

## Credit and Commerce: from the Mediterranean to the Atlantic in the sixteenth century

During the later Middle Ages European capital markets had undergone a major transformation. As population numbers declined from a peak at the end of the thirteenth century, prices fell, per capita incomes increased and real savings levels were enhanced. Base interest rates, measured in terms of the price of land or rather in terms of the price of a perpetual fixed rent charge secured on land, accordingly, fell (fig. 1).<sup>1</sup> During the course of the thirteenth century base rates had fluctuated about a high-level equilibrium of about ten to fifteen per cent per annum. Then from ca. 1300 they steadily declined until almost a quarter of a millenium later in ca. 1525 they finally settled at a new low level of about four and a half per cent. As the early modern era dawned all over Europe an enriched populace were prepared to lend, on first-class security, at previously unheard of rates.

Even as rates tumbled, moreover, the market had also undergone a major structural transformation. As in the High Middle Ages money remained cheapest in England and in the lands of the Lower Rhine. Here borrowers, with prime security, who had been able to take up funds in the thirteenth century at ten per cent, were able to borrow during the later Middle Ages (ca. 1400 – 1525) at between four and five per cent. During the fifteenth century, however, this market underwent a process of extension. From ca. 1460 both South German and Upper Rhenish capital markets became integrated with those of England and the Lower Rhine and before the century was out even the volatile markets of Basle and its territories were brought within a unitary Central European structure. Nor were the denizens of this market alone in enjoying the benefits of cheap money in the fifteenth century for at this time in the North German lands, extending from Bremen to Lübeck-

<sup>1</sup> Base interest rate statistics presented in fig. 1 and discussed below have been derived from M. Neumann, *Geschichte des Wuchers in Deutschland* (Halle, 1865), pp. 266 – 273; H.J. Habakkuk, 'The Long-term Rate of Interest and the Price of Land in the Seventeenth Century', *Economic History Review*, Second Series, v, 1 (1952); J.G. van Dillen, 'Oprichting en functie der Amsterdamsche Wisselbank, in de zeventiende eeuw, 1609 – 1686', *Mensen en Achtergronden. Studies uitgegeven ter gelegenheid van de tachtigste verjaardag van de schrijver* (Groningen, 1964), p. 376; T.S. Ashton, *Economic Fluctuations in England 1700 – 1800* (Oxford, 1959), p. 187 and B.R. Mitchell and P. Deane, *Abstract of British Historical Statistics* (Cambridge, 1962), p. 455. The data utilised here represents some preliminary soundings and makes no pretension to either spatial or chronological comprehensiveness.

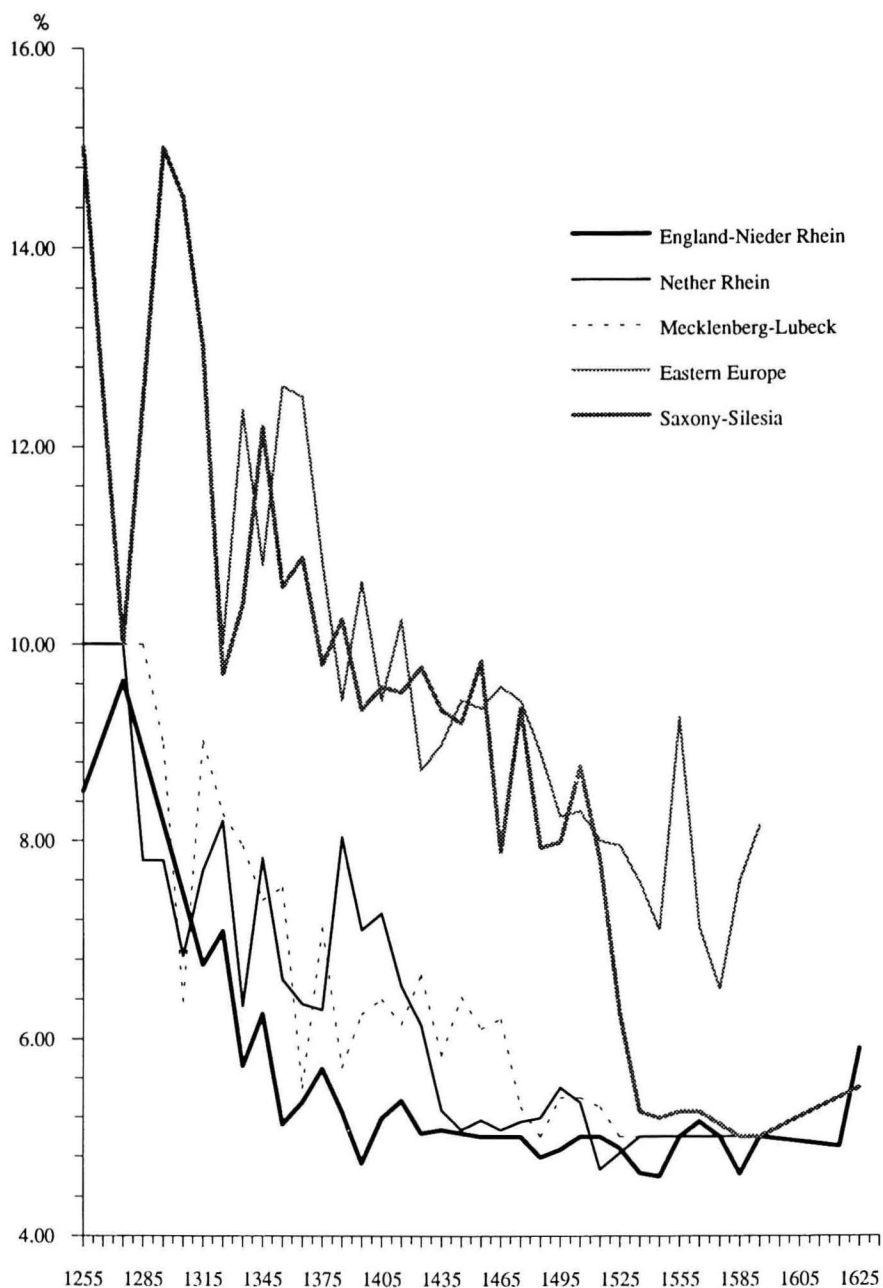


Fig. 1. European base interest rates, 1300 – 1625

Mecklenberg, interest rates also converged on those of Central Europe. Thus in northern Germany and many lands west of the Erzgebirge during the later Middle Ages not only did money become progressively cheaper but also at that time a steadily widening population of potential borrowers and lenders were drawn into a unitary market structure wherein by 1500 loans could be arranged, on the production of iron-clad security, at a standard four to five per cent rate.

During the High Middle Ages England and the lands of the Lower Rhine had thus formed an oasis of relatively cheap money in a European market where base interest rates of about fifteen per cent annually were normal. Two centuries later the market situation had been transformed. Inhabitants of England and the Lower Rhine still enjoyed the cheapest money in Europe but now these lands formed only one element in a unitary market structure encompassing much of western Europe where a single rate of four to five per cent reigned supreme.

In the years down to ca. 1520, therefore, within a unitary market structure, money was cheap and not least amongst those who availed themselves of the new situation were members of the international merchant community. During the previous century, as international trade had declined<sup>2</sup>, they had experienced an enhancement in the cost of commercial credit and had responded, in England at least, by creating a new financial system to tap alternative sources of funds. Here during these years alternative borrowers such as English agriculturalists had possessed few ways of improving production and the returns on any money invested in that sector had been small (1.5–3 per cent per annum). The interest that they could offer on mortgages for agricultural improvement, accordingly, was also low and few if any amongst an enriched population had been tempted to put out money on such instruments when they could make a totally safe return of 4–5 per cent.<sup>3</sup> In such circumstances, accordingly, merchants, able to offer returns above base rate, found few competitors bidding for money in the market place and during the years to ca. 1520 funds flowed from the agricultural to the non-agricultural sectors of the economy providing the basis for an elaborate sales-credit system which was the main source of English commercial credit.<sup>4</sup> The international merchants' financial

<sup>2</sup> R.S. Lopez and H.A. Miskimin, 'The Economic Depression of the Renaissance', *Economic History Review*, Second Series, xiv (1962), pp. 408–426 and C.M. Cipolla, 'Economic Depression of the Renaissance', *ibidem*, pp. 519–524.

<sup>3</sup> Data concerning interest rates on English mortgage bonds discussed below is derived from A.P. Travers, *The Practice of Usury in Mid-Sixteenth Century England* (Edinburgh, PhD thesis, 1976).

<sup>4</sup> See eg. H.E. Malden (ed.), *The Cely Letters*, *Camden Society*, Third Series, 1, (1900); A Hanham (ed.), *The Cely Letters 1472–1488*, *Early English Text Society*, CCLXXIII, (1975) and the latter author's *The Celys and their world. An English merchant family of the fifteenth century* (Cambridge, 1985), particularly part II pages 109–254. It should be noted that the terms of credit noted by Professor E. Power ('The Wool Trade in the Fifteenth Century' in E. Power and M.M. Poston [eds], *Studies in English Trade in the Fifteenth Century* [London, 1933], pp. 56–7) are somewhat abnormally generous due to the depression in the export trade, occasioned by the financial crisis of 1486–92 in the Low Countries. On an analogous situation relating to Flemish textile producers selling their wares through Bruges see A. von Brandt, 'Waren- und Geldhandel um 1560', *Zeitschrift des Vereins für Lübeckische Geschichte*, xxxiv (1954).

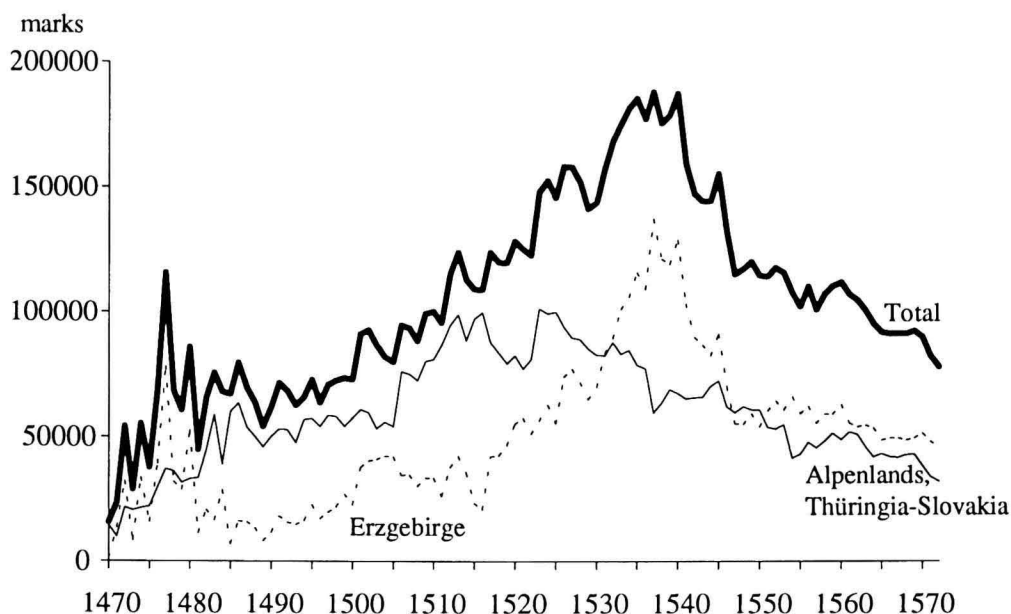


Fig. 2. Central European Silver Production, 1470 – 1570

systems had undergone a process of ‘rustification’ causing merchants and traders to make only marginal use of exchange facilities.<sup>5</sup> Bill markets in the great commercial metropoli of western Europe were, accordingly, characterised at this time by a certain thinness as low and intermittent activity occasioned marked fluctuations about a high median rate of interest. Nor did this situation fundamentally change during the subsequent half century (ca. 1525 – 1575) although, as recurrent population growth resulted in an immiseration of the population and inflationary pressures undermined the value of savings, base interest rates edged upwards and sales-credit terms shortened precipitating cash-flow problems amongst provincial merchants and causing those who had access to metropolitan capital markets to be tipped over onto the exchanges. The balance between exchange and sales-credit

<sup>5</sup> M.M. Postan, ‘Credit in Medieval Trade’, *Economic History Review*, 1, 2 (1928) reprinted in E.M. Carus-Wilson (ed.), *Essays in Economic History* (London, 1954), 1, pp. 61 – 87 contains much that is relevant to a description of the London money market during the opening decades of the sixteenth century. The picture of the London market presented in this work has been confirmed and extended through a study of contemporary Anglo-Netherlands merchant account books for the period 1486 – 1527 undertaken in the context of the project on ‘The Anglo-Netherlands Bill Market and English Export Finance’ (ESRC Projects – HR 8205 & B 0023002/1), details of which are available from the author.

systems altered in favour of the former but the basic pattern of capital outflows from the agricultural sector remained.<sup>6</sup>

That the increased calls from ca. 1520 upon the facilities of metropolitan exchange markets did not force up interest rates and precipitate crisis conditions therein, however, resulted from equally fundamental changes in exchange dealings whose origins at that time could be traced back more than half a century. From the 1460s a new market structure had been superimposed upon the old, as the great central European silver mining boom of the years 1460 – 1560 ran its course (fig. 2).<sup>7</sup>

Most spectacular in this respect were the effects on regional capital markets of successive booms in 1460 – 1486/91 and 1516/22 – 1542/7 in the important Saxon-Silesian mining complex which resulted in local interest rates falling from the high levels of eastern Europe to the much lower ones prevailing on the Central European capital market. Similar downswings in interest rates also occurred within that Central European market although initially at least the impact of successive mining booms was highly localised. The first great Saxon mining boom (1460 – 1486) thus produced extra-regional effects only on the Frankfurt-Köln money markets. Similarly the second sub-cycle, which was played out from 1476 – 1492 in the Tirol against a background of Saxon decline, resulted in a decline in interest rates only on the capital markets of the Upper Rhine region. During the first production-cycle (1460 – 1492) of the Central European mining boom successive sub-cycles thus wrought their impact solely on a local basis. During the second cycle (1492 – 1526), however, as the production elements of a new Tirolean-Thuringian-Slovak mining complex became much more highly integrated, the effects of the resultant boom were diffused much more widely on the capital markets of Central Europe and beyond.<sup>8</sup> Particularly from ca. 1505/15 – 1526 money markets throughout western Europe felt the beneficial effects of the silver boom, interest rates falling to a new all-time low. A new structure had been imposed upon West-Central European capital markets as they assumed a bipartite form, for the moment high rates on the markets of the Saxon-Silesian region contrasting with the incredibly low rates prevailing throughout a unitary system centred on the new Tirolean-Thuringian-Slovak mining complex. Nor during the third production-cycle of 1516/22 – 1542/7 was this structure disturbed although the inter-regional balance of rates therein was reversed. As the Saxon-Silesian complex once more came to the fore at this time whilst silver production in the Tirolean-Thuringian/Slovak mining complex commenced on a path of decline to 1538/42 base interest rates in the former region again fell whilst those in the latter region were enhanced.

<sup>6</sup> On these changes see Ian Blanchard, *The International Economy in 'the Age of the Discoveries', 1460 – 1560*. (In press), vol. 1., chapter 5.

<sup>7</sup> Preliminary findings from materials on European and Central- and South American mining production are presented in chapter 1, 'The Habsburgs and the Antwerp Money Market: the Exchange Crises of 1521 and 1522 – 3' by Herman van der Wee and Ian Blanchard in *Industry and Finance in Early Modern Europe*, edited by Ian Blanchard, Anthony Goodman and Jennifer Newman (Stuttgart: Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte-Beiheft, Bd. 98. 1992), pp. 27 – 56.

<sup>8</sup> H. van der Wee, *The Growth of the Antwerp Market and the European Community (Fourteenth – Sixteenth Centuries)*, 3 volumes (The Hague, 1963), 1, p. 527.

As Central European silver production thus rose to a peak from ca. 1505/15 – 1540, a new bipartite structure had been imposed upon West-Central European capital markets which were characterised by an alternating inter-sectoral movement of rates as first (1505/15 – 1525) a unitary western European market experienced the benefits of cheap money before (1527 – 1538/42) rates rose therein and it was the markets of the Saxon-Silesian region which benefitted from readily available and cheap funding.

During the century 1460 – 1560, therefore, as the Central European silver mining industry underwent a production long-cycle, western European capital markets were subjected to a process of change as a new market structure was superimposed on the old. Interest rates varied about the prevailing five per cent norm in response to production fluctuations in the mining industry. Initially (1460 – 1505/15) the effects of successive mining booms were felt solely on a local basis but as the production long-cycle rose to its peak (1505/15 – 1538/42) and the industry's constituent elements became much more highly integrated so did capital markets, assuming a bipartite form during these years within which rates moved in an alternating pattern as first (1505/15 – 1525) a unitary western European market experienced the benefits of cheap money before (1527 – 1538/42) rates rose therein and it was the markets of the Saxon-Silesian region which benefitted from readily available and cheap funding.

As a result of these changes the financial and commercial systems utilised by the international merchant community were transformed. The great mining boom from its inception had attracted investment funding from the great South German merchant-banking houses<sup>9</sup> and as the returns from these investments were realised these houses were able, with their new found wealth, to fund with increasing ease the ever growing fixed and variable capital requirements of their industrial enterprises; underwrite the burgeoning volume of their exchange dealings; finance their growing involvement in international trade and even satisfy the voracious appetite of the Habsburgs for loans. In relation to the funding of commercial activity the silver obtained from the mines, having been turned into coin at local mints<sup>10</sup>, was available for exchange operations on local money markets, either allowing merchants in distant centres to take up funds for commercial activity secure in the

<sup>9</sup> Although there is an immense literature about the history of mining, comprehensive data about investments are not as yet available, most studies being more concerned with the output than with the financing of mining operations. For a recent careful survey about the present state of research, however, see V. Vazquez de Prada, 'La conyuntura de la minería y la metalurgia europeas' (siglo XIII – XVII) in *Revista de Historia Económica*, vi (1988), pp. 257 – 276 whilst some scattered data is provided in J. Vlachovic, *Slovenska med v 16. a 17. storoci* (Bratislava, 1964); E. Westermann, *Das Eislechner Garkupfer und seine Bedeutung für den europäischen Kupfermarkt 1460 – 1560* (Köln & Wien, 1971); L. Scheuermann, *Die Fugger als Montanindustrielle in Tirol und Kärnten. Ein Beitrag zur Wirtschaftsgeschichte des 16. und 17. Jahrhunderts* (München & Leipzig: Studien zur Fuggergeschichte, vol. 8, 1929).

<sup>10</sup> See for example J. Schüttenhelm, 'Zur Münzprägung und Silberversorgung süddeutscher Münzstätten im frühen 16. Jahrhundert' in W. Kroker & E. Westermann (eds), *Montanwirtschaft Mittel-europas vom 12. bis 17. Jahrhundert. Stand, Wege und Aufgaben der Forschung*. (Bochum: Der Anschnitt, Beiheft 2, 1984).

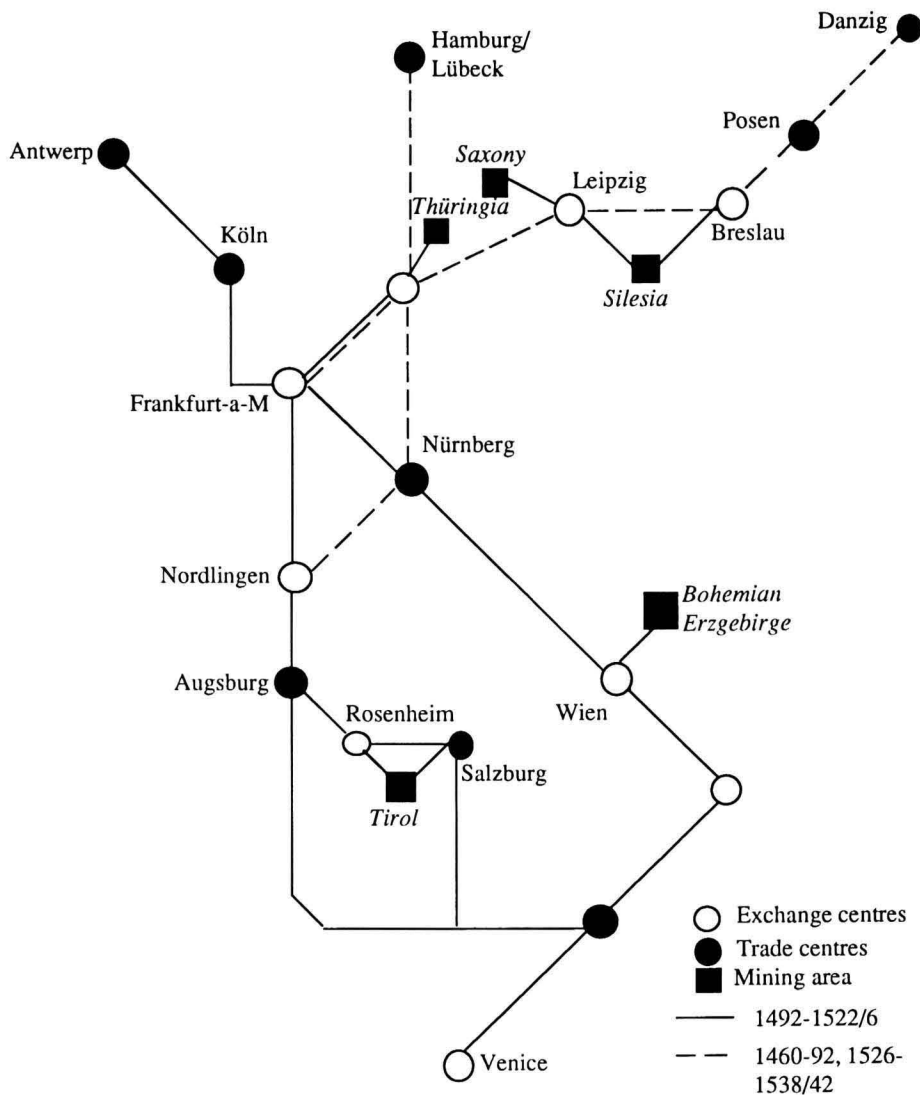


Fig. 3. Exchange Systems 1460 – 1540

knowledge that their bills on these markets would be met when they fell due, or making abundant funding available to those proffering bills there to finance their trade. In such circumstances these money markets, where commercial credit could be funded at relatively low rates of interest, drew trade towards them and effected a realignment of commercial activity in line with the alternating pattern of Central European mining activity.



During the years of the first great mining boom, 1460–1486, because of weak levels of activity in the Thüringian-Tirolean-Slovak mining complex, old and new commercial-financial systems co-existed with the West-Central European market region. At Bruges and London international trade continued to be financed on the basis of rural sales credits and merchants very occasionally resorted to exchange markets where Italian houses<sup>11</sup> could offer only high-priced commercial credit on the basis of retained trading profits. Further east, however, the situation was very different. Here, under the influence of the contemporary mining boom, a new financial-trading system was forming (fig. 3). At this time it assumed a simple tri-nodal form, linking Köln-Aachen in the north with Wien in the east and Venice in the south and providing a system within which merchants could draw on mining corporation funding through the money markets of Köln-Frankfurt (Saxony-Thüringia), Nördlinger-Rosenheim (Tirol) and Wien (Slovakia). Merchants, moreover, were not slow to take advantage of the new situation. Utilising cheap commercial credits they propagated at this time an active trade involving the exchange of north-western European textiles (predominantly Köln-Aachen cloths and South German barchants and fustians) for south-eastern European agrarian produce and Italian wares.<sup>12</sup>

Nor did this system undergo major structural changes during the second (1492–1526) production-cycle of the Tirolean-Thuringian-Slovak mining complex. In Bruges and London the old ways continued although, particularly during the years 1505/15–1526, the balance of activity within the West-Central European region began to shift from these centres towards the new Central European system. Rapidly increasing silver production, within a commercial network where financial and mining operations were becoming more integrated, brought the benefits of cheap money to the existing system of exchanges and, in the context of the 1489–92 Netherlands monetary reforms, resulted in an extension of that system to incorporate the emergent centre of Antwerp. During this period therefore Antwerp became the western terminus of a major commercial system within which a trade in Anglo-Netherlands textiles now expanded on the ruins of the old Rhenish industry<sup>13</sup> and the merchants of Köln and Frankfurt carried these wares to South Germany and the Alpenlands through Augsburg and to the lands of the Hungarian crown through Wien. Along the way, moreover, they shared passage with those merchants who traded to Italy, merchants who at Augsburg took passage via the

<sup>11</sup> Contemporary account books reveal that at Bruges in the 1470s and 1480s the major finance houses were the Frescobaldi, Caponi, Solni and Altaniti. Thirty years later at London some of the same houses (Frescobaldi and Caponi) continued to play an important role in the market but by this time they had been joined by the Lomellini, Cavalcanti, Vivaldi and Bonvisi whose Netherlands' offices were located at Antwerp.

<sup>12</sup> H. Amman, 'Deutschland und die Tuchindustrie Nordwesteuropas im Mittelalter', *Hansische Geschichtsblätter*, LXXII (1954) and the same author's 'Die Anfang der Leinenindustrie des Bodenseegebietes', *Alemannisches Jahrbuch*, 1953.

<sup>13</sup> A. Dietz, *Frankfurter Handelsgeschichte* (Frankfurt-a-M., 1910–1925), II, pp. 266–7.



Brenner and occasionally the Rescheneideck passes to Verona and Venice.<sup>14</sup> North-western European textiles thus continued to be exchanged for south-eastern European agrarian produce and Italian wares but now these textiles emanated from the Anglo-Netherlands production complex and, as in response to increasing silver production interest rates on commercial paper fell, the volume of commercial activity increased. At the western end of the great trans-continental way linking Italy with the Netherlands, therefore, during the years 1460–1486 and 1492–1526, the old commercial-financial system centred on Bruges, where merchants augmented finance raised through a sales-credit network with commercial credits provided by Italian houses on the basis of retained commercial profits, was eclipsed. In its place a new system was born centred on Antwerp. Here the agencies of the great South German houses and a new generation of Italians, able to draw on the resources of the Central European mining corporations through the money markets of Köln-Frankfurt (Saxony-Thüringia), Nördlinger-Rosenheim (Tirol-Black Forest) and Wien (Slovakia), engaged in active exchange operations which provided the basis for a major trade boom.

Within this new West-Central European system the fortunes of these merchant-financier were linked, however, to those of the mining entrepreneurs of the Tirolean-Thuringian-Slovak production complex. Each phase of increasing silver production occasioned a fall in interest rates and enhanced commercial activity. Each decline brought about a stabilization in interest rates and commercial stagnation. On these latter occasions, moreover, in the context of the alternating pattern of mining activity, the focus of commercial and financial activity was displaced elsewhere. Thus during the years 1460–1486/91 and 1527/8–1542, as the Saxon-Silesian complex came to dominate Central European mining operations, an alternative financial-commercial system, centred on Leipzig<sup>15</sup> and Breslau, came to the fore. Merchants at Nördlingen-Nürnberg, who in the period 1492–1526 were active in the trade via Frankfurt to Köln and Antwerp, during the years 1460–1486/91 and 1527/8–1542 increasingly drew bills on Leipzig or Breslau to finance a trade to the North or East. Along new routes they transported both domestic weaponry – metal wares and exotic luxury goods from Italy and the Levant to Lübeck-Hamburg or Posen-Danzig and returned not only with Baltic wares but also with western textiles trans-shipped through the former centres and destined for either domestic consumption or re-export South.<sup>16</sup>

<sup>14</sup> W. Brulez, 'Les routes commerciales d'Angleterre en Italie au XVI<sup>e</sup> siècle', *Studi in onore di Amintore Fanfani* (Milan, 1962), IV, pp. 120–184; H. Pohl, 'Köln und Antwerpen um 1500', *Mitteilungen aus dem Stadtarchive von Köln: Köln, das Reich und Europa*, LX (1971), pp. 477–482.

<sup>15</sup> G. Fischer, *Aus Zwei Jahrhunderte Leipziger Handelsgeschichte, 1470–1650* (Leipzig, 1929).

<sup>16</sup> On the trade at these times to the east – F. Lutge, 'Der Handel Nürnbergs nach dem Osten im 15. und 16. Jahrhunderts', *Beiträge zur Wirtschaftsgeschichte Nürnbergs*, I (1967); A. Simsch, *Die Handelsbeziehungen zwischen Nürnberg und Posen in europäischen Wirtschaftsverkehr des 15. und 16. Jahrhunderts* (Wiebaden, 1970) and W. Dersch, 'Hennebergisch-Polnische Beziehungen im 16. Jahrhundert', *Historische Monatsblätter der Provinz Posen*, XIX (1918) – whilst Central European commerce to Lübeck is considered in J.D. Fudge, *The German Hanse and England: Commercial and Political Interaction at the Close of the Middle Ages* (unpublished Edinburgh Ph.D. thesis, 1988), pp. 198–9.

During the years 1460–1540, therefore, as Central European silver output increased during the upswing of the industrial long-cycle, western European capital markets were subjected to a process of change as a new market structure was superimposed on the old. Interest rates varied about the prevailing five per cent norm in response to production fluctuations in the mining industry. Because of market imperfections, however, the timing and incidence of these changes in interest rates varied widely between finance markets which continued during the years 1460–1540 to be dominated by local specie supplies derived from an industry which was characterised by its own development pattern. Even as the industrial long-cycle ran its course there was superimposed upon it a pattern of medium-term, resource-related cycles which followed each other at about 30-year intervals and which displayed a pattern of spatial displacement of an intra-sectoral character. Within the Central European industry this assumed an alternating form. During the first (1460–1491) and third (1516/22–1542/7) production-cycles the mines of the Erzgebirge rose to a position of supremacy. During the second (1492–1522/6) they were displaced by those of the Thuringian-Hungarian and Tirolean production complex. Each displacement brought the benefits of cheap money to local finance markets. The Saxon-Silesian mining booms of 1460–1491 and 1526/7–1542 transformed conditions on the Leipzig money market whilst Antwerp, as an extension of the Rhenish-Tirolean mining and commercial system, enjoyed the benefits of cheap money predominantly during the years 1492–1522/6. In each instance merchants responded to the new situation by reorientating trade to avail themselves of the benefits of cheap money and whether western European merchants accessed the new systems via Hamburg-Lübeck (in 1460–1491 and 1526/7–1542) or Antwerp and the Brabantine fairs (in 1492–1522/6) the availability of cheap money ensured their trade expanded rapidly in the years to ca 1540. A new age had dawned as, in the provision of commercial credit, the focus of activity had shifted from the Rialto to the marts of Central Europe where abundant supplies of silver from the mines of the region provided the basis for cheap bill finance and an increase in commercial activity. The effectiveness of the new system was revealed when (in 1485–91, 1514, and 1527/8) markets were disrupted and merchants who were forced back onto older credit networks were confronted with a 2–3% increase in the cost of bill finance.<sup>17</sup> At these times trade declined. Yet such circum-

<sup>17</sup> On the place of the 1527/8 crisis in the general pattern of international financial disorders see R. Ehrenberg, *Das Zeitalter der Fugger. Geldkapital und Kreditverkehr im 16. Jahrhundert* (Jena, 1922), I, p. 385 whilst particular aspects of the crises of 1514 and 1527/8 are considered in E. Westermann, 'Die Bedeutung des Thüringer Saigerhandels für den mitteleuropäischen Handel an der Wende vom 15. zum 16. Jahrhundert', *Jahrbuch für Geschichte Mittel- und Ostdeutschlands*, XXI (1972) and the same author's 'Das "Leipziger Monopolprojekt", als Symptom der mitteleuropäischen Wirtschaftskrise um 1527/8', *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, LVIII (1971). The effects of the 1525 and 1527/8 crises on markets for commercial credits have been investigated by Herman van der Wee and the present author on the basis of data collected at Edinburgh in connection with the ESRC-sponsored project (HR 8205 & B 0023002/1) *The Anglo-Netherlands Bill Market and English Export Finance* and at Leuven as part of the programme of research into Netherlands monetary systems. The results of these investigations are to be published in Ian Blanchard, *The International Economy in 'the Age of the Discoveries', 1460–1560*. (In press), vol. 1., chapters 1–3.

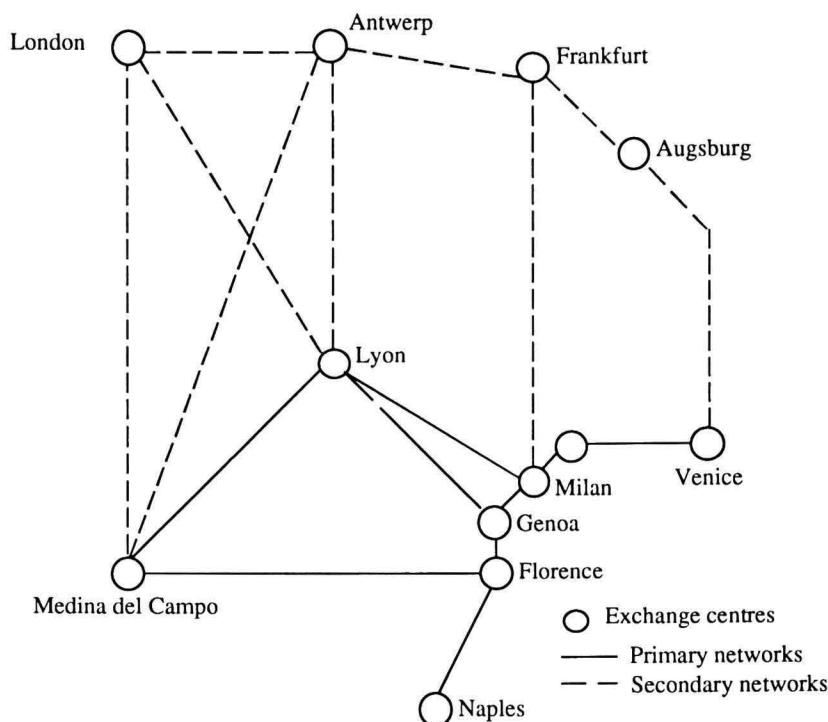


Fig. 4. Exchange Systems 1544–65.

stances were ephemeral in character, interrupting but not stopping the trade boom which on the basis of cheap credits continued to 1540.

From about 1540, however, this whole system began to disintegrate as the focus of international silver production completed a shift to the Americas. The Central European market was now eclipsed and began to fragment into atomistic units as there was a return to pre-1505 conditions. Thus during the fourth production-cycle (1537/42–1568), which marked the beginning of the downturn of the prevailing Central European production long-cycle, the impact of regional mining booms once again became highly localised. Increased Thuringian silver production resulted in falling interest rates on the money markets of the Lower Rhine region but not on those of the Upper Rhine where falling Tirolean output caused rates to rise. Rates on both markets, moreover, diverged from those of the Silesian-Saxon mining region. During this production-cycle and the next (1565/8–1598), which saw the Central European mining industry pass further down the secular path of decline, successive mining booms again wrought their effects on capital markets in an essentially local context. As the focus of international silver production shifted to the Americas, however, there was yet another displacement of activity and Seville and the fairs of Medina del Campo became the focus of a new financial net-

work in western Europe. Already in the 1530s the foundations of this new system were being laid as the arrival of increasing quantities of gold at the Guadalquivir effected a transformation of conditions at the fairs of Medina del Campo (fig. 4). Interest rates on both public and private loans fell, reducing the cost of exchange transactions between Spain, Italy (particularly Florence and Genoa) and France (Lyons). Nor was the impact of American specie confined to this primary network for, through the activities of the Sevillian Genoese and also to a lesser extent through the involvement of German houses like the Fugger and Welser, Antwerp was drawn into the new system and with it London and Augsburg<sup>18</sup>. Once again, therefore, the focus of commercial credit systems had shifted. Having relocated from Italy to Central Europe it now finally settled in Spain where the exchanges moved to a new tempo conditioned by news of the arrival of the Indies fleet.

From its inception, however, the new system was subject to major changes which initially altered its structure and ultimately wrought its demise. Even as the Spanish-Netherlands exchanges began to move to the new forces which were transforming activity at Medina del Campo, continuing Habsburg intervention on the Antwerp bourse crippled that city's money market and resulted in a displacement of financial activity elsewhere, bringing new life to markets like London and setting in motion forces which would bring the Piacenza Fairs to the fore in financing trans-continental trades.<sup>19</sup>

Yet the effects of the American silver boom were not confined to a geographical restructuring of European capital markets, for as increasing supplies of the precious metal were transported to Spain, local money markets were flooded, interest rates fell below the specie export point and supplies of the metal were transhipped elsewhere. In principal Spain was a closed vase into which the enormous American fortune flowed and came to a halt but the closure was not perfect...<sup>20</sup> In 1527, 1548, 1559 and again in 1562 the Cortès complained about the seemingly never ending outflow of bullion from the realm. A constant, if illicit, stream of gold flowed to Genoa and Italy, Lyons and France.<sup>21</sup> One observer noted that in the years to 1556

<sup>18</sup> For a useful introduction to the activities of the Sevillian Genoese see R. Pike, *Enterprise and Adventure: The Genoese at Seville and the Opening of the New World* (Ithaca New York, 1966) whilst R. Carande, *Carlos V y sus banqueros* (Madrid, 1949) and H. Kellenbenz, 'Die Konkurrenten der Fugger als Bankiers der spanischen Krone' *Zeitschrift für Unternehmensgeschichte*, xxiv, (1979) provide considerable information on their activities and those of the Germans on Spanish money markets. The impact of these changes on the money markets of London and Augsburg is briefly considered in the studies of 'The Habsburgs and the Antwerp Money Market: the Exchange Crises of 1521 and 1522-3' by Herman van der Wee and Ian Blanchard and 'The Effects of Empire: Changes in the European Economy after Charles V' by Reinhard Hildebrandt in *Industry and Finance in Early Modern Europe*, edited by Ian Blanchard, Anthony Goodman and Jennifer Newman (Stuttgart: Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte-Beiheft, Bd. 98, 1992), pp. 27-56, 58-76.

<sup>19</sup> J.-G. da Silva, *Banque et credit en Italie au xvii<sup>e</sup> siecle*, (Paris: Publications de la faculté des lettres et sciences humaines de Paris-Nanterre. Theses et Travaux, 8. 2 vols. 1969).

<sup>20</sup> F. Braudel, *La Méditerranée et le monde méditerranéen à l'époque de Philippe II* (Paris: second edition, 1966) I, p. 433.

<sup>21</sup> R. Gascon, *Grand commerce et vie urbaine au xvi<sup>e</sup> siècle. Lyon et ses marchands* (Paris, 1971), I, pp. 118-9 on the balance of trade between Spain and Lyons; H. Van der Wee, *Antwerp*, II, pp. 201-2; R. Ehrenberg, op. cit., I, p. 136.

an estimated five and a half million écu d'or had passed out of the realm, creating inflationary pressures within the European economy to which lenders were forced to respond.<sup>22</sup> A new age was dawning and henceforth a new trend was superimposed upon the existing pattern of interest rates as lenders attempted to protect their assets by enhancing rates in line with regional price increases and merchants, attempting to raise finance for his businesses, found a new competitor in the specie exporter who had to be outbid to secure the money they needed. All over Europe during the years after 1540 those with money to lend were forced to adjust to a very different market situation.<sup>23</sup> Yet in most instances they seem to have responded in much the same way and interest rates rose in line with prices and enhanced specie arbitrage margins, 'monetary' rather than 'real' factors exerting a dominant influence on their decision making – at least until 1575 when 'real' changes in the Dutch and English economies transformed capital markets in Amsterdam and London and ushered in a new age of commercial prosperity.

The century from 1460 – 1560 had thus witnessed a transformation of international financial networks. Within a market structure inherited from the later Middle Ages and under the influence of the contemporary Central European mining boom an older 'rustic' system of commercial credit, formed under the guidance of Italian merchant houses, was displaced during the years 1460 – 1540 by a new network, dominated by the South Germans, in which interest rates varied in response to production fluctuations in the mining industry. In the provision of commercial credit, the focus of activity had shifted from the Rialto to the marts of Central Europe and whether the new systems were accessed from the West via Hamburg-Lübeck (in 1460 – 1491 and 1526/7 – 1542) or Antwerp and the Brabantine fairs (in 1492 – 1522/6) the availability of cheap money therein ensured that trade expanded rapidly. Then, from about 1540 this whole system began to disintegrate as the focus of international silver production completed a shift to the Americas. The Central European market was henceforth eclipsed and began to fragment into atomistic units, but, as the focus of activity was displaced elsewhere and Seville and the fairs of Medina del Campo became the centre of a new network for the provision of commercial credit in western Europe, interest rates continued to fall and trade to expand. Under the influence of changing production patterns in the Euro-American mining industries a succession of new credit systems had been formed, the primary focus of activity relocating from Italy, to Central Europe and finally to Spain. In each instance interest rates on exchange dealings had fallen and merchants, by reorientating their trade to take advantage of each new source of credit, had experienced an increase in the volume of their commercial activity.

Before the Iberian trade boom of 1537/42 – 1568 ran its course, however, the

<sup>22</sup> E. Albèri, *Relazioni degli ambasciatori veneti al Senato*, II, p. 405 as quoted F. Braudel, *op. cit.*, I, pp. 435 – 6 thereby creating a pattern of market behaviour which continued into the second half of the century: H. Lapeyre, *Simon Ruiz et les asientos de Philippe II* (Paris, 1953) and R. Ruiz-Martin, *Lettres marchandes échangées entre Florence et Medina del Campo* (Paris, 1965).

<sup>23</sup> For another analysis of this situation viewed from a somewhat different perspective see M-T. Boyer-Xambeu, G. Deleplace and L. Gillard, *Monnaie privée et pouvoir des princes. L'économie des relations monétaires à la Renaissance* (Paris, 1986).

massive inflow of Spanish-American silver began to create inflationary pressures within the European economy and to alter the international balance of specie stocks, thereby transforming the structure of international money markets. A new age was dawning and henceforth a new trend was superimposed upon the existing pattern of interest rates as lenders attempted to protect their assets by enhancing rates in line with regional price increases and increased margins on specie transfers increased the cost of commercial credit. All over Europe those with money to lend were forced to adjust to a very different market situation. Yet in most instances they seem to have responded in much the same way, 'monetary' rather than 'real' factors exerting a dominant influence on their decision making. Finance costs, including those for commercial credit, rose and from 1550 – 1575 trade declined, ushering in a crisis which marked the end of one age – and the beginning of another when Amsterdam and London reigned supreme.