

3 With a view to hold: The emergence of institutional investors on the Amsterdam securities market during the seventeenth and eighteenth centuries^{*}

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Institutional investors such as insurance companies and mutual funds are a prominent feature of today's financial systems. To some extent they serve as a hallmark of modernity and as such Richard Sylla has included them in his list of six features of successful financial revolutions inaugurating economic leadership.¹ Sylla did not specify his reasons for doing so, but we may summarize the importance of institutional investors as, on the one hand, providing access to the securities market for savers otherwise unable to enter it, and on the other hand as providing a ready demand for secure investments suited to fund long-term liabilities.

Institutional investors in themselves are an old phenomenon in Europe. Already by the late Middle Ages ecclesiastical institutions derived income from the land and houses which they owned. In several parts of early modern Europe revenue from real estate contributed to the funding of hospitals and orphanages.² Investment in financial assets remained limited, however.³ Only in sophisticated financial markets, i.e., Venice,⁴

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¹ Sylla, "Financial Systems."

² For example the endowments of hospitals in Paris and Bologna: Ramsey, "Poor Relief"; Terpstra, "Apprenticeship."

³ Three recent surveys on poor relief and healthcare in a large number of countries in pre-industrial Europe suggest that only in Italy and the Low Countries charities were funded with income from financial assets: Grell and Cunningham, *Health Care*; Grell, Cunningham, and Jütte, *Health Care*; Grell, Cunningham, and Roeck, *Health Care*.

⁴ Venetian hospitals and confraternities owned real estate as early as the thirteenth century, and government bonds (issued from bequests but also occasionally bought on the

Genoa,⁵ and Amsterdam, did charities have portfolios with a considerable volume of public and private securities.⁶ Until the eighteenth century, when the first joint-stock insurance companies were created in London, there were no large insurance firms or pension funds either.⁷ Non-permanent syndicates of underwriters remained the norm throughout pre-modern Europe.

The link between institutional investors and financial development would appear to be twofold. First, the rise of financial markets during the early modern era enabled some institutional investors to diversify their portfolio and shift from real estate to financial assets such as bonds thereby contributing, in their turn, to the further evolution of those markets. Second, new forms of institutional investors appeared, such as tontines, life insurance companies and mutual funds. These new types of institutional investors had a different purpose from the older ones in that the long-term generation of income gave clients new ways of managing life-cycle and other income risks. These two elements would seem to be interrelated. At present we know next to nothing about the early history of institutional investors, but it would seem that a financial market offering paper assets of sufficient liquidity and long-term security would enable both the asset shift of older institutions and the rise of the new type.

In this chapter we focus on institutional investors in Amsterdam between 1500 and 1800. Even before its rise to economic and financial primacy the city turns out to have harboured a variety of institutional investors, including orphanages, poor houses, hospitals, and craft guilds. The rapid growth of Amsterdam's population, from 30,000 to 200,000 people between 1580 and 1670, created an equally rapid expansion of

market) from at least the late fourteenth century onwards: see Mueller, *Venetian*, pp. 463–4, 490, 494, 545.

⁵ Besides monasteries, religious fraternities, and chapels, Jacques Heers refers to charities owning government bonds (luoghi di San Giorgio) in the fifteenth century, albeit without further specification: Heers, *Gènes*, pp. 184–90.

⁶ McCants, *Civic Charity*. To be sure, there are examples of charities outside Amsterdam with financial assets in their portfolio. See for example Prak, "Goede buren," pp. 153–8.

The allegedly limited spread of investment in financial assets across Europe may simply reflect the current state of the historiography on social welfare. For example in the eighteenth century the *Misericórdias* responsible for social welfare in Portugal derived their income from taxes, bequests and from loans made to local aristocratic elites. Individual cases explored in greater depth do reveal other holdings of financial assets: Lopes, "Poor Relief," pp. 142–63. 146, 149. In a brief history of Danzig's hospitals after 1500, Maria Bogucka ("Health Care") mentions "nine urban hospitals, each richly endowed with land and annuities."

⁷ For England: Harris, *Industrializing*, pp. 100–7. The two fire insurance companies that existed in the Dutch Republic in the eighteenth century are described in: Langenhuyzen, "Zekerheid," pp. 203–22. 211–15. The absence of other insurance companies and pension funds in the Dutch Republic can be deduced from Leeuwen, *De rijkke*.

the social safety net provided by these institutions, and consequently in their funds. All of them relied to a greater or lesser degree on investments to fund their expenditure. We analyze the financial administration of several of these institutions, and several other sources, to explore their asset shift from real estate into securities. When did it occur, why, and can we say anything about the consequences of that shift for the securities market? In addition we trace the rise of new types of institutional investors from the 1670s.

The paper proceeds as follows. Section II analyzes the investment portfolio of Amsterdam's municipal orphanage, the *Burgerweeshuis*. Section III looks at other charities, including Amsterdam's commissioners of the poor, its hospitals, and homes for the elderly. Sections IV and V extend the analysis to the investment income generated by the city's churches and craft guilds. Private institutional investors such as tontines and mutual funds are discussed in section VI. A final section summarizes our findings and discusses implications for our understanding of the evolution of financial markets.

I. The endowment of Amsterdam's public orphanage

Around 1520 the Amsterdam city council founded the *Burgerweeshuis* to care for the city's growing number of orphans. The institution derived its funding from four main sources: subsidies from the city; donations and regular public collections; the right of usufruct on the estates of orphans in its care; and investment income. This last source probably existed from the orphanage's inception because rich inhabitants donated real estate to the *Burgerweeshuis*.⁸ In 1578 the orphanage's endowment increased substantially when Amsterdam switched to the Protestant side and joined the Dutch Revolt against Spain. The city council expropriated Catholic Church possessions and turned over some of the assets to the *Burgerweeshuis*. The institution itself moved into a dissolved monastery on the Kalverstraat, now part of the museum of Amsterdam's history, while the orphanage also received real estate in and around the city to serve as a source of income, thus radically reducing its dependence on subsidies and charity.

Indeed, for most of the seventeenth and eighteenth centuries the *Burgerweeshuis* ran a budgetary surplus which the board of trustees channelled into expanding its portfolio of investments.⁹ As a consequence the orphanage became largely self-supporting. Income rose from around

⁸ McCants, *Civic Charity*; Eeghen, "Excursie," pp. 52, 121–5. 121; Engels, *Kinderen*, p. 14.

⁹ McCants, *Civic Charity*, pp. 157–65.

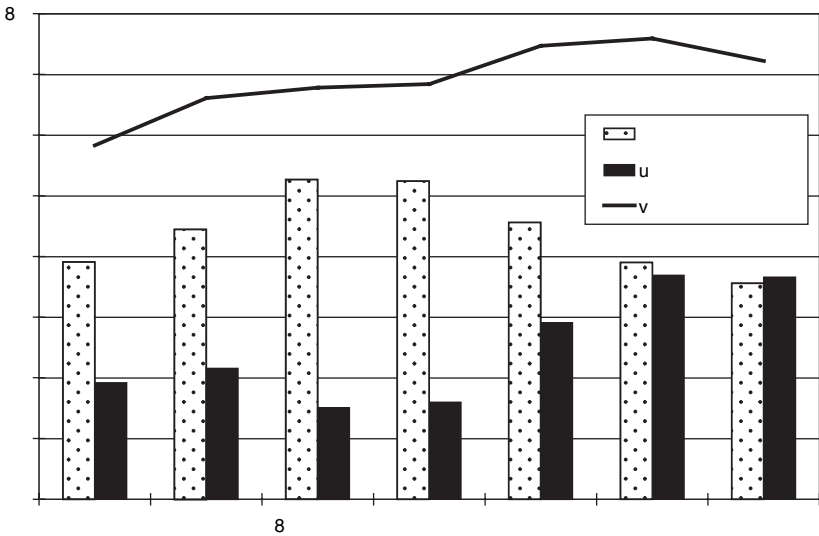


Figure 3.1 The income from real estate, securities, and all investment as a percentage of total income at the *Burgerweeshuis*, 1639–1779.

Source: McCants, *Civic Charity*, 174.

80,000 guilders in the 1630s to between 120,000 and 130,000 guilders during the second half of the eighteenth century. Prior to the 1720s most of the investment income derived from real estate. The orphanage's board of trustees managed a varied portfolio ranging from farm lands and residential housing to inns and the city's main theatre, which happened to be its most profitable source of income overall. At times the *Burgerweeshuis* also acted as property developer by building residential housing on vacant plots of land in the city.¹⁰ In addition to real estate, the orphanage invested its wealth in private and public securities, most notably bonds of the States of Holland. The combined income from property and securities increased steadily from 57.6 percent in 1639 to stabilize at around 70 percent from 1668, edging up slightly during the first half of the eighteenth century only to sink back again (Figure 3.1).¹¹

The contours of the board's financial policy came out in the first spell of adversity in the 1670s.¹² Cost overruns on a property development, a growing numbers of orphans in care, and sharply rising costs of living caused by the war years 1672–1678 pushed up expenditure and created

¹⁰ Ridder, "De Beerebijt," pp. 52, 56–65; McCants, *Civic Charity*, pp. 154–8.

¹¹ McCants, *Civic Charity*, pp. 156, 164, 174. ¹² *Ibid.* 165–70.

a budget deficit. Keeping the endowment intact as much as possible was the first priority. Confident that the crisis situation would not last, the trustees covered the deficit by borrowing rather than selling assets. Between 1671 and 1680 they took out loans with a total value of 180,000 guilders. When the selling of property proved inevitable, the trustees sold securities rather than real estate, so holding on to the latter clearly formed a second priority.

Renewed financial difficulties encountered during the 1690s led the board to scrutinize the orphanage's portfolio and rearrange its holdings once again. In 1700 fifteen rural properties were sold off as structural underperformers. With the proceeds the Burgerweeshuis cleared its debts and returned to budget surpluses.¹³ This sale marked the beginning of a very gradual portfolio shift from real estate into securities. The budget surpluses were now reinvested in securities and the board also exchanged some more underperforming rural properties for securities. As a consequence, the orphanage's real estate holdings declined relative to the amount invested in securities (Figure 3.1).

The Burgerweeshuis was already an active investor in securities since 1578. Its portfolio originated in the same policy decision made by the city council regarding expropriated church assets; along with the real estate, the orphanage also received financial assets. As early as 1590 the Burgerweeshuis had a total of 26,364 guilders invested in this way, which yielded almost 14 percent of its total income. At the time loans to individual persons generated two-thirds of the income from financial assets. Term annuities issued by the estates of Holland and by the city of Amsterdam made up the rest.¹⁴ Over time the reinvestment of budget surpluses boosted the securities portfolio to a peak of more than 400,000 guilders in 1670. As for the spread of investments, the amount put into private loans had declined in favor of formal securities. Securities issued by the States of Holland and the city of Amsterdam now formed the mainstay of the portfolio, in which bonds from the Amsterdam admiralty and from the Dutch East India Company (VOC) also figured.¹⁵ Still, the trustees' preference for real estate meant that the income from securities and loans as a percentage of the total remained stable at around 20 percent for another half century (Figure 3.1).

¹³ Ibid. 174–6, noting that other Amsterdam investors moved out of rural property at the same time.

¹⁴ Ibid. 160–3; GAA 367 reg., pp. 226–50; no. 194; no. 196, fol. 1–13, 122–31; no. 197–200; no. 202; no. 204; no. 226 fol. 64–94, fol. 159–88.

¹⁵ Ibid. 154–6 for the portfolio around 1670; her figures were appended by Mangnus, "Tot behoef," 23–5.

A marked shift towards government bonds occurred only in the first half of the eighteenth century. Between 1700 and 1715 the trustees doubled the amount of States of Holland obligations to 400,000 guilders. Most of these bonds were directly purchased from the receivers' offices, but during the next quarter century the trustees turned to the secondary market, because the States of Holland had stopped issuing debt. Through local brokers the Burgerweeshuis bought bonds, separately or in batches, and raised its total bond holdings to almost one million guilders in 1740. Finally, between 1755 and 1770 the orphanage bought, again through Amsterdam brokers, batches of obligations issued in Amsterdam and in other Holland towns for a total of 250,000 guilders. By 1770 the orphanage's portfolio was equally divided between real estate and financial assets.¹⁶

At first sight the growing preference for public debt seems curious. Holders of Holland's bonds paid a 1.5 percent property tax on their holdings which effectively reduced the nominal interest rate to 2.5 percent.¹⁷ With a return of 4.3 to 4.5 percent real estate should have been the better investment. Why then did the orphanage's trustees reconfigure the portfolio? Ann McCants has argued that realizing the investment premium of city property over securities required considerable care and attention from the trustees and therefore really represented a donation in kind which securities did not require them to make. In addition, she states that the price of city property appears had risen to the point where the Burgerweeshuis no longer wanted to buy, presumably because the board considered the ratio of price to earnings insufficiently attractive.¹⁸ After 1670 the real estate market probably diverged as Amsterdam's population stagnated and the city's rapid expansion halted. The walls built to accommodate further growth proved too wide and large tracts of land enclosed within the perimeter for the planned increase in residential housing remained empty until late into the nineteenth century. As a result residential developments like the Noordsche Bosch lost their attraction, but at the same time property in busy districts such as the Kalverstraat, where the Burgerweeshuis owned many houses, rose in price, preventing further purchases. Consequently, securities were really the only option to invest budget surpluses.

Two other factors would seem to explain the rearrangement of the portfolio. First, for most of the eighteenth century the Burgerweeshuis

¹⁶ The composition of the Burgerweeshuis' bond holdings can be gleaned from: Amsterdam City Archives, Inventory 349, nr. 153; McCants, *Civic Charity*, pp. 176–7, lists all assets in 1772, albeit omitting the municipal theatre, which burned down in May of that year. If one includes that particular property and securities were about equal.

¹⁷ Fritschy and Liesker, *Gewestelijke financiën*. ¹⁸ McCants, *Civic Charity*, pp. 176–7.

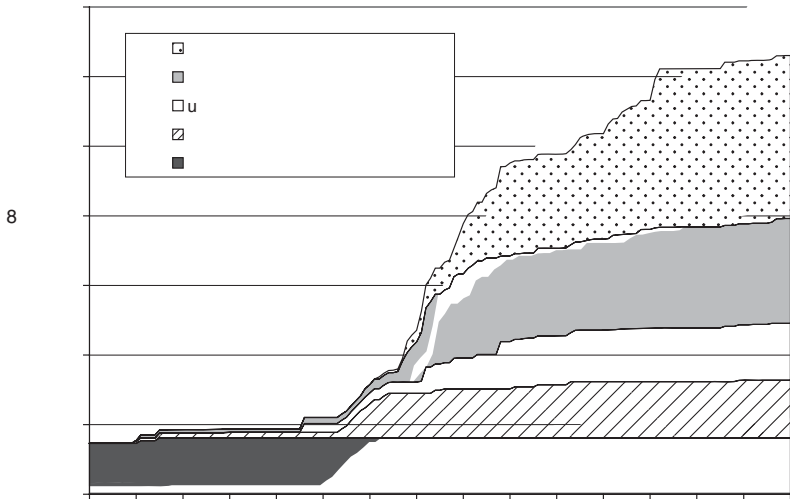


Figure 3.2 Government bonds purchases by the *Burgerweeshuis*, 1650–1800.

Source: GAA Archief 367.A, Inv. Nr 152 (Nieuw Rentenboek).

was probably exempt from the 1.5 percent property tax, so the bonds did in fact give 4 percent interest.¹⁹ Second, in all likelihood the bonds yielded more, for the orphanage's purchases on the secondary market were probably made at prices below par. Two price currents published in October and November 1747 by a local bookseller in Amsterdam show Holland's obligations trading at prices between 65 and 90 percent.²⁰ In Leyden the prices of Holland's bonds stood at 92 percent in 1720, at 97 percent in 1742.²¹ A bond bought at 90 percent on the secondary market would yield a 4.4 percent return on investment – slightly above that of real estate. Third, the board of the *Burgerweeshuis* probably also preferred bonds because they offered further advantages over real estate. The trustees gradually learned that first-class securities with a liquid

¹⁹ McCants' reconstruction of the orphanage's portfolio in 1772 does reckon with the payment of a 1.5 percent tax on government bond holdings. However, the financial accounts of the *Burgerweeshuis* reveal that in the early 1780s bonds still yielded 4 percent. Only in 1786 the records show a reduction of the interest paid to 2.75 and 2.5 percent (Amsterdam City Archives, Inv. 349, nr. 153).

²⁰ V. Dillen, "Effectenkoersen," pp. 2–4. The price current of 6 November 1747 is printed on pages 13–14.

²¹ Leiden "Notarial," courtesy of Maarten Prak.

market were as good as cash, if only because such paper could always be lombarded at little cost.²² Consequently, the board reduced its cash holdings to a minimum. Until 1660 the amount of cash at year-end was usually in the region of 60–80,000 guilders; during the eighteenth century it was typically 4,000 guilders, and the board took care to invest any surplus money as quickly as possible.²³

II. Other public welfare institutions

The Burgerweeshuis was not the only public institution that relied on investment income. There were several other civic welfare institutions in Amsterdam: two poor relief funds, an orphanage, a hospital, and a madhouse. The surviving accounts of some of these institutions enable us to analyze their sources of income. Not all had the means to invest. The Aalmoezeniersweeshuis, for instance, which cared for the children left by inhabitants who were not Amsterdam citizens, does not appear to have accumulated sufficient surpluses with which to buy either real estate or securities. Instead, the orphanage was run by city officials and derived its main income from the public garbage collection and the right to half a percent of the revenues from all public sales of merchandise.²⁴

Amsterdam's poor houses did have some capital. From the early fifteenth century (and possibly earlier) the city council annually appointed officials known as *huiszittenmeesters* to oversee the urban poor. In 1419 their responsibilities were divided along the lines of the city's two parishes, thus creating the Oudezijds and Nieuwezijds Huiszittenmeesters. Initially the officers provided accomodation and occasionally also food and fuel. After 1600 the *Nieuwezijds* and *Oudezijds Huiszittenhuizen* principally provided the poor with peat, bread, butter, and cheese from Christmas to Easter.²⁵ In summertime the *Aalmoezeniers*, first appointed by the town magistrate in 1613, took care of the poor. This division of responsibilities changed in 1682 when the two poor houses took on the distribution of food and fuel throughout the year.

The financial administration of the two poor houses shows them to have been substantial institutional investors.²⁶ In 1698 the bookkeeper of the Oudezijds Huiszittenhuis, in the eastern part of the city, put the value of the poor house's portfolio of annuities and bonds issued by

²² Riley, *International Government* 31.

²³ McCants, *Civic Charity*, pp. 160–2 (data), 178 (cash policy).

²⁴ Amsterdam, "Inleiding."

²⁵ Mothers of newly-born children received an additional twenty stivers per week.

²⁶ Melker, "Inleiding." See McCants, *Civic Charity*, pp. 155–6; the Burgerweeshuis had a bigger portfolio, but only 156,800 guilders of it in Holland debt.

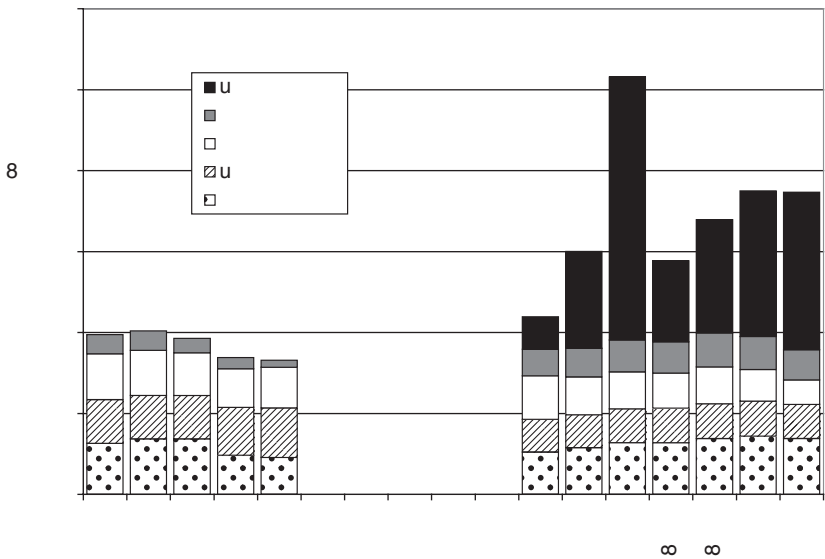


Figure 3.3 The composition of the annual income of Amsterdam's *Oudezijds Huiszittenhuis* in the eighteenth century.

Source: Amsterdam City Archives, Inv. 349, Nrs. 244, 245.

Holland at nearly 270,000 guilders, more than what the Burgerweeshuis owned in 1670.²⁷ We can reconstruct the main revenue flows for the first and last third of the eighteenth century (Figure 3.3). Until 1735 public collections, real estate, and securities each yielded about 30 percent of gross income. After 1765 total income increased considerably but not as a result of a larger investment portfolio. In fact, a provincial tax of 1 percent on public debt holdings cut the net income from securities by 3,000 guilders a year. The income grew because the city of Amsterdam granted large subsidies to allow the *Oudezijds Huiszittenhuis* to continue her poor relief.

The revenues of the sister poor house, the *Nieuwezijds Huiszittenhuis*, located in the western part of the city, seems to have been quite similar in volume and composition.²⁸ The institution's accounts show that, from the late sixteenth century until the late seventeenth century,

²⁷ Amsterdam City Archives Inv. 349, Nr. 301.

²⁸ Van Leeuwen estimated the average annual income of the *Oudezijds* and *Nieuwezijds Huiszittenhuis* combined at 136,000 guilders between 1687 and 1799. Leeuwen, "Amsterdam." Our reconstruction of the annual income of the *Oudezijds Huiszittenhuis* between 1713–1736 and 1762–1800 reveals a total of 62,500 guilders.

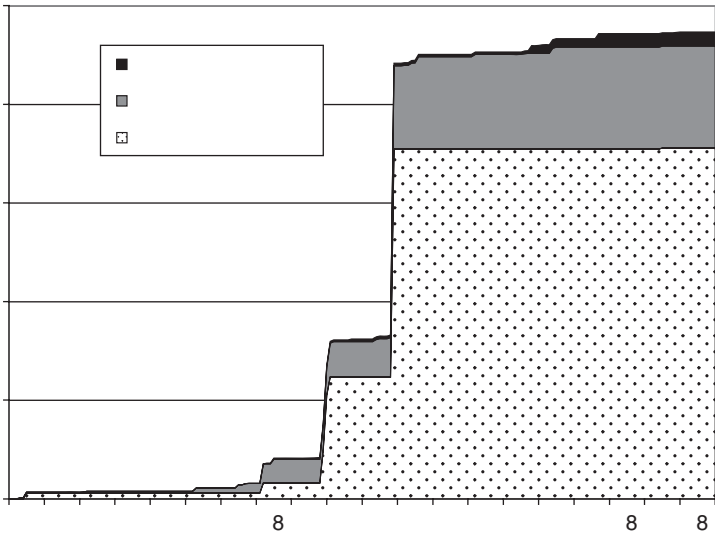


Figure 3.4 The nominal value of obligations issued by Holland in the portfolio of Amsterdam's *Nieuwezijds Huiszittenhuis*, 1600–1800.

Source: Amsterdam City Archives, Inv 349, Nrs. 402, 421.

houses and land generated most of its income, with public collections and interest on securities contributing smaller sums. Initially the securities portfolio consisted mainly of Amsterdam city annuities and 15,700 guilders of Holland annuities and bonds but on two occasions, during 1689–1691 and again in 1709, the *Nieuwezijds Huiszittenhuis* bought very large amounts of Holland debt, for a total of some 350,000 guilders (Figure 3.4). Most of these bonds were bought directly from Holland's receiver in Amsterdam, but after 1709 purchases were made on the secondary market.

The Amsterdam hospitals also built up considerable possessions. In the second half of the eighteenth century the madhouse held 120,000 guilders worth of Holland bonds, probably in addition to other investments.²⁹ The main hospital *Binnengasthuis*, which was formed when two medieval hospitals merged in 1582, appears to have followed an investment strategy similar to that of the *Burgerweeshuis*, and from an identical point of departure.³⁰ Initially the hospital, having obtained two convents from the expropriated church assets, concentrated on real estate

²⁹ Amsterdam City Archives, Inv. 342, Nrs. 1006, 1007.

³⁰ Eeghen, "Gasthuis", pp. 59–63.

Table 3.1. *The investment portfolio of St. Peter's Hospital in Amsterdam, 1650 and 1750*

	1650		1750	
	Principal sum	Percentage of total	Principal sum	Percentage of total
Securities				
Holland	85,800	16	86,875	28
Amsterdam	56,000	10	114,000	37
Six major towns	10,928	2	11,228	4
Hoorn			16,000	5
Friesland	14,000			5
Obligations – polders	4,600	1		
Obligations – VOC	4,000	1		
Subtotal	161,328	30	242,103	78
Private loans				
Obligations	107,420	20		
Mortgages	76,812	14	5,310	2
Term annuities	15,282	3	4,250	1
Subtotal	199,514	37	9,560	3
Real estate^a	178,798	33	58,152	19
Total	539,640	100	309,815	100

Source: Amsterdam City Archives, 342 (Gasthuizen) Nrs. 1601, 1604, 1605; (a) The principal sum of real estate in 1650 is estimated on the basis of the total income from housing rents, and the value and rents paid (4.6 percent on average) for some of the individual houses; The value of real estate in 1750 is estimated on the basis of the total rental income and the average return for all other investments in that year (3 percent).

by building residential accommodation on its lands. The trustees subsequently enlarged and diversified the investment portfolio which, by 1650, had reached a value of 540,000 guilders (Table 3.1). Nearly 40 percent consisted of loans to private individuals in various forms, 33 percent was in real estate, and 28 percent in public securities, notably those of Holland (18 percent), and the city of Amsterdam (10 percent).

During the eighteenth century the hospital's financial position deteriorated as a consequence of rising expenses.³¹ The board of trustees had to liquidate part of the portfolio, which by 1750 had shrunk from 540,000 to 310,000 guilders. At the same time the trustees changed their investment policy. As with the Burgerweeshuis, the reconfiguration particularly hit the private loans, of which only a very small amount

³¹ Ibid. 61–3.

remained. By contrast, the hospital board clearly came to prefer securities over real estate, because the former category went up and the latter went sharply down, so that the balanced portfolio of 1650 made way for one heavily weighted with securities. Even so the yield on the investment portfolio declined from 4.5 percent in 1650 to 3 percent in 1750, causing the hospital to become increasingly dependent on subsidies from the city.

This preliminary investigation shows Amsterdam's civic welfare institutions possessing substantial investment portfolios, with an estimated total of 4.3 million guilders at the end of the eighteenth century. The Burgerweeshuis, with 2.5 million, was the single biggest institutional investor, followed by the two public poor houses with 1.5 million together, and the hospital and madhouse closed the ranks with a total of about 430,000 guilders. We need further research to assess the position of these institutions in greater detail and to clarify the various policy shifts, but two main trends appear to be clear. First, over time these institutions phased out private loans in favor of other, especially securitized, investments, so private borrowers must have turned to other creditors instead. Second, although some of the institutions retained a preference for real estate, the relative importance of securities, notably Holland bonds, rose markedly. This was a clear consequence of market circumstances. Profitable real estate opportunities became more scarce; in addition, Holland's debt almost tripled between 1670 and 1720, creating a flood of bonds which left investors with few options but to buy. At the same time the secondary market for public bonds apparently widened to offer both more choice and greater liquidity. We will return to this important finding in the conclusion.

III. The churches

The rapid growth of Amsterdam's population in the seventeenth century raised the demand for social welfare of all kinds. To alleviate the financial burden of the public welfare institutions, the town magistrate devolved the responsibility for poor relief and orphan care to the various religious communities. The charity board of the Lutheran Church, formally established in 1595, distributed food and fuel among a growing number of mostly German immigrants.³² In the first half of the seventeenth century both the Walloon Church and the Portuguese Jewish community created their own separate orphanages in addition to a poor relief program. The welfare work commenced by several prominent

³² Kuijpers, "Een zeventiende-eeuwse."

Catholic families in the 1630s was gradually extended to include regular poor relief, two orphanages, a home for the elderly, and three of Amsterdam's twenty-odd *hoffes* (almshouses) that provided small-scale housing for persons in need. Probably the most extensive program was offered by the city's official church, the *Nederduits hervormde gemeente*. To support the poor, the charity commissioners of this congregation ran their own bakery and brewery, and they founded an orphanage (1657), an almshouse for the elderly poor (1683), and the Corvershof residence (1723).

The financing of these arrangements differed from congregation to congregation. The Lutheran charity commissioners appear to have depended almost entirely on revenue from collections and bequests.³³ The Portuguese Jewish congregation received gifts and bequests, and also generated income through its meat hall, the sale of graves, and the levy of taxes within the community – on commercial turnover at first, and later also on its members' wealth.³⁴ Amsterdam's Catholics boosted the income from collections and bequests with revenues from investment in real estate and financial assets.³⁵ By the end of the eighteenth century the total assets of both their *Armenkantoor* and the *Maagdenhuis*, its orphanage for girls, amounted to more than one million guilders.

The rebuilding of Catholic endowments, however, took considerable time. After Amsterdam switched sides in 1578 the Catholic welfare program simply disappeared for some thirty years.³⁶ Shortly after 1600 a few Catholic families again started helping the poor of their community. This led to the creation of a regular fund, the *Beurs voor Catolijke Armen*, around 1632. The *beurs* had an initial endowment of half a house, 13,000 guilders in cash, and loans to private individuals worth 30,000 guilders. The board of four trustees gradually extended its activities, establishing separate orphanages for boys and girls during the 1660s. The *Oude-Armenkantoor*, as it became known, subsequently concentrated on poor relief. By 1690 its assets, including 25 houses in Amsterdam, amounted to 100,000 guilders; in 1760 the investment portfolio stood at 400,000 guilders. At the turn of the nineteenth century real estate and

³³ *Ibid.*; Leeuwen, "Amsterdam," pp. 138, 140. In the first half of the nineteenth century the financial assets of the Lutheran diaconate yielded an average annual income of less than 4,000 guilders – indicative of a portfolio worth less than 100,000 guilders. Leeuwen, *Bijstand*. 324.

³⁴ On the various income sources in 1683: Pieterse, *Daniel Levi*. pp. 73–4. On taxes levied on commercial turnover: Vlessing, "Portuguese-Jewish." Cf. also Kaplan, "De joden."

³⁵ Wolf, *Geschiedenis*.

³⁶ One exception was the Begijnhof, or Beguinage, a fourteenth-century urban enclosure with houses and a church used by unmarried lay women.

Table 3.2. *The annual income from real estate, securities, and other revenue sources of the Roman Catholic Maagdenhuis, 1600–1800*

Income source	1610	1643	1692	1732	1738	1750
Houses	300	–	2,500	6,373	7,244	–
Securities	200	800	–	5,904	7,000	7,800
Knitting wages	200	1,000	2,500	3,759	5,000	–
Collections	–	–	–	4,825	–	–
Bequests	–	–	–	7,995	–	–
Total	–	–	–	28,856	–	–

Source: Meischke, R. (1980). *Amsterdam. Het R.C. Maagdenhuis, het huizenbezit van deze instelling en het St. Elisabeth-gesticht*. 's-Gravenhage: Staatsuitgeverij.

securities worth one million guilders generated almost 30 percent of annual revenue.³⁷

The trustees of the Catholic girls' orphanage also created a large endowment but again it took considerable time.³⁸ In 1610 the Maagdenhuis had owned just a few houses and annuities of no more than 6,000 guilders. Collections, gifts, and bequests covered expenses, with the older girls contributing the wages of their knitwork to the institution's purse. Over the years that followed, rich Catholics donated so much property to the Maagdenhuis that in 1655 the provincial authorities issued a formal ban on any further gifts and bequests to Catholic institutions. As a result donors adopted usufruct constructions, transferring the revenues of property set aside for welfare work. In 1715 the Maagdenhuis succeeded in getting an exemption from the ban but it did not obtain the waiver of the 1.5 percent tax on financial assets which most public welfare institutions enjoyed.

Even so the orphanage accumulated a substantial investment portfolio. In 1732, the one year for which we can detail the income of the Maagdenhuis, real estate worth 163,000 guilders and public securities worth 240,000 guilders brought in 40 percent of all revenue (Table 3.2). The institution's endowment continued to grow over the next half

³⁷ The rapid growth of the Armenkantoor's wealth in the second half of the eighteenth century is documented in: Wolf, *Geschiedenis*, pp. 61–5. The portfolio was probably divided equally between real estate and securities. In the first half of the nineteenth century the securities of the Armenkantoor yielded 20,000 guilders per year. Assuming an average yield of 4.5 on these assets, at that time the financial assets were worth 450,000 guilders. Leeuwen, *Bijstand in Amsterdam*, p. 324.

³⁸ The following is based on: Meischke, *Amsterdam*.

Table 3.3. *The revenues of the Hervormde Diaconie, 1770*

Source	Income	Share
Collections	224,992	40%
Bequests and donations	179,415	32%
Bank and cash	54,060	10%
Sales obligations	44,101	8%
Interest	28,894	5%
Rents	17,878	3%
Other	19,530	3%
Total	568,869	100%

Source: Hoeven, *Geheime notulen*, 177.

century, totaling over 1.25 million guilders by 1797. By that time the trustees had changed their investment policy, for public securities formed no less than 80 percent of assets.

The investment portfolio of the Dutch Reformed Church's *diaconie* or welfare fund during the second half of the eighteenth century has been documented in some detail. The most striking feature of its budget is the very high annual income of almost 600,000 guilders in 1770 (Table 3.3).³⁹ Collections during services and donations into the many boxes installed in public buildings generated 40 percent of revenues and bequests and gifts 30 percent. At 6.5 percent the contribution of investments in real estate and securities seems paltry by comparison, though this figure was probably a little higher if we take into account that the interest payments on loans were entered into the ledgers amongst the general receipts.

Even so the church possessed an impressive portfolio. A reconstruction of the asset holdings of the Hervormde diaconie by H.W. van der Hoeven indicates an estimated value of 2.5 million guilders in 1771. With a total value of 1.4 million guilders public securities, largely consisting of Holland obligations, were the single most important property, but the diaconie also owned private obligations and shares in Dutch and English joint-stock companies. If we assume that the yield of these financial assets equalled that on the 39 houses and warehouses owned by the church (2.6 percent in 1771), the value of this real estate portfolio can be estimated at almost 700,000 guilders.

The diaconie had accumulated this portfolio largely through bequests and donations, so we cannot use the 1771 reconstruction to speculate

³⁹ Hoeven, *Geheim notulen*. See also: Leeuwen, "Amsterdam", pp. 139–43.

Table 3.4. *The investment portfolio of the Hervormde Diaconie in 1771*

	Capital sum	Annual income	Implied yield
Real estate	(687,600)	17,877	
Public securities			
Obligations Holland	1,160,174	28,933	2.5%
Lottery loans Holland	115,950	2,742	2.4%
Obligations Friesland	84,600	1,692	2.0%
Obligations States General	68,300	2,049	3.0%
Private securities			
VOC shares and obligations	121,625	5,987	4.9%
Annuities	78,009	1,908	2.4%
<i>Kustingen</i> and <i>schepenbrieven</i>	37,325	1,162	3.1%
Obligations	36,413	952	2.6%
Foreign securities			
Shares South Sea Company, Bank of England	89,217	2,125	2.4%
Obligations	22,686	507	2.2%
Unspecified	3,100	433	14.0%
Total	2,505,000	66,368	2.6%

Source: Hoeven, *Geheime notulen*, 178–80.

about its financial policy. What we do know, however, is that the commissioners did not hesitate to use the endowment for bridging shortfalls in revenue (Table 3.4), either by selling securities or by using them as collateral for loans in about equal proportions.⁴⁰

IV. The guilds

The city and the church were not the only providers of financial support for poor, sick, and elderly Amsterdam inhabitants. Besides the support of family members and friends – a largely invisible but presumably very important safety net for the majority of urban dwellers – most of the city's guilds ran mutual funds (*bussen*) to provide for sick members and the widows of deceased masters. Initially such funds derived the bulk of their income from members' contributions. However, as Sandra Bos has pointed out, several guilds in Amsterdam were able to save money and create an endowment to fund their welfare expenditure. The accounts of

⁴⁰ Hoeven, *Geheim notulen*, pp. 184–5, 35, 69.

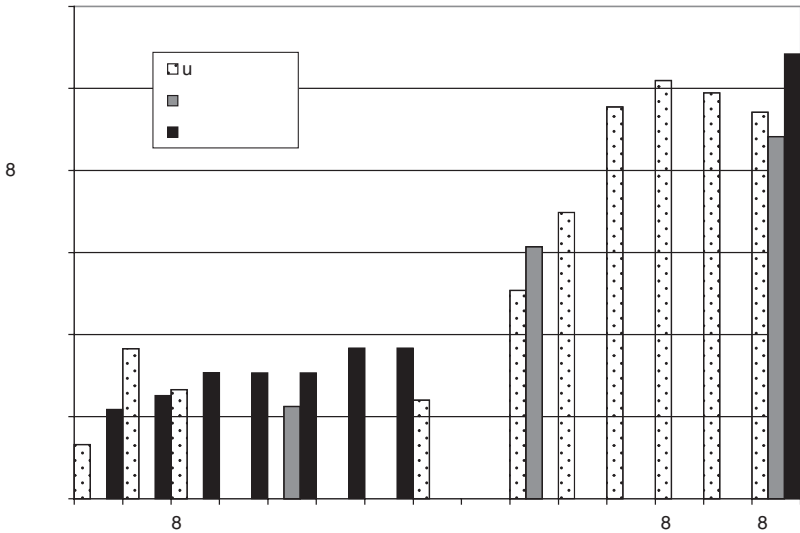


Figure 3.5 The value of financial assets in the portfolios of several Amsterdam guilds, 1650–1800.

Source: The data for surgeons and peat diggers is from: Bos, S. (1998). “*Uyt liefde tot malcander*” *Onderlinge hulpverlening binnen de Noord-Nederlandse gilden in international perspectief (1570–1820)*. Amsterdam: Stichting Beheer IISG. 77, 126; The data for brokers is from: Amsterdam City Archives, Inv. 366, Nrs. 1257/1258.

three of these guilds suggest that by 1650 they had already built up investment portfolios (Figure 3.5).

The available data do not allow a detailed reconstruction of the financial policies of these guilds, but several features stand out. One is the slow growth of the securities portfolios in the second half of the seventeenth century. In the 1660s the brokers’ guild waited several years before putting surplus cash into more bonds.⁴¹ The importance of financial assets greatly increased during the first half of the eighteenth century, i.e. more or less parallel to other institutional investors such as the Burgerweeshuis. In 1737 the peat carriers’ guild sold off its last piece of real estate.⁴² Between 1733 and 1770 the financial portfolio of the surgeons’ guild increased fourfold, enabling it to fund welfare for elderly members and widows entirely from the return on securities.⁴³ At the same time the guilds show varying investment preferences. After 1675

⁴¹ Amsterdam City Archives, Inv. 366, Nr. 1257.

⁴² Bos, *Uyt liefde*, p. 125. ⁴³ Ibid. 76–9.

Table 3.5. *The value of property owned by Amsterdam guilds in 1799, according to their own statements*

Property	Number of guilds	Value	Share
Holland's debt	42	1,271,196	68.9%
Other loans	32	121,166	6.6%
Real estate	23	385,880	20.9%
Cash	34	33,215	1.8%
Plate, furniture, etc. ^a	19	6,600	0.4%
Unknown	2	26,183	1.4%
Total value	48	1,844,239	100.0%

Source: ARA Wet Col 507; Missive 11-01-1799 N. 71 (Courtesy Jan Lucassen and Piet Lourens); (a) money value estimated on the basis of property of three guilds.

the brokers held only Holland bonds, but the surgeons preferred VOC shares and obligations of the city of Amsterdam.⁴⁴

Each of these guilds possessed financial assets worth between 90,000 and 110,000 guilders at the end of the eighteenth century. If other guilds owned just as much, the total holdings of Amsterdam's guilds may have been of a similar magnitude to that of the civic charities and churches. Data from a 1799 enquiry into property held by the soon to be abolished guilds suggests that this was indeed the case. Data from forty-eight Amsterdam guilds surveyed show that no fewer than 42 of them owned financial assets. Public bonds, and primarily Holland bonds, amounted to almost 70 percent of the total guild assets; the share of real estate was only one-fifth (Table 3.5).⁴⁵

Table 3.6, drawn from the same database, shows another interesting aspect, the exceptional nature of the Amsterdam guilds' investments. Of all major cities in Holland only the Rotterdam guilds owned substantial financial assets. These amounted to about one-sixth of those of the Amsterdam guilds, which corresponds neatly to Rotterdam's size in relation to Amsterdam.⁴⁶ Elsewhere in the province, the guilds possessed a few thousand guilders worth of securities at most.

⁴⁴ Ibid. 76-7.

⁴⁵ We thank Jan Lucassen and Piet Lourens for sharing their dataset containing the complete contents of the letters sent by all guilds in the Dutch Republic. It should be noted that the missives are not complete. For example, one conspicuous absence is that of the surgeons' guild of Amsterdam.

⁴⁶ For a comparison with towns in other parts of the Dutch Republic, notably Bois-le-Duc and Utrecht, see Bos, *Uyt liefde*.

Table 3.6. *The property of guilds in several towns in Holland in 1799*

Town	Number guilds	Total capital	Debt				Property not valued
			Holland	Other securities	Real estate	Other	
Amsterdam	48	1,844,239	69%	7%	21%	4%	
Rotterdam	37	278,079	39%	41%	5%	-	6 houses
Haarlem	30	98,250	46%	21%	3%	-	5 houses, 14 graves, 1 almshouse
Hoorn	12	43,035	11%	89%	-	-	5 houses
Dordrecht	17	41,489	17%	41%	-	-	3 houses, 17 graves, 1 chapel
Den haag	14	21,907	69%	28%	1%	1%	3 houses
Schiedam	13	21,067	84%	10%	6%	-	
Enkhuizen	17	11,049	14%	81%	5%	-	7 houses
Alkmaar	18	9,834	70%	24%	6%	-	14 houses, 1 warehouse
Delft	15	9,144	59%	41%	-	-	2 houses, 1 guild chamber
Vlaardingen	9	6,713	77%	17%	1%	6%	
Gorinchem	8	1,630	74%	26%	-	-	
Naarden	3	531	19%	65%	16%	-	
Purmerend	3	206	97%	-	3%	-	
Edam	1	4	-	-	100%	-	1 house (partially)
Delfshaven	7	40	-	-	100%	-	
Alphen	1	-	-	-	-	-	
Gouda	2	-	-	-	-	-	

Source: Courtesy Jan Lucassen and Piet Lourens

As with the Burgerweeshuis and the diaconie, securities enabled the Amsterdam guilds to pursue a more active financial policy. In 1799 ten guilds declared to have used these assets as collateral for borrowing money.⁴⁷ Guilds in other Dutch towns might have been familiar with this financial technique but its use only shows in two other towns, perhaps not surprisingly Rotterdam and Haarlem – the numbers two and three on the list of wealthy guilds in 1799.

V. New types of institutional investors

The institutional investors treated so far do not figure in the literature on financial markets in the industrial era which focuses on insurance companies, pension funds, and private investment funds. At first sight the new kind of institutions would seem to be absent from Amsterdam. The city's large maritime insurance sector, for example, was largely in the hands of private syndicates and partnerships.⁴⁸ In the eighteenth century only two joint-stock companies for fire insurance existed in the entire Republic. Apart from the Burgerweeshuis and the hospitals which took on the Noordsche Bos development, there appear to have been no corporate real estate investors or property developers in Amsterdam. Pension funds proper did not, as yet, exist. There were many mutual funds for life-cycle risks, notably to give financial assistance to widows. As often as not the members' contributions barely covered the benefits paid out, so the funds never built up sufficient savings to invest.⁴⁹

From 1670 a different form of mutual old-age pension took off in the form of private tontine societies. The tontine, essentially a pooled life annuity where the benefits to the survivors rise as death reduced the number of participants, originated in Italy where the Montes de Pietate issued them.⁵⁰ During the 1650s the instrument gained wider currency when Lorenzo Tonti proposed plans for loans based on this principle to the French statesman Cardinal Mazarin. Consequently tontines have become best known as interest tontines, a public debt instrument.⁵¹ In the Dutch Republic such interest tontines were mostly issued by cities and semi-public bodies such as church congregations and militia

⁴⁷ ARA Wet Col 507; Missive 11-01-1799 N. 71. Interestingly, the guilds were required to pledge 3,000 guilders worth of bonds for a loan worth 1,000 guilders, witness to the then very low price of Dutch government bonds.

⁴⁸ Spooner, *Risks at Sea*. ⁴⁹ Bos, *Uyt liefde*.

⁵⁰ Maassen, "De montes"; Haafften, "Een tontine," 189-90.

⁵¹ Jennings and Trout, *The Tontine*; Velde and Weir, "The Financial Market"; Weir, "Tontines"; Poterba, "Annuities"; Rouwenhorst, "Origins."

corporations.⁵² In October 1670, the city of Kampen issued the first such loan. The estates of Holland considered issuing tontines twice, in 1670 and in 1735, only to choose a different type of loan for reasons unknown. Some 45 interest tontines are known to have been issued between 1670 and 1799, for a total of over 6.5 million guilders. The largest of them raised three million guilders for the provincial estates of Zeeland, but 50,000–100,000 guilders was a more typical loan size.⁵³

Tontines achieved more prominence as vehicles for private old-age pension and in this form, usually known as capital tontines, they were much closer to institutional investors such as modern life insurance companies and investment trusts. A typical contract would bind together a group of investors subscribing to shares in a block of securities, the interest payments or dividends being shared out amongst the individuals named in the contract until their death. A specified number of last survivors eventually obtained the securities. The first such partnership was probably set up in Amsterdam in 1670, and whereas interest tontines were issued all over the Republic, capital tontines remained by and large an Amsterdam phenomenon. They enjoyed an immediate popularity. Nearly 200 mutual tontine contracts were concluded between 1670 and 1700 and by 1687 printed standard forms had appeared. After 1703 interest waned somewhat after a scandal about fraud committed by the manager of a large number of tontines, but a further 100 contracts are known to have been concluded during the eighteenth century.⁵⁴

Initially most tontines had between ten and thirty participants, but during the eighteenth century a number of fifty became more or less standard and contracts with 100 or even more participants were not uncommon. The shares in known contracts totalled some 8,500 which, assuming 500 guilders as the average sum per share, would amount to a total of 4.3 million guilders invested in this way.⁵⁵ Many of the early tontines were based on VOC shares, which since the 1630s had sharply risen in price as a consequence of regular and generous dividends.⁵⁶

⁵² For example the tontines issued by the Dutch Reformed deaconate in Amsterdam in the 1790s: Hoeven, *Geheime notulen*, p. 39.

⁵³ Wagenvoort, *Tontines*, pp. 118–20. ⁵⁴ *Ibid.* 126–52.

⁵⁵ *Ibid.* 102 and 145, for a contract from from 1671 with 450 guilder per share and one from 1748 with fifty shares and 28,500 invested; Rouwenhorst, “Origins,” p. 251, for a contract from 1687 with 10,000 guilders on 20 lives; Liefcrinck-Teupken, “Een merkwaardig,” p. 153, for a 1745 tontine with 500-guilder shares; Haaften, “Gegevens omtrent,” p. 234, for a 1736 tontine with 500-guilder shares; Haaften, “Een tontine,” p. 63, for a 1772 tontine with 500-guilder shares; Haaften, “Een Remonstrantse,” pp. 161–2, for a tontine with 100-guilder shares; Haaften, “Een oud Tontineproject,” pp. 91–2, for a project with 250-guilder shares.

⁵⁶ Gelderblom and Jonker, “Amsterdam,” p. 198.

Since these shares were commonly traded with a standard nominal value of 3,000 guilders, the 500-guilder tontine shares presumably derived their popularity from the fact that they considerably widened access to the VOC dividends.⁵⁷ The company even allowed one of its senior bookkeepers to manage a group of these tontines, perhaps because the directors considered them a convenient way to cement shareholder loyalty and dampen share price fluctuations. The man at the heart of the 1703 accounting scandal had been the VOC bookkeeper.⁵⁸ Gradually the scope of tontines widened to include other securities such as provincial and central government bonds and bonds issued by the Elector of Brandenburg, the King of Prussia, and the Austrian Emperor. Some tontines even adopted diversified portfolios and thus acquired a close resemblance to mutual investment funds, the main difference being the tontine's lack of transferable shares and a different objective.⁵⁹

Mutual investment funds originated in the practice of loan securitization developed by the firm of Jean Deutz & Soon. Deutz held an exclusive agency to sell mercury for the Austrian emperor, during the course of which the firm gave regular advances to the emperor. In 1695 Deutz transformed a 1.5 million guilder loan into a *negotiatie*, i.e., a fund managed by the firm in which investors could buy a share. This negotiatie was, in effect, a unit trust, that is to say a mutual investment fund focusing on one particular security. Subsequently Deutz and other firms used this innovative construction to repackage further loans to Austria, but in 1753 it was again the Deutz firm that took the technique one step further by bundling and repackaging mortgages on Caribbean plantations into negotiaties. The success of this type of fund triggered a boom in plantation loans which is estimated to have raised some eighty million guilders until it collapsed with the 1772–1773 crisis.⁶⁰

This crash helped to bring about another innovation, the mutual fund proper. In 1774 an Amsterdam securities broker, expecting investors to want to spread risks after the shocks sustained, launched a mutual fund with 500,000 guilders invested in a portfolio of ten different securities, including three plantation loans. Within a few years, two more funds followed for a combined total invested of 2.5 million guilders. By issuing

⁵⁷ Wagenvoort, *Tontines*, pp. 102–5; the supposition that the tontines used new shares issued by the VOC is incorrect, because the company did not raise its capital after its flotation in 1602.

⁵⁸ *Ibid.* 108–10.

⁵⁹ *Ibid.* 126–53. We know of one case in which the capital was invested in an Amsterdam inn, Haaften, “Een tontine op een Amsterdamsche,” p. 34; Haaften, “Tontines uit 1671,” p. 323; Rouwenhorst, “Origins,” p. 253.

⁶⁰ Jonker and Sluyterman, *At home*, pp. 91, 122; Jonker “De vroege geschiedenis,” p. 114; Rouwenhorst, “Origins,” pp. 253–4.

shares of 500 guilders, the funds targeted the same investment public as the tontines but they did not succeed in generating sufficient interest to place all the shares, and in the medium to longer term, their results remained disappointing.⁶¹

The idea of mutual funds with diversified portfolios was probably ahead of its time, for unit trusts continued to enjoy popularity. Several such funds were organized during the 1780s on various French public loans, but the total amount raised is difficult to make out.⁶² Between 1786 and 1804 unit trusts investing in US public bonds raised more than thirty-three million guilders. By repackaging the American securities into negotiatives of the Deutz type, these investment funds made them liquid, because the funds' shares were transferable in Amsterdam whereas a transfer of the original bonds required a power of attorney in the US. Moreover, the funds enabled investors to hold the paper without having to bother about the chore of half-yearly interest collection on the other side of the Atlantic. Finally, the first-rank merchant houses organizing the negotiatives appeared to give them an aura of solidity which no doubt helped to sell the shares, even though at 1,000 guilders apiece they appear to have been targeted at a different market segment from the mutual funds and tontines.⁶³

VI. Conclusion

The evolution of institutional investors on the Amsterdam market falls into three fairly distinct phases. Funding welfare institutions with revenue from endowments was essentially a medieval practice, but with the transfer of expropriated church property to two social welfare institutions in 1578 the Amsterdam city council raised this technique to a new level. Subsequently other institutions for poor relief, health- and orphan care also strove to finance their expenditure with the revenue from endowments. During the eighteenth century the endowments of most institutions grew, as revenues from bequests, donations, and investments outpaced the fairly stable expenses. Between 1730 and 1780 Amsterdam's guilds also accumulated substantial surpluses which were directed into investment. By 1790 the public welfare institutions had collective endowments of at least 4.5 million guilders, the various organized churches at least 5.5 million, and the guilds some two million guilders.

⁶¹ Berghuis, *Ontstaan*, pp. 62–73; Rouwenhorst, "Origins," pp. 254–62; Slot, *Iedereen*, pp. 84–5.

⁶² Riley, *International Government Finance*, pp. 181, 182–5.

⁶³ Winter, *Het aandeel van den Amsterdamschen*, Vol 2, pp. 124–5, 141, 145, 466–75; Rouwenhorst, "Origins," pp. 262–5.

Real estate dominated most portfolios until about 1720, and remained a prominent investment in subsequent years. Most institutional investors also owned financial assets from an early date. Initially they favored loans to private borrowers, but the importance of public securities gradually increased during the seventeenth century and, between 1670 and 1700, they almost entirely replaced the private loans in portfolios. From 1720 the purchases of these securities rose exponentially and by 1780 they were the single most important asset held by the institutions. At this stage we possess insufficient comparative yield data to give a proper assessment of institutional investment policy, but the main trends are clear enough. Real estate was favored, but difficult to get and to manage; securities were easy to get and manage, liquid and, given the widely available borrowing facilities, really a form of interest bearing cash. With bond prices generally below par after 1715 the institutions could get an attractive yield, which the waiver of the property tax allowed them to keep. The data on the property held by guilds elsewhere in Holland suggest that the substantial and varied portfolios of institutional investors in Amsterdam were very much the exception.⁶⁴ By all appearances the city's dynamic market did not extend very deep into its hinterland.

These institutional investors all had the form of foundations; it was only during the second phase of evolution, which began during the 1670s, that mutual funds appeared in the form of interest tontines designed as vehicles for private pension funding. During the third phase, from about 1750, mutual funds really took wing. As institutional investors, these funds were entirely different from the foundations: far more dynamic, offering innovative commercial products, and targeting a middling sort of investors with their 500-guilder shares. They also attracted far greater sums of money for a large variety of purposes, rarely for buying real estate or public bonds. Amsterdam may have been the first financial centre to have spawned this type of institutional investor on such a scale; we know of nothing similar in the Italian cities or in eighteenth-century London.

⁶⁴ The available literature on orphanages in other towns in Holland suggests a similar pattern. Rotterdam's orphanage was a wealthy institution with a portfolio of securities worth 770,000 in 1795. Schoor, *In plaats*. The same may be said of Delft's reformed orphanage which in 1772 owned financial assets worth 270,000, and real estate worth between 130,000 and 200,000 guilders. Hallema, *Geschiedenis*. On the other hand, the annual income from real estate and securities of Alkmaars orphanage between 1769 and 1772 suggests total assets worth some 180,000 guilders. Bruinvis, *De geldmiddelen*. In the same period Woerden's orphanage owned securities worth only 26,000 guilders. Vis, *Het weeshuis*. The annual income of the civic orphanage of Schoonhoven from financial assets amounted to between 1,000 and 2,300 guilders before 1800. Molen, *Ordentelyck*.

Finally, the behavior of Amsterdam's institutional investors reveals a new and very important feature of the financial market there, i.e. the existence of a secondary market for public debt. Larry Neal and others have argued that the Dutch Republic had no such market because there were too many issuers, too many types of debt, and no uniformity of conditions. Besides, bonds were rarely secured on specific revenue flows as in France or England, adding to the uncertainty.⁶⁵ However, during the seventeenth century institutional investors already had sufficient confidence in the bonds' liquidity to invest large amounts, which suggests a ready market for them did exist. During the eighteenth century the institutions no longer bought their bonds directly from the receivers, but rather from a secondary market served by specialized brokers.

The discovery of this secondary market sheds new light on the history of Dutch public credit. From the early 1700s, public borrowers must have shaped their financial policy in response to market signals. Moreover, the emergence of this market attracted a widening circle of customers as investors discovered that liquid bonds were better than cash. Merchants had discovered the advantages of holding securities for such purposes early in the seventeenth century with the shares of the VOC, but at 6.4 million guilders the company's stock remained a rather limited means of credit. The secondary market for public bonds opened a vastly greater reservoir, a boon for lenders and borrowers alike. The next urgent research priority therefore becomes detailing how and when that market developed.

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⁶⁵ Neal, "How it all Began"; Homer and Sylla, *History* p. 175.

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