

The public debt and the annuity market

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The most striking feature of the finances of late medieval Basel, as revealed by Harms's study, is the size of the public debt. The city borrowed large sums throughout the fourteenth and fifteenth centuries, and the servicing of the debt absorbed in certain years a very large share of its expenditure, at times approaching half.¹ The city was, in modern terms, a heavily indebted public borrower. Yet it did not default, it maintained its credit, and it was able to borrow at rates that were lower than those paid by princes. How did it achieve this?

The answer lies in the instrument that the city used to borrow: the annuity, the *Rente*. The medieval annuity was a legal construction that allowed credit to be granted without violating the canonical prohibition of usury. In legal terms, the lender bought a right to an annual income, the rent, secured on a source of revenue, which the borrower sold. The price paid for the rent was the capital, while the annual payment was, in economic terms, the interest. Because the transaction was construed as a sale of an income stream, it did not fall under the prohibition of usury, which concerned only loans.²

Two forms of rent were used. The first was the life annuity, the *Leibrente* or *Leibgeding*, which paid a fixed sum each year for the lifetime of the buyer or of a person designated by him, and extinguished at his death. Life annuities paid a relatively high annual rate, often around ten per cent of the capital, because the capital was not repaid. The second was the perpetual or redeemable rent, the *Ewigrente* or *Wiederkaufsrente*, which paid a fixed sum each year without time limit, but which the seller could redeem at any time by repaying the capital. Redeemable rents paid lower rates, often around five per cent, because the capital was preserved.³

The canonical legitimacy of the redeemable rent was debated in the fourteenth and early fifteenth centuries before being confirmed by two papal bulls, issued by Martin V in 1425 and by Callixtus III in 1455, which

recognised the lawfulness of the purchase of redeemable rents on condition that they were secured on a fruitful asset and that the seller retained the right of redemption. The bulls opened the way for the generalised use of rents as the instrument of long-term credit in Catholic Europe. They rank among the most important documents in the legal history of public debt.

The city of Basel sold rents to a wide circle of buyers. They included its own citizens, who invested their savings in the security of the city; clergy and religious institutions, who sought a secure income; nobles and citizens of other towns, including Strasbourg, Freiburg and the Swiss cities; and widows and orphans, for whom a life annuity was a form of pension. The rents were secured on the revenues of the city as a whole, in particular on the *Ungeld*, and the city's reputation for punctual payment made them attractive. The records show that Basel's rents were held by buyers throughout the Upper Rhine region, which made the city's credit a regional matter.⁴

The annuity market of the late medieval cities of the Upper Rhine and of Switzerland is a precursor of the modern bond market. The rents were long-term claims on a public borrower, secured on its revenues, transferable by sale or inheritance, and priced according to the creditworthiness of the borrower and the prevailing rates. The cities competed for investors, who compared the terms offered by different cities. A city that defaulted lost access to the market. One that paid punctually could borrow at lower rates. Basel's success in maintaining its credit through a century of high indebtedness is an early example of the value of a reputation for fiscal reliability, which is today one of the principal assets of the Swiss Confederation, whose bonds are among the most sought after in the world.

The life annuity deserves a further remark in a book written by an author whose doctoral thesis dealt with life insurance. The *Leibrente* was the first financial instrument that priced the risk of human mortality. Its buyer exchanged a capital for an income that would last as long as he lived, while its seller bore the risk that the buyer would live longer than expected. Since medieval sellers did not calculate mortality tables, they often offered the same rate regardless of the age of the buyer, which gave an advantage to young buyers. The mathematical theory of life annuities was developed only in the seventeenth century, by Jan de Witt in the Netherlands and Edmond Halley in England, later becoming the basis of life insurance. Part I, devoted to insurance, returns to the history of life insurance and to its modern use as an instrument of wealth planning. The companion volume on Geneva describes the famous life annuities on the "thirty maidens of

Geneva" that Genevan bankers structured in the eighteenth century to exploit the mispricing of French royal annuities.

1 Notes

1. On the share of debt service in the expenditure of the city of Basel in the fourteenth and fifteenth centuries, see Harms, 1909–1913, vol. 1, and the later literature on the Basel annuity market (e.g. Gilomen on the Basel Rentenmarkt). Proportions to be verified. ↩
2. On the medieval Rentenkauf as a technique of credit compatible with the canonical prohibition of usury, and the papal bulls Regimini of Martin V (1425) and Callixtus III (1455) recognising redeemable rents, see the standard literature on medieval credit and public debt. Dates and titles to be verified. ↩
3. Rates of about 10 per cent for life annuities and about 5 per cent for redeemable rents in the Upper Rhine cities of the fifteenth century are reported in the literature on the Basel annuity market; figures to be verified against Harms and Gilomen. ↩
4. On the geographical distribution of the holders of Basel annuities in the fifteenth century, see Harms, 1909–1913; the literature on the regional annuity market of the Upper Rhine. To be verified. ↩

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