901, 1903), Leibnitz (A Sch. 66, 74), Liezen (A 1863, 1907), Murau (A Sch. 8), Mureck (A 1855, 1909), Neumarkt (A 1870, 1873, 1875, 1879, 1911), Obdach (A Sch. 7-8), Oberwölz (A Sch. 9, 11), Pöllau (A Sch. 193, 200, 202), Radkersburg (A Sch. 108, 137), Schladming (A 1899), Stainz (A Sch. 38, 47, 198), Voitsberg (A 1859, 1865, 1872, 1876, 1880, 1883, 1889, 1894, 1896, 1897, 1899-1909), Vorau (A 1856-63), Weiz (A 1877, 1885).
KÄRNTEN: Kärntner Landesarchiv, BG Althofen (Abhandlungen Fasz. 27, 35, 42, 49), Ferlach (Akten 30, 31, 42, 45, 50, 72, 86), Gurk (Verlässe Sch. 43, 54), Millstatt (Verlassenschafts-, Vormundschafts- und Kuratelsakten 27, 28, 34, 35, 39, 60, 75, 84), Paternion (1, 3), Wolfsberg (27, 31, 75, 83).
TYROL: Tiroler Landesarchiv, BG Imst (A l, 2, 6), Innsbruck (A 1, 10, 17, 23, 34, 41, 45, 49, 52, 55, 60, 76, 82, 110, 124, 127, 136, 140, 145, 148), Reutte-Ehrenberg (A 1, 4, 10), Schwaz (A 2, 7, 9), Nauders (A 1, 3-4, 6-7, 9).
VORARLBERG: Vorarlberger Landesarchiv, BG Bludenz (A Sch. 61, 65, 70, 75, 78, 81, 84, 92, 94, 96), Bregenz (A Sch. 104, 114, 121, 127, 130, 131, 132, 133, 144, 152, 156, 164, 169, 172, 180, 184, 186, 188, 189, 190, 192, 193, 196), Feldkirch (A Sch. 38, 49, 57, 67, 69, 77, 88, 93, 98, 106, 111, 112, 117, 124, 128, 133, 148, 146, 147, 154, 168, 170, 171, 186, 191, 195, 197, 204, 207, 212, 214, 221, 229, 234, 238, 240, 241, 242, 243, 244, 248, 252, 253, 254).

For the development of savings banks, credit cooperatives, and the Postsparkasse, we used data from Compass (1867-1913), Hauptverband der

österreichischen Sparkassen (1972), Statistisches Jahrbuch (1863-1881), Österreichisches Statistisches Handbuch (1882-1914), and Statistik der registrierten Creditgenossenschaften (1901).

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