

**“The Long Sixteenth Century,” circa. 1450-1650**

XIIth International Congress held at Madrid 24 to 28 August 1998.  
Paper on “The Long Sixteenth Century, ca. 1450-1650”  
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### 1. The later medieval “integration crises,” 1340-1540

Even as the later Middle Ages began, during the years 1250-1375, the economies of Poland, Hungary and Bohemia had commenced upon a path of upwards equilibration towards the levels of per capita income then prevailing in western Europe. The process was subsequently, in 1425/32-1455 and 1465-1526/7, extended to south-eastern Europe.<sup>1</sup> These changes took place, moreover, during the years 1325-1375, in conditions where European specie markets became characterised by a long-term stability in gold prices, which rested upon the existence of a delicately balanced bi-metallic equilibrium within and between a series of autonomous specie markets. Each market maintained the level and composition of its precious metal stock from independent, indigenous supply sources of silver and gold. This provided the monetary preconditions for an efficient international exchange network and long-distance merchants embedded in the export sectors of the national economies, by utilising its facilities, were able during these years to reduce transactions costs, and expand their business, allowing functional regional specialisation in a spatially extended international economy. Nor during subsequent years, from 1425/32-1455 and 1465-1526/7, when similar conditions prevailed, was international commerce other than buoyant.

Initially, however, as the medieval European precious-metal industry underwent its third and final, diminutive production long-cycle, those conditions were on occasion disturbed by severe monetary crises, which attained their nadir during the years 1392-1412<sup>2</sup> and 1455-1463.<sup>3</sup> At these times, those engaged in international trades experienced a marked reversal of their fortunes. With the emergence of bi-metallic premiums on the exchanges, transactions costs increased and a trade in specie displaced trade in goods. Nor were the merchants’ domestic counterparts unaffected by these changes. In central Europe, where the populations were still largely dependent upon the use of coins to undertake their everyday transactions, dwindling supplies of such coin created an acute monetary crisis, deflationary pressures and reduced economic activity. In western Europe the situation was somewhat different. In the short-term, the crises caused acute shortages

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<sup>1</sup> See Ian Blanchard, *The Middle Ages: A Concept too Many ? Discussion Paper* (Warsaw-Budapest, 1997), pp. 31-39

<sup>2</sup> On international specie market conditions 1340-1370 and the crisis of ca. 1370-1420 see Ian Blanchard, “Le marché égyptien des espèces et la crise de l’or au quinzième siècle,” unpublished paper presented at the École des Hautes Études en Sciences Sociales, Paris, 1985. On the monetary crisis of ca. 1370-1420, John Day, “The Great Bullion Famine of the Fifteenth Century”, *Past and Present*, no. 79 (1978), pp. 3-53.

<sup>3</sup> For a general discussion of the crisis of 1455-1463 see John Day, *op. cit.*, pp. 43-49 and for a consideration of its impact on the English economy John Hatcher, “The Great Slump of the Mid-fifteenth Century” in Richard Britnell and John Hatcher (eds.), *Progress and Problems in Medieval England. Essays in Honour of Edward Miller* (Cambridge, 1996), pp. 237-272

of coins, which again disrupted economic activity. By extending the number of transactions in which “alternative” money supplies were utilised, however, the populations were able to avoid the worst effects of the crisis. Prices stabilised and populations continued to be able to make investment decisions free from the distractions caused by monetary disorder.

Then in the 1450s a process of technological change, involving the dissemination of the Saiger- and mercury amalgamation processes, transformed the production base of the European precious metals industry and massively increased the output of silver<sup>4</sup> and gold beyond the levels of the later Middle Ages. This brought a renewed stability to European specie markets. For almost a century, from ca. 1450-1550, they were again characterised by a long-term stability in specie prices. These once more provided the monetary preconditions for an efficient international exchange network. Long-distance merchants embedded in the export sectors of the national economies, by utilising its facilities, were again able during these years to reduce transactions costs, and expand their business, allowing functional regional specialisation in a spatially extended international economy.

They did so, however, in the years 1450-1550, in financial conditions, which were very different from those, prevailing in the period 1340-1370. During the later Middle Ages, western 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.<sup>5</sup> During the course of the thirteenth-century, western European base rates had fluctuated about a high-level equilibrium of about ten per cent per annum.. Then from ca. 1300 they steadily declined until almost a quarter of a millennium later in ca. 1525, they finally settled at a new low level of between four and five per cent (figure 1). As the early modern era dawned and the “Long Sixteenth Century” began, during the years ca. 1450-1550, an enriched populace was prepared to lend, on first-class security, at previously unheard of rates. Even as rates tumbled, the market also underwent a major structural transformation. As in the High Middle Ages, money remained cheapest in England and in the lands of the Lower Rhine.<sup>6</sup> 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)

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<sup>4</sup> H. van der Wee and I Blanchard, “The Habsburgs and the Antwerp Money Market: the Exchange Crises of 1521 and 1522-3” in I Blanchard et al. (eds.), *Industry and Finance in Early Modern History: Essays Presented to George Hammersley on the Occasion of his 74th Birthday* (Stuttgart: VSWG- Beiheft, 98. 1992), p. 27.

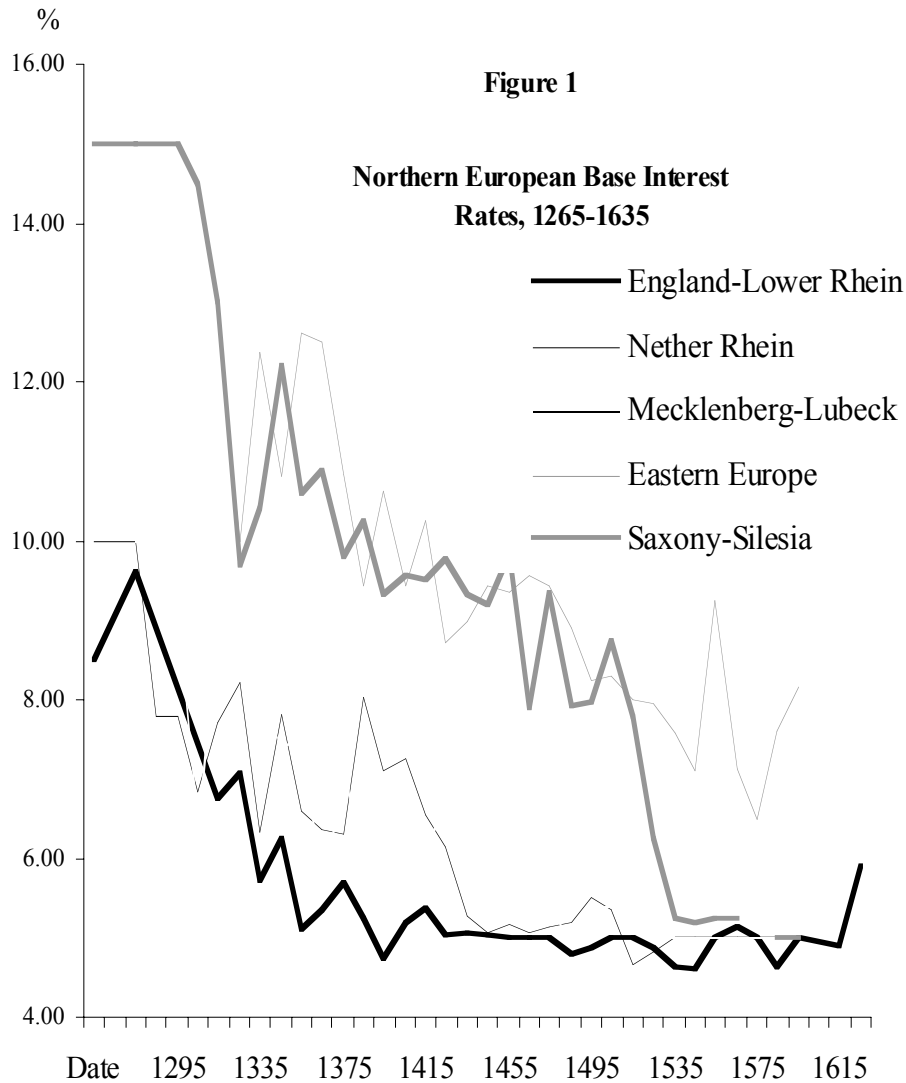
<sup>5</sup> Base interest rate statistics presented in figure 1 have been derived from M. Neumann, *Geschichte des Wuchers in Deutschland* (Halle, 1865), pp. 266-273; H. J. Habakkuk, “The Long-term Rate of Interest and the Price of Land in the Seventeenth Century”, *Economic History Review*, Second 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 makes no pretension to either spatial or chronological comprehensiveness.

<sup>6</sup> Henceforth used to describe the Netherlands, Cleves, Jülich-Berg, Speyer, Nassau and the archbishoprics of Trier and Cologne.

at between four and five per cent.<sup>7</sup> 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-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, money became progressively cheaper. A steadily widening population of potential borrowers and lenders were drawn, moreover, 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.

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<sup>7</sup> See the unpublished paper of S. R. Epstein, "The late medieval crisis as an 'integration crisis' (1350-1550)", presented at 4<sup>e</sup> Journées Braudéliennes. NIAS-MHS seminar on "Early modern capitalism", held at Wassenaar, 23<sup>rd</sup>-24<sup>th</sup> May 1997.



In the lands east of the Erzgebirge, the situation was very different. As the Central European economies had commenced upon a path of upwards equilibration in relation to those of Western Europe, during the years 1250-1340, per capita income had increased and real savings levels were enhanced. Base interest rates, accordingly fell from the “dark age” levels of ca 15-20% per annum to the normative 8-10%, which had characterised western European capital markets during the classic growth years 1040-1340. Subsequently, however, in the later Middle Ages capital markets here remained largely un-integrated, apart from Saxon-Silesian markets, which were integrated with western ones in the early sixteenth century. Although base interest rates declined after ca. 1340, the pace was, in comparison with western Europe, a slow one,<sup>8</sup> causing East-West rate differentials to widen.

<sup>8</sup> In western Hungary for instance base rates of 10% prevailed throughout the later Middle Ages, Katalin G Szende, “Sopron (Ödenberg): a West-Hungarian Merchant Town on the Crossroads between East and West?” *Scripta Mercatura*, 31. Jahrg., Heft 2 (1997), p.40.

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 15-20% 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. Now, however, 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. Within this unitary market, money was cheap and not least amongst those who availed themselves of the new situation were members of the international merchant community. As, during the years 1392-1412 and 1455-1463, international trade had declined,<sup>9</sup> they had experienced an enhancement in the cost of commercial credit. They 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 agriculturists had possessed few ways of improving production and the returns on any money invested in this sector had been small. The interest they could offer on mortgages for agricultural improvement, accordingly, was also low (1-3% per annum) 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%.<sup>10</sup> In such circumstances, merchants, able to offer returns above base rate, found few competitors bidding for money in the market place. Funds, accordingly, flowed from the agricultural to non-agricultural sectors of the economy providing the basis for an elaborate sales credit system, which was the main source of English commercial finance.<sup>11</sup> The international merchants’ financial systems had undergone a process of ‘rustication’, causing merchants and traders to make only marginal use of exchange facilities.<sup>12</sup> Bill markets in the great commercial metropoli of Western Europe were accordingly characterised by certain thinness, as low and intermittent activity occasioned marked fluctuations about a high median rate. Nor did this situation fundamentally alter during the subsequent half century (ca. 1525-1575). As recurrent population growth resulted in an immiseration of the population and inflationary pressures undermined the

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<sup>9</sup> See in general Lopez, R. S. and Mishkimin, H., “The Economic Depression of the Renaissance”, *Economic History Review*, Second Series, xiv (1962), pp. 408-426 and Cipolla, C. M., “Economic Depression of the Renaissance”, *ibidem*, pp.519-524 and on specific crises the works referred to in notes 2-3 above.

<sup>10</sup> Data concerning interest rates on English mortgage bonds discussed below is derived from Anita P. Travers, *The Practice of Usury in Mid-Sixteenth Century England* (Edinburgh: Ph.D. thesis, 1976)

<sup>11</sup> See e.g. H. E. Malden, (ed.), *The Cely Letters* (London: Camden Society, 3rd Series, I, 1900); Alison Hanham, (ed.), *The Cely Letters 1472-1488* (London: 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 Eileen Power, “The Wool Trade in the Fifteenth Century” in Eileen. Power and Michael. M. Postan [eds.], *Studies in English Trade in the Fifteenth Century* [London, 1933], pp. 56-7) are somewhat abnormally generous due to the contemporary depression in the export trade. On an analogous situation relating to Flemish textile producers see A. von Brandt, “Waren- und Geldhandel um 1560”, *Zeitschrift des Vereins für Lübeckische Geschichte*, XXXIV (1954).

<sup>12</sup> Michael M Postan, “Credit in Medieval Trade”, *Economic. History Review.*, I, 2 (1928) reprinted in Eleanora M. Carus-Wilson (ed.), *Essays in Economic History* (London, 1954), I, 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 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 ESRC projects HR 8205 & B 0023002/1.

value of savings, however, base interest rates edged upwards and sales credit terms shortened. Cash flow problems were precipitated amongst provincial merchants, causing those whom had access to metropolitan capital markets to be tipped over on to the exchanges. The balance between exchange and sales credit systems altered in favour of the former but the basic pattern of capital flows from the agricultural sector remained. That the increased calls 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 can be, traced back more than half a century.

## 2. Silver Production and Trans-European Commercial Development at the Commencement of the “Long Sixteenth Century,” ca. 1460-1540.

From 1460-1540, by the application of new technologies to a steadily widening resource base of either previously unexploited argentiferous copper or cobalt-nickel-bismuth ores European entrepreneurs had promoted a major production boom in the silver and associated metal industries. As this boom, associated with the employment of the Saigerprozess, ran its course, moreover, production patterns within the industry assumed an alternating cyclical 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) and fourth (1537/42-1568) they were displaced by the workings of Thuringia, Hungary and the Tyrol.<sup>13</sup> Because of the inability of contemporary specie flows to equilibrate international monetary stocks, during the years ca. 1460-1560, however, an intra-European regional pattern of monetary usage had prevailed. Whilst the silver from these workings was distributed throughout Europe the trade was never of sufficient size to significantly affect the levels of national monetary stocks and each mining boom was associated with the strengthening of local regional currencies against others which remained unaffected. Thus, for instance, the Saxon production-cycles of 1460-1491 and 1516/22-1542/7 allowed the establishment of a “hard” currency zone in Central Germany and the Baltic. This was associated in the latter case with the use of the Joachimsthaler. At other times, however, this region received insufficient silver to prevent acute debasements of the silver currency, when in Western Europe there was a basic stability amongst silver monies.

The boom, moreover, was associated with a comparable restructuring of capital markets. 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. These resulted in local interest rates falling from the high levels of central Europe to the much lower ones prevailing on the western European capital market. Similar downswings in interest rates also occurred within that western 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-Cologne money markets. Similarly, the second sub-cycle,

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<sup>13</sup> See, for a preliminary outline of the evidence on this subject H van der Wee and I Blanchard “The Habsburgs and the Antwerp Money Market: the Exchange Crises of 1521 and 1522-3” in I Blanchard et al. (eds.) *Industry and Finance in Early Modern History...* pp. 27-30.

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 western European mining boom, successive sub-cycles thus wrought their impact solely on a local basis. During the second cycle (1492-1526), however, the production elements of a new Tirolean-Thüringian-Slovak mining complex became much more highly integrated. The effects of the resultant boom were accordingly diffused much more widely on the capital markets of Western Europe.<sup>14</sup> Particularly from ca. 1505/15-1526 money markets throughout Western Europe felt the beneficial effects of the silver boom. Interest rates fell to a new all-time low. A new structure had been imposed upon West European capital markets. Here the market split into a bi-partite structure, 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-Thüringian-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-Thüringian-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. As western European silver production thus rose to a peak from ca. 1505/15-1540, a new bipartite structure had been imposed upon West European capital markets. These 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 benefited from readily available and cheap funding.

During the century 1460-1560, therefore, as the western 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. As the production long-cycle rose to its peak (1505/15-1538/42) and the industry's constituent elements became much more highly integrated, however, so did capital markets. They assumed a bipartite form during these years within which rates moved in an alternating pattern. First (1505-1525), a unitary Western European markets experienced the benefits of cheap money before (1527-1538/42) rates rose therein and it was the markets of the Saxon-Silesian region which benefited from readily available and cheap funding. Because of these changes, the financial and commercial systems utilised by the international merchant community were transformed.

The great mining boom since its inception had attracted investment funding from the South German merchant banking houses.<sup>15</sup> As the returns from these investments were

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<sup>14</sup> Herman van der Wee, *The Growth of the Antwerp Market and the European Community (Fourteenth - Sixteenth Centuries)*, 3 volumes (The Hague, 1963), I, p. 527.

<sup>15</sup> Although there is an enormous literature about the history of mining in this period, comprehensive data about investments is not as yet available. Most studies are more concerned with the output from, rather than financing of mining operations. For a recent careful survey about the present state of research see V Vazquez de Prada, "La conyuntura de la minería y la metalurgia europeas (siglo xiii-xvii)" in *Revista de Historia Economica*, VI (1988), pp. 257-276 while some scattered data will be found in Jozef Vlachovic,

realised these houses were able, with their new found wealth, to fund with increasing ease the ever growing fixed and variable 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 coins at local mints,<sup>16</sup> was available for exchange operations on local money markets. This either allowed merchants in distant centres to take up funds for commercial activity secure in the knowledge that their bills on these markets would be met when they fell due, or made abundant funding available to those proffering bills to finance trade. In such circumstances these money markets, where, in conditions of monetary stability, commercial credit could be funded at relatively low interest rates. 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 the weak level of activity in the Tirolean-Thüringian-Slovak mining complex, old and new commercial-financial systems co-existed within 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 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 commercial financial system was forming. At this time, it assumed a simple tri-nodal form, linking Cologne-Aachen in the north with Vienna in the east and Venice in the south. Merchants, moreover, were not slow to take advantage of the new situation. Utilising cheap commercial credits they propagated an active trade involving the exchange of North-western European textiles (predominantly Cologne-Aachen cloths and South German barchants and fustians) for south-eastern European agrarian produce and Italian wares.<sup>17</sup> Nor did this system undergo major structural changes during the second (1492-1526) production-cycle of the Tirolean-Thüringian-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 European region began to shift from these centres towards the new formed 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. In the context of the 1486-1492 Netherlands' monetary reforms, moreover, there was an extension of that system to

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*Slovenska med v 16. a 17. storoci* (Bratislava, 1964); Ekkehard Westermann, *Eislebner Garkupfer und seine Bedeutung für den europäischen Kupfermarkt, 1460-1560* (Köln & Wien, 1971); Ludwig Scheuermann, *Die Fugger als Montanindustrielle in Tirol und Kärnten. Ein Beitrag zur Wirtschaftsgeschichte des 16. und 17. Jahrhunderts* (München & Leipzig: Studien zur Fuggergeschichte, Bd. 8, 1929).

<sup>16</sup> See e.g. J. Schüttenhelm, "Zur Münzprägung und Silberversorgung süddeutscher Münzstätten im frühen 16. Jahrhundert" in W. Kroker & Ekkehard Westermann (eds.), *Montanwirtschaft Mitteleuropas vom 12. bis 17. Jahrhundert. Stand, Wege und Aufgaben der Forschung* (Bochum: Der Anschnitt, Beiheft 2, 1984).

<sup>17</sup> Hector Amman, "Deutschland und die Tuchindustrie Nordeuropas im Mittelalter" *Hansische Geschichtblätter*, LXXII (1954) and the same author's "Die Anfang der Leinenindustrie des Bodenseegebietes", *Alemannisches Jahrbuch*, 1953

incorporate the emergent centre of Antwerp. During this period, therefore, Antwerp became the western terminus of a major commercial system.<sup>18</sup> Within this system a trade in Anglo-Netherlands textiles now expanded on the ruins of the old Rhenish industry<sup>19</sup> and the merchants of Cologne and Frankfurt carried these wares to South Germany and the Alpenlands through Augsburg and to the lands of the Hungarian crown<sup>20</sup> through Vienna. Along the way, moreover, they shared passage with those merchants who traded with Italy, merchants who at Augsburg took passage via the Brenner and occasionally the Rescheneideck passes to Verona and Venice.<sup>21</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, trade expanded. Within this new western European system the fortunes of the merchant-financier was linked, however, to those of the mining entrepreneurs of the Tirolean-Thüringian-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-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 commercial-financial system, centred on Leipzig<sup>22</sup> and Breslau came to the fore. Merchants at Nördlingen-Nuremberg, who in the period 1492-1526 were active in the trade via Frankfurt to Cologne and Antwerp, during the years 1460-1486/91 and 1527/8-1542 increasingly drew bills on Leipzig or Breslau to finance their 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>23</sup>

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<sup>18</sup> Ralph Davis, "The Rise of Antwerp and its English Connection, 1406-1510" in D C Coleman and A H John (eds.), *Trade, Government and Economy in Pre-Industrial England. Essays Presented to F J Fisher* (London, 1976), pp.2-20.

<sup>19</sup> A. Dietz, *Frankfurter Handelsgeschichte* (Frankfurt-a-M., 1910-1925), II, pp. 266-7.

<sup>20</sup> Katalin G Szende, "A soproni polgárság anyagi kultúrája a késő-középkorban (Material culture of Sopron citizens in the Late Middle Ages)", *Aetas* (1990/3).p. 80 and Zsigmond Pál Pach, "Magyarország nyugati dyapjúszövet behozatsla a XV. És XVI. Század közepén (Cloth imports to Hungary from the West from the 15<sup>th</sup> to the middle of the 16<sup>th</sup> century)", *Történelmi Szemle*, XIV (1971), pp. 25-6 as quoted in Katalin G Szende, "Sopron (Ödenberg)...", pp.38-9n.

<sup>21</sup> W. Brulez, W., "Les routes commerciales d'Angleterre en Italie au XVI siècle", *Studi in onore di Amintori 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>22</sup> G. Fischer, *Aus Zwei Jahrhundert Leipziger Handelsgeschichte, 1470-1650* (Leipzig, 1929).

<sup>23</sup> On the trade at this time to the East - F Lütge "Der Handel Nürnbergs nach 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* (Wiesbaden, 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 John D Fudge, *Cargoes, Embargoes and Emissaries. The Commercial and Political Interaction of England and the German Hanse, 1450-1510* (Toronto, 1995), pp. 164-165.

During the years 1460-1540, therefore, as West-,Central European silver output increased during the upswing of the industrial long-cycle, western European capital markets were subject to a process of change as a new market structure was superimposed upon the old. Interest rates fluctuated about the prevailing 5% 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 developmental 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 inter-sectoral character. Within the 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 Tirolean-Thüringian-Slovak production complex. Each displacement brought the benefits of “hard” money and cheap finance to local capital markets. The Saxon-Silesian mining booms of 1460-1491 and 1516/22-1542/7 transformed conditions on the Leipzig market whilst Antwerp, as an extension of the Rhenish-Tirolean mining and commercial system, enjoyed the benefits of cheap money predominantly in 1492-1522/6. In each instance merchants responded to the new situation by reorienting trade to avail themselves of the benefits of “hard” money and cheap funding. Whether western European merchants accessed the new systems via Hamburg-Lübeck (in 1460-91 and 1526/7-1542) or Antwerp and the Brabant Fairs (in 1492-1522/6) the availability of cheap funding ensured that their trade expanded rapidly to 1540. A new age had dawned in the provision of commercial credits. The focus of activity had shifted from the Rialto to South- and Central Germany where abundant supplies of silver from the mines provided the basis for cheap bill finance and an increase in commercial activity. The effectiveness of the new system was revealed when (in 1485-1491, 1514 and 1527/8) markets were disrupted.<sup>24</sup> On these occasions merchants, who were forced back onto older credit systems, were confronted with a 2-3% increase in the cost of bill finance. Trade declined. Yet, these circumstances were ephemeral in character, interrupting but not stopping the trade boom which, based on cheap credits, continued to 1540.

### 3. Crisis and structural change in international finance-money markets, 1540-1570.

From about 1540, however, this whole system began to disintegrate as the focus of international silver production shifted to the Americas and Seville. The Central European

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<sup>24</sup> On the place of the 1527/8 crisis in the pattern of international financial disorders see Richard Ehrenberg, *Der 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 Ekkehard Westermann, “Die Bedeutung des Thüringer Saigerhandels für den mitteleuropäischen Handel an der Wende vom 15. und 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).

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 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, moreover, there was yet another displacement of activity and Seville and the fairs of Medina del Campo became the focus of a new financial network 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. 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 involvement of German houses, like the Fugger and Welser, Antwerp was drawn into the new system and with it London and Augsburg.<sup>25</sup> Again, therefore, the focus of commercial credit systems had shifted. Having re-located from Italy to South- and Central Germany it now settled in Spain where the exchange 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. It also resulted in a displacement of 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>26</sup>

Yet, the effects of the American silver boom were not confined to a geographical restructuring of European capital markets. 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. A constant, if

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<sup>25</sup> For a useful introduction to the activities of the Sevillian Genoese see Ruth Pike, *Enterprise and Adventure: The Genoese at Seville and the Opening of the New World* (Ithica, N.Y., 1966) whilst R Carande, *Carlos V y sus banqueros* (Madrid, 1949) and Herman 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 London and Augsburg markets is briefly considered in the "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 Reinhardt Hildebrandt in Ian Blanchard et alii (eds.), *Industry and Finance ...* pp. 54-56 and 58-66.

<sup>26</sup> J-G de Silva, *Banque et crédit en Italie au XVIIe siècle* (Paris: Publication de la faculté des lettres et sciences humaines de Paris-Nanterre. Thèses et Travaux, t. VIII. 2 vols. 1969)

illicit, stream of specie flowed to Genoa and Italy, Lyons and France.<sup>27</sup> A new age was dawning and henceforth for some two centuries from ca. 1540, a new trend was superimposed upon the existing pattern of interest rates. Henceforth lenders attempted to protect their assets by enhancing rates in line with regional price increases and merchants, attempting to raise finance for their businesses, found a new competitor in the specie exporter who had to be outbid to secure the money they needed. All over Europe those with money to lend were forced to adjust to a very different market situation.<sup>28</sup> Yet, at least initially from ca. 1545-1575, in most instances they seem to have responded in the same way and interest rates rose in line with prices and enhanced arbitrage margins, “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 would reign supreme.

### Monetary Stock Dis-equilibration and Capital Market Changes.

#### (A) “Maritime Europe,” 1570-1770

From ca. 1545-1645, moreover, this situation was totally transformed as infinitely greater quantities of Central- and South American silver and gold entered the European economies, sufficient in size to fundamentally alter stock levels in recipient areas and accordingly the exchange relationship between specie and other commodities.<sup>29</sup> Thus in England, the lands of the lower Rhine, South Germany and Northern France the increasing availability of silver, first reduced the purchasing power of the metal in terms of commodities during the years ca. 1545-1575. Thereafter, however, those lands were set on a path of stock accumulation, which by the mid-seventeenth century had overpriced their produce on international markets. In the rest of France, Italy and Iberia a similar process was at work until ca. 1590 when increasing specie shortages led to a relative stock reductions which made this a relatively low-cost region. In either case, however, the purchasing power of silver continued to diminish after 1575 before there was an upswing at some time between 1595-1645. Such was not the case in the lands of Eastern Europe. Here continuing low stock levels caused the purchasing power of silver to remain high from 1575-1610/20 before at first slowly to 1660 and then rapidly, it

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<sup>27</sup> Richard Gascon, *Grand commerce et vie urbaine au XVI<sup>e</sup> siècle. Lyons et ses marchands* (Paris, 1971), pp. 118-9; Herman van der Wee, *Antwerp...* II, pp. 201-2 and R. Ehrenberg, op. cit., I, p.136. This created a pattern of market behaviour which continued into the second-half of the century and beyond, Henri Lapeyre, *Simon Ruiz et les assentios de Philippe II* (Paris, 1953) and R. Ruiz-Martin, *Lettres marchandes échangées entre Florence et Medina del Campo* (Paris, 1965)

<sup>28</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 de princes. L'économie des relations monétaires à la Renaissance* (Paris, 1986).

<sup>29</sup> On the changing relationship between the value of silver and commodities see F Braudel and F Spooner, “Prices in Europe from 1450-1750” in *The Cambridge Economic History of Europe*. Vol. IV. *The Economy of an Expanding Europe in the Sixteenth and Seventeenth Centuries*. Edited by E E Rich and C H Wilson (Cambridge, 1967), pp. 470-473.

decreased as stocks increased. From the seventeenth century, therefore, those possessing silver could purchase but little with it in Western Europe and could obtain far more in either northern and eastern Europe or the Mediterranean and thus carried the metal to these latter regions to obtain their “cheap” produce. Those, in Western Europe who wished to acquire specific wares for a given amount of silver thus had a choice. They could either acquire a small quantity of such goods from domestic producers who operated at an enhanced silver-cost level or of deploying their silver elsewhere in lands where factor costs, expressed in terms of silver, were much lower and they could acquire far more goods for their money.

“Monetary” factors which served to reduce unit production costs, in terms of silver, within these northern, eastern and Mediterranean production areas were, moreover, reinforced by “real” factors which transformed northern and eastern European production, as a transport “revolution” created a unitary market between the “maritime regions” of Europe. Only in the case of the lowest-value bulk commodities, such as iron, however, did these years see significant changes, resulting in major alterations in patterns of regional consumption, as prevailing market structures were subject to alterations in the forms of commercial organization. By permitting a more rapid turn-round of ships, freights were lowered with resultant market integration within the European maritime economies.<sup>30</sup> Within an important sector of the economy serviced by the sea-borne trades the market was not only extended to incorporate new products, such as iron and its fabricants, but was also reshaped as relocation took place in terms of comparative advantage. As has been suggested the process was most spectacularly revealed in the case of the iron industry. Here, as maritime freights fell the pre-existing pattern of ubiquitous industrial activity and trade based on the exchange of products of differing chemical composition gradually became confined to the landward provinces of the European economy where, protected by high overland transport costs, the old ways continued into the new age.<sup>31</sup> Where consumers enjoyed access to iron transported by sea, however, they turned away from the old product and in these regions the creation of new smelting capacity was retarded as production became concentrated first in Sweden and then from the mid-eighteenth century in Russia.<sup>32</sup> As “real” iron prices fell within this new trading system, moreover, consumption of the product increased, inducing in England at least a new wave of technological innovation in the fabrication of the raw material. At first slowly and then from ca. 1660 rapidly, in England the “mechanical arts”

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<sup>30</sup> See for instance the studies of D C North, “Sources of Productivity Change in Ocean Shipping, 1600-1850”, *Journal of Political Economy*, LXXVI (1968) and “Ocean Freight Rates and Economic Development 1750-1850”, *Journal of Economic History*, XVIII (1958); G Walton and J F Shepherd, *Shipping, Maritime Trade and the Development of Colonial North America* (Cambridge, 1972) and C K Harley, “Ocean Freight Rates and Productivity, 1740-1913: The Primacy of Mechanical Invention Reaffirmed”, *Journal of Economic History*, XLVIII (1988).

<sup>31</sup> On production patterns in the iron industry prior to ca. 1500 see R. Sprandel, *Das Eisengewerbe im Mittelalter* (Stuttgart, 1968)

<sup>32</sup> On output retardation in England see Michael W. Flinn, “Growth of the English Iron Industry, 1660-1760”, *Economic History Review*, Second Series, XI, 1 (1958). The literature on the development of the Swedish and Russian iron industries is considerable but see by way of introduction Karl-Gustav Hildebrand, *Svenskt Järn. Sexton- och sjuttonhundratals Exportindustri före industrialismen* (Stockholm: Jernkontorets Berghistoriska Skriftserie 20, 1988) and the author's “Swedish and Russian Iron in the Eighteenth Century” in Ian Blanchard et al. (eds.) *Industry and Finance in Early Modern History...*, pp. 227-244.

were developed in relation to the fabrication of imported iron. New production centres arose in Newcastle, Sheffield, Birmingham and London from whence the new technologies were disseminated in the early eighteenth century to France and Russia.<sup>33</sup> In relation to the production and distribution of low-value, bulk commodities and particularly iron, therefore, the years 1500-1800 witnessed the emergence of new regional consumption patterns as there was superimposed upon a European-wide market a new bipartite structure with regard to the consumption of iron and other bulk commodities. From the seventeenth century a new distribution pattern was imposed on the international trades which would continue to exist to 1800. By the latter date a “Maritime Europe,” of regions bordering the Baltic and North Seas, Atlantic and Mediterranean, was juxtapositioned against a “Continental Europe”.. The inhabitants of the former area enjoyed, save where they were impeded by government interference with supplies, bounteous quantities of bulk raw materials and semi-fabricants, unlike their counterparts in the latter zone. The raw materials and semi-fabricants of northern, eastern and Mediterranean Europe, including the metals (iron and copper) of Northern and Eastern Europe, thus flowed to North-western Europe. Initially, at least, these wares were paid for with specie. Domestic manufactures, produced by traditional methods, had become too expensive to export. Only by a technological transformation of the industrial production base, economising on high (silver) cost inputs, could the manufactures of North-western Europe once more enter into the trade to Northern, Eastern and Mediterranean Europe. This, however, required, not inconsiderable quantities of capital to be raised on markets, wherein all over Europe during the years 1540-1740 those with money to lend were forced to adjust to very different situations.

In most instances, such lenders seem to have responded in much the same way and interest rates changed in line with prices. “Monetary” rather than “real” factors exerted a dominant influence on their decision making. Only in England and the lands of the Lower Rhine was the situation again seemingly different (figure 2). Here as elsewhere during the years from ca. 1545-1575 prices and base interest rates had risen but thereafter, as prices continued to increase, interest rates actually fell and stabilized about a five per cent norm until about 1645. An increasingly rich population with enhanced savings was allowing “real” interest rates to equilibrate to a new low level. Then from 1645-1695 as prices fell, in England, “real” interest rates began to rise bringing this first phase in the restructuring of its capital market to a close. This, however, was merely an interlude in the long-term evolution of that market for as the eighteenth century opened a second phase in its development began. Again, from 1695-1745 “real” interest rates on the English market fell heavily before the pace of decline first slackened and then in ca. 1800 rates once more began to increase. Whilst during the years 1550-1750 “real” interest rates stabilized throughout most of Europe, therefore, in England and the Lower Rhine lands these years

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<sup>33</sup> The story of industrial development in these centres has yet to be told. See, however, D Hey, *The Rural Metalworkers of the Sheffield Region: A Study of Rural Industry Before the Industrial Revolution* (Leicester University, Department of English Local History, Occasional Papers, 2nd Series, 5. 1972); W H B Court, *The Rise of the Midland Industries, 1600-1838* (London, 1953), M. B. Rowlands, *Masters and Men in the Midlands Metalware Trades before the Industrial Revolution* (Manchester, 1975) and P. Frost, “Yeomen and Metalsmiths: Livestock in the Dual Economy of South Staffordshire, 1560-1720”, *Agricultural History Review*, XXIX (1981) On the dissemination of information concerning these technologies John Harris “The First British Measures against Industrial Espionage” in Ian Blanchard et al. (eds.) *Industry and Finance in Early Modern History...*, pp. 205-226.

witnessed an alternating pattern and secular decline in base interest rates. Initially a slow and then, from 1575, a rapid rise in income and saving levels meant that investors were willing to accept a steadily diminishing rate of return on first class securities. Such changes before the eighteenth century were measured in England in terms of the price of land or rather in terms of the price of a perpetual fixed rent charge secured on land and thereafter in terms of the yield on consuls. From a level of 4 per cent in 1545 “nominal” rates had risen, as a hedge against inflation, to 5.3 per cent (19 years purchase) in 1575 before stabilizing at just below 5 per cent to 1625. At no point, however, was the rate of increase comparable with that of the general price level, so that by the latter date the “real” rate of return was less than half (45 per cent) of what it had been eighty years earlier. Subsequently the rate of decline slackened. Then in the years to 1695 “real” rates actually increased. But this was merely a passing interlude and as the eighteenth century opened rates once more tumbled until in 1730 the “real” rate of return on land or consuls was a mere third of what it had been two centuries earlier. With rising incomes and savings levels money for investment was becoming in the early modern period progressively cheaper and more available, making England and the Lower Rhineland an oasis of cheap money in a European market where traditional “real” rates continued to prevail.

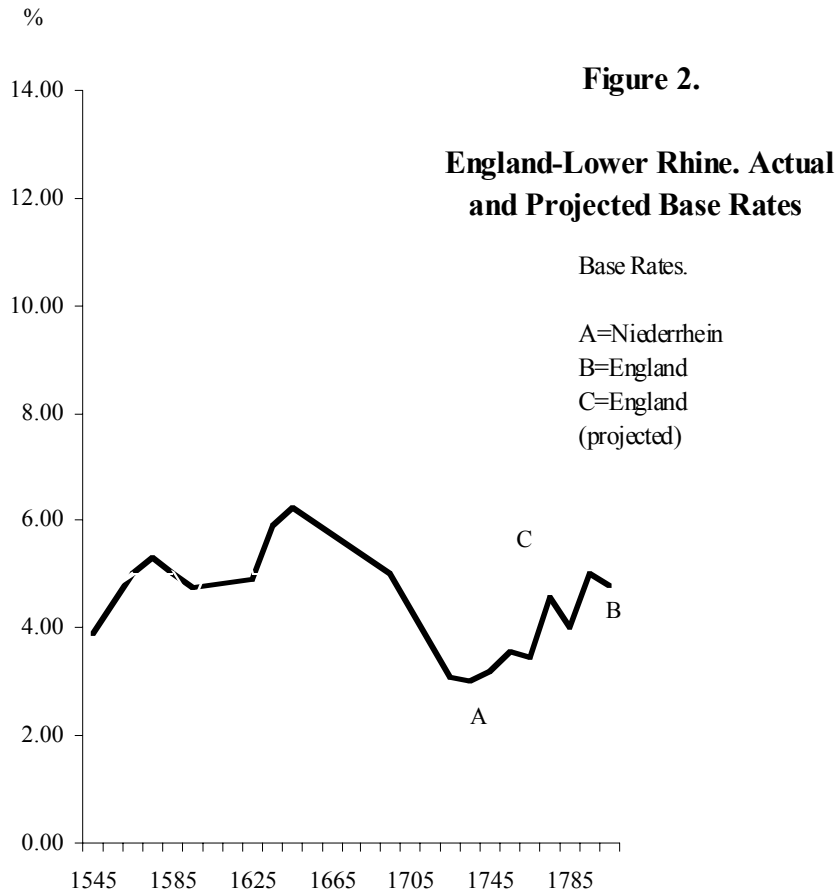
Throughout most of Europe during the years 1540-1740, therefore, would-be borrowers operated within markets where, in “real” terms, conditions remained remarkably stable. In England and the lands of the Lower Rhine, however, such borrowers sought funds in quite different circumstances as domestic capital markets underwent major changes. Here an increasingly rich population with abundant savings was willing to accept a steadily diminishing rate of return on first class securities. The rate that any would-be borrower could offer, however, depended on the efficiency with which he could use the capital. The greater the efficiency, the greater were the returns he could offer investors relative to other enterprises and the easier, accordingly, it became to attract the capital required. Whilst the English market thus looked increasingly attractive to would-be borrowers who either earlier or elsewhere found difficulty in raising funds, it was not only base lending rates which determined whether they would be successful in contracting a loan. Equally important were the activities of others who also required money and the amounts that they could bid for a loan.

Of paramount importance in this context were changes induced by technological change in the economy and in the period under consideration of greatest significance were the activities of agricultural borrowers on the English market.<sup>34</sup> During the years from ca. 1500-1560 English agriculturists had possessed few ways of improving production and the returns on any money invested in that sector were small (1-3% per annum). The interest that they could offer on mortgages for agricultural improvement, accordingly, was also low and few if any would be tempted to put out money on such instruments when they could make a totally safe return of 4-5%. In such circumstances, accordingly, funds flowed from the agricultural to the non-agricultural sectors of the economy. Subsequently from ca. 1527-1575, with the integration of the London market into the Seville-Medina del Campo financial network, the balance between exchange and

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<sup>34</sup> Data concerning interest rates on English mortgage bonds is derived from Anita P Travers, *The Practice of Usury* and John R Ward, *The Finance of Canal Building in Eighteenth-Century England* (Oxford, 1974), p. 166.

sales-credit systems altered in favour of the former but the basic pattern of capital outflows from the agricultural sector remained.

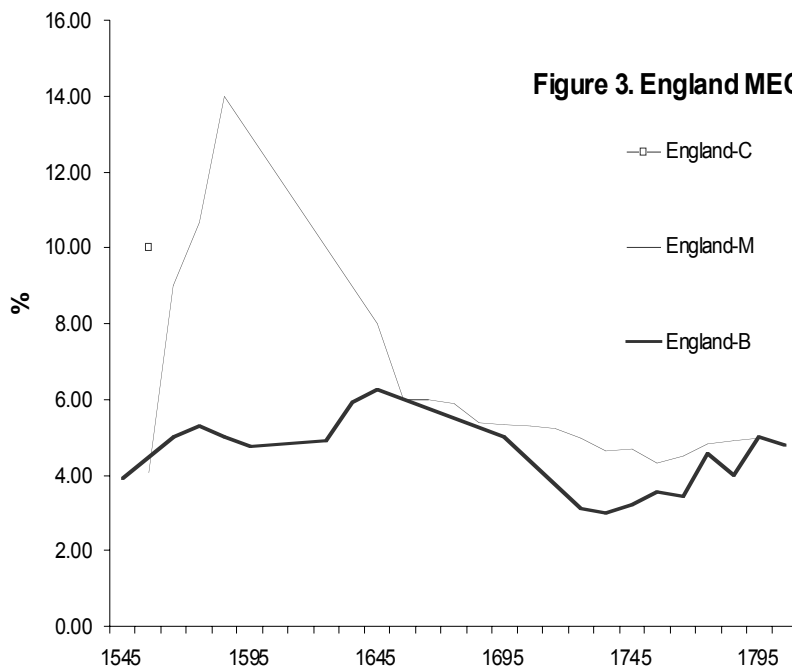


The 1540s in England as on the Continent, however, witnessed a major transformation of the market as inflationary pressures induced lenders to enhance rates in line with contemporary price changes. Yet in England and the Netherlands, unlike in most of continental Europe, this trend was superimposed on another. Technological change in the English agrarian sector, following some twenty years after similar changes in the lands of the Lower Rhine, set in motion a process which, in enhancing incomes, from ca. 1575 caused base interest rates, even in “nominal” terms, to fall.<sup>35</sup> Agrarian change thus created conditions of cheap money within England and Lower Rhineland. It also created a major investment demand for that money. From about 1575, accordingly, the market situation was transformed as in England, at least, farmers and landowners began to offer rates of ca. 14% on mortgages, reflecting the returns that could be obtained by the first innovators in the new agrarian regime. Such pioneers enjoyed the best of both

<sup>35</sup> See on this first phase of technological change in England, Eric Kerridge, *The Agricultural Revolution* (London, 1967) and his *Agrarian Problems of the Sixteenth Century and After* (London 1969) whilst van Herman van der Wee in *Antwerp Market... II*, chapter 6, section B-1, pp. 166-176 deals with the earlier changes in the Low Countries.

old and new worlds. They made little contribution to total output, which continued to be dominated by traditional producers. The price level was thus unaffected. Unit costs, however, for the innovators were reduced markedly and profits accordingly were enhanced, allowing them to offer high interest rates to investors for the capital they required. As more and more farmers, attracted by these profits, innovated, however, output expanded and prices fell until in the second half of the seventeenth century with the achievement of total market domination prices fell towards the new low cost level and farmers could make only “normal” profits. Each new producer entering the business thus pushed down prices, profits, the rate of return on capital invested and the rate of interest on mortgages

During the initial phase of agricultural innovation, (1560-1610) investment in English agriculture was thus highly profitable, as farmers were able to offer rates of 10-14 per cent to venturers of capital on mortgages for the purposes of agricultural improvement. Nor did this rate fall rapidly as sustained population growth to 1650 allowed the consumption of marginal output whilst acute inflationary pressures sustained “nominal”



prices above their “real” level. Thus during the years 1560-1650 and particularly from 1560-1610 English agriculture attracted funds from all sectors in the economy. Merchants and manufacturers, whose products were overpriced on international markets and who were unable to compete with the specie exporter<sup>36</sup> for funding, could not make

<sup>36</sup> The bullion exporter, able to maintain his position by exploiting regional differentials in the purchasing power of specie, was able to develop an active import trade in raw materials and semi-fabricants from eastern and southern Europe. See for instance on the Dutch grain trade and even when war disrupted these

comparable returns in their own enterprises. They thus increasingly deployed their funds either directly or indirectly on the financing of estates for the purposes of agricultural improvement. Tudor and Stuart merchants might thus, as so often has been suggested, have had a desire to acquire landed status - but it was also a very profitable way of diversifying their investment portfolios. Indeed the capital markets of England and the lands of the Lower Rhine were incomparable in investment opportunities attracting, during the years 1590-1610, funding from South Germany.<sup>37</sup>

Yet, the situation was both ephemeral and unstable. Many who had taken up funds in conditions of rising prices from ca 1610-1640 subsequently, as prices fell, found that their previous profit margins were illusionary and got into difficulties. Some, by the exercise of extreme economy, extricated themselves from this difficult situation.<sup>38</sup> Others did not and the years 1640-1695 witnessed many foreclosures on mortgages, turning merchants into reluctant landowners at a time when the decline in interest rates on mortgage bonds was once more encouraging a counter-flow of money to the non-agrarian sector. Indeed, with the decline in interest rates on mortgage bonds from ca. 1640-1695 and their assimilation with base rates from ca. 1660, there was a wholesale search for new investment opportunities in the non-agrarian sector of the English economy and beyond.<sup>39</sup> Investors, when unimpeded by legal restrictions, thus once more found industry an attractive outlet for their money.<sup>40</sup> The great mercantile companies attracted a flood of would-be subscribers to take up their shares and, in attempting to secure capital gains by limiting equity issues whilst expanding their business on the basis of bond finance, initiated a frenetic series of “raids” aimed at opening up these companies to outsiders.<sup>41</sup>

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trades, diversification into privateering provided an alternative source of profit: : M van Tielhof, “Profits in the Dutch Grain Trade on the Baltic, 1550-1650” and M. t’Hart, “Booty, benefits and power” respectively, papers presented at 4<sup>e</sup> Journées Braudéliennes. NIAS-MHS seminar on “Early modern capitalism”, held at Wassenaar, 23<sup>rd</sup>-24<sup>th</sup> May 1997

<sup>37</sup> Reinhardt Hildebrandt, “The Effects of Empire...”, p. 73. The relevant sources about these almost unknown investments are quoted by the same author in “Interkontinentale Wirtschaftsbeziehungen und ihre Finanzierung in der 1. Hälfte des 17. Jahrhunderts”, in Herman Kellenbenz (ed.), *Weltwirtschaftliche und währungspolitische Probleme seit dem Ausgang des Mittelalters* ( Stuttgart and New York: Forschungen zur Sozial- und Wirtschaftsgeschichte Bd. 23. 1981), pp. 61-76. Because of the legal complexities involved in participation in the mortgage market, described in J. M. Holden, *The History of Negotiable Instruments in English Law* (London, 1955), it remained largely the preserve of native investors. The activities of foreigners were predominantly concerned with the shares of the great English chartered companies which, like their Dutch counterparts, were involved predominantly in exporting specie to exchange for cheap imports of raw materials and semi-fabricants.

<sup>38</sup> Eric A Hopkins, “Nobleman and His Debts: John, Second Earl of Bridgewater, 1622-1686” in Ian Blanchard et al. (eds.), *Industry and Finance ...* pp. 58-76.

<sup>39</sup> On such investments in the transport sector of the economy see John R Ward, *The Finance of Canal Building in Eighteenth-Century England* (Oxford, 1974)

<sup>40</sup> See for instance the unpublished paper of Ian Blanchard, “La loi minière anglaise 1150-1850. Une étude de la loi et de son impact sur le développement économique”, 2e partie, “Mythe, 1550-1850” presented at the Ecole des Hautes Etudes en Sciences Sociales, Paris, 1985. For other examples of such investment see n. 32 above.

<sup>41</sup> See eg. “Old” East India Company and the creation of the “New” and the Darien Companies discussed in W. R. Scott, *The constitution and finance of English, Scottish and Irish joint-stock companies to 1720* (Cambridge, 3 volumes, 1910-12) and K. G. Davies, “Joint-stock investment in the later seventeenth century”, *Economic History Review*, Second Series, IV (1952)

Other investors showed willingness to rollover short-term bill finance<sup>42</sup> to provide long-term investments in the plantation economies of the New World and thus found another outlet for their funds. But investment opportunities were limited and as the marginal efficiency of capital fell there began a frenzied struggle to find new investments in a situation which was aggravated by Dutch investors seeking outlets in England - much to the ire of Englishmen seeking ways to place their money.<sup>43</sup> The basic problem was that at the end of the seventeenth century the English and Dutch capital markets were awash with money and investors were accordingly prepared to put out their money on the most speculative of ventures.<sup>44</sup>

Nor did this situation change as that market underwent a basic restructuring during the early eighteenth century. Those proffering agricultural mortgages were again able at that time to offer a premium over base rate as a second phase of innovation transformed that sector.<sup>45</sup> Yet such was the fall in base rates and the relatively low returns to the innovator that interest rates on mortgage bonds continued to fall from their late seventeenth-century level. The amount of funding available for non-agrarian investment was enhanced again in a domestic market lacking investment outlets and in a situation where overseas investment opportunities were restricted by the continuing existence of bi-metallic premiums on exchange dealings. By the 1720s therefore conditions were again ripe for a new phase of acute speculative activity - the South Sea Bubble.<sup>46</sup> This, however, was merely a passing interlude in a market, which since the late seventeenth century was beginning to assume a new aspect, for as domestic opportunities failed to materialise investors began to look elsewhere. During the period 1670-1770 Anglo-Dutch merchants, working in co-operation with each other, now showed themselves quite willing to roll-over short-term bill finance to provide long-term investment in foreign agriculture and industry.<sup>47</sup> Initially observable in the Americas trades, with the removal

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<sup>42</sup> See eg. Jacob M. Price, *Capital and Credit in British Overseas Trade: the View from the Chesapeake, 1700-1776* (Cambridge, MA, 1980); K. G. Davies, *The Royal Africa Company* (London, 1957), pp.316-325 and his "The origins of the commission system in the West India trade", *Transactions of the Royal Historical Society*, Fifth Series, II (1952), pp. 89-108.

<sup>43</sup> On Dutch investment at this time see Charles Wilson, *Anglo-Dutch Commerce and Finance in the Eighteenth Century* (Cambridge, 1941), pp. 88-196; the articles of Alice Carter, "The Dutch and the English Public Debt in 1777" and "Dutch Foreign Investment 1738-1800" published in *Economica*, New Series, XX, Nos. 78 & 80 (1953) respectively and the exchange between the two authors in the *Economic History Review*, Second Series, XII, 2 (1960), pp. 434-444.

<sup>44</sup> An excellent example of this process is provided by Christine Macleod, "The 1690s Patents Boom: Invention or Stock Jobbing ? ", *Economic History Review*, Second Series, XXXIX, 4 (1986) which may be set in its general context by reference to D. W. Jones, *War and Economy in the Age of William III and Marlborough* (Oxford, 1988)

<sup>45</sup> Mark Overton, and Bruce M. L. Campbell, "Production and Productivity in English Agriculture, 1086-1871" as quoted by J. L. van Zanden in his paper "Pre-modern economic growth: the European Economy 1500-1800" presented at the 4<sup>th</sup> Journées Braudéliennes. NIAS-MHS seminar on "Early modern capitalism", held at Wassenaar, 23<sup>rd</sup>-24<sup>th</sup> May 1997.

<sup>46</sup> J. Carswell, *The South Sea Bubble* (London, 1960) and the studies of Julian Hoppit: *Risk and Failure in English Business 1700-1800* (Cambridge, 1987), pp. 132, 164 and "Financial Crises in Eighteenth-Century England", *Economic History Review*, Second Series, XXXIX, 1 (1986), pp. 47-8.

<sup>47</sup> Jennifer Newman, "Anglo-Dutch commercial co-operation and the Russia trade in the eighteenth century" in *The Interactions of Amsterdam and Antwerp with the Baltic Region 1400-1800. Papers presented at the third international conference of the 'Association Internationale d'Histoire des Mers Nordiques de l'Europe', Utrecht, August 30<sup>th</sup>-September 3<sup>rd</sup> 1982* (Leiden, 1983), pp. 95-104.

of bi-metallic impediments to the operation of foreign exchange markets in the 1730s, such investments became characteristic of many branches of European commerce. Bill rates on such foreign bourses as St Petersburg increasingly moved to the rhythm of English base rates.<sup>48</sup> The second third of the eighteenth century thus saw England and the Netherlands become major capital exporters, alleviating shortages abroad and providing necessary funding for the expansion of foreign industrial and commercial enterprises. By the end of the eighteenth century, in countries like Russia, it had become an axiom of economic policy making that,

“... the greatest part of our domestic industry was put into movement by the advances that the English make to us and which allow our peasants to be put to work...”<sup>49</sup>

Even as Count Strogonov penned these lines, however, the age of which he wrote was passing.

For more than two hundred years from ca. 1570-1790, conditions prevailing on the London and Lower Rhenish capital markets had influenced strongly international financial systems. Initially from 1570-1610/50 these markets had attracted funding from all over Europe to finance the process of economic growth within their respective domestic economies. Then from 1650/70-1790 as these domestic economies grew to maturity and the pace of innovation slackened the flow was reversed. A lack of investment opportunities at home henceforth caused investors to seek new outlets for their funds abroad.. Initially slowly and then rapidly with the removal of impediments to the operations of the foreign exchanges in the 1730s, English and Dutch capital exports grew providing much needed funding for the expansion of foreign industrial and commercial enterprises. During the years 1650/70-1790 a new pattern of Anglo-Netherlands overseas investment had been set but before it was fully realised in the period 1820-1870 the French wars, from 1792-1815, resulted in a brief interruption in the process. During these years, from 1792-1815 the recipient economies themselves began to mature whilst English capital markets felt the baleful effects of government intervention. Signs began to appear that far from maintaining its position as a capital exporter, Britain was again becoming a capital importer drawing finance during the years 1790-1820 from Russia, Holland and Prussia to fund commerce and industry which was starved of capital by the demands of a rapacious government.<sup>50</sup>

(b) “Continental Europe,” 1570-1610

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<sup>48</sup> Jennifer Newman, “‘A very delicate Experiment’: British mercantile strategies for financing trade in Russia, 1680-1780” in Ian Blanchard et al. (eds.), *Industry and Finance ...* pp. 115-141.

<sup>49</sup> *Vneshniaia Politika Rossii. Seriiia pervaiia, 1801-1815* (Moscow, 1965), IV, p.108 as quoted in B. V. Anan'ich and S. K. Lebedev, “Russian Finance during the French Revolution and the Napoleonic Wars”, paper presented to session B1, “Economic Effects of the French Revolutionary and Napoleonic Wars” of the Tenth International Congress of Economic History, Leuven, 19-24 August 1990

<sup>50</sup> On Dutch capital imports at this time see the unpublished paper of E. S. Brezis, “International Capital Flows During the Eighteenth Century: Did Holland Finance the British Industrial Revolution ?” and on Russian financing of British foreign trade Jennifer Newman, “ ‘A very delicate Experiment’ ...” p. 135.

As in “Maritime Europe,” from ca. 1545/65-1610, monetary systems were totally transformed as vast quantities of Central- and South American silver and gold entered the “Continental European” economies, sufficient in size to fundamentally alter stock levels in recipient areas and accordingly the exchange relationship between specie and other commodities. One of the first casualties of these changes was the European precious metals industry. The rise in input prices (measured in terms of silver) relative to those of the industry’s final outputs ensured that silver production would decline.<sup>51</sup> During the century, 1545/65-1645 indigenous supplies of precious metals were steadily yet relentlessly displaced by imports from the Americas. The Continental European specie market was 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 European production long-cycle, the impact of regional mining booms once again became highly localised. Increased Thuringian silver production resulted in the establishment of “hard” money on the markets of the Lower Rhine region but not on those of the Upper Rhine where falling Tirolean output caused a series of debasements. Stock levels 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 monetary stock levels in an essentially local context. Continental European monetary stock levels became increasingly dominated by American silver. This established a new distribution pattern of the precious metal across these lands.

Henceforth during the years 1545/65-1645 as one passed west to east across the continent the purchasing power of specie in terms of commodities steadily increased. In the North-west (Bruges-Ghent, Utrecht, Amsterdam; Exeter, London and Winchester, and Paris) those possessing silver could buy relatively little with it. By carrying their coins to Germany (Munich, Leipzig, Frankfurt and Würzburg) they could buy much more. If they passed further eastward (Vienna, Weyer and Wels or Krakow, Warsaw and Lwow) the purchasing power of their silver was phenomenal.<sup>52</sup> Moving from west to east across the continent, at constant 1540 factor-product prices and mixes, similar commodities could be produced and sold for progressively smaller amounts of specie.

### **Poland and the Baltic Trades.**

These changes fundamentally altered the position of the Hanseatic League towns in European commerce. Existing studies suggest that during the course of the sixteenth century they underwent a protracted process of political decline as their commerce, although steadily expanding, proportionally ceded ground to Netherlands and English competitors.

Indicative of these changes were alterations in the fortunes of the Danzig and Lübeck merchants. The intra-Baltic commerce of these towns at this time increased some 2-3.5-

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<sup>51</sup> See note 13 above and Ian Blanchard, *Russia’s ‘Age of Silver’. Precious-metal Production and Economic Growth in the Eighteenth Century* (London, 1989), chaps 1-2, pp. 3-58; Frank Spooner, *The International Economy and Monetary Movements in France, 1493-1725* (Cambridge, Mass., 1972), pp. 25f., 59.

<sup>52</sup> Fernand Braudel & Frank Spooner, “Prices in Europe from 1450-1750” ... pp. 470-473.

fold. Traffic between western Europe and the Baltic, passing eastwards through the Sound, increased almost 6-fold (figure 4).<sup>53</sup> During the 1490s, Danzig and Lübeck ships entering Baltic ports had each equalled or even surpassed in number those arriving from western Europe. A century later they were heavily outnumbered. During the sixteenth century, the Danzigers, like their Lübeck counterparts, had thus enjoyed a steady if unspectacular expansion in what remained essentially a “traditional” intra-Baltic commerce.

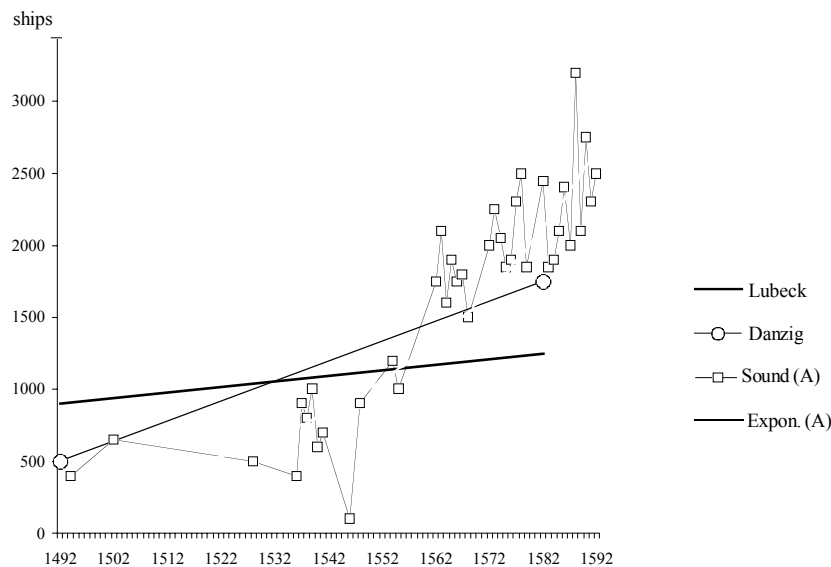


Figure 4. Baltic Trade, 1491-1591

As that century drew to its close, the vastly greater part of their activity (80%) still involved the transportation of bulk cargoes from the city’s maritime hinterland to their homeport for processing. These processed commodities, together with imported Swedish wares (copper, iron and butter), were then re-exported eastwards to Livonia and the ports of the Gulf of Finland from whence the ships returned with cargoes of hides and furs. Such long-distance trade made up only about 20% of the city’s intra-Baltic commerce. In the course of the sixteenth century it was, moreover, eclipsed by the bulk-trade from Prussia and Poland to the West.<sup>54</sup> This bulk trade was also a trade in which, western

<sup>53</sup> Danzig 1490-1492 Wojewodskie Archiwum Panstwowe w Gdansk, Komora Palowa, *Pfahlkammerrechnung*. 300, 19/7; 1583 ibidem 19/12. Lübeck 1492-6, Friedrich Bruns, “Die Lübeckischen Pfundzollbücher von 1492-1496”, *Hansische Geschichtsblätter*, XI (1904/5), pp. 109-31; XIII (1907), pp. 457-99 and XIV (1908), pp. 357-407. Lübeck 1579-81, Pierre Jeannin, “Le commerce de Lübeck aux environs de 1580”, *Annales. ESC.*, XVI, 1 (1961), pp. 36-65. Traffic through the Sound. Nina E Bang, *Tabeller over Skibsfart og Varetransport gennem Øresund, 1497-1660*, 2 vols in 3 (København & Leipzig, 1906-33) and Pierre Jeannin, “Les comptes du Sund comme source pour la construction d’indices généraux de l’activité économique en Europe (XVIe-XVIIIe siècle)”, *Revue Historique*, Nos. 470-1 (1964).

<sup>54</sup> Antoni Maczak, “Der polnische Getreideexport und das Problem der Handelsbilanz (1557-1647)” in I. Bog (ed.), *Der Aussenhandel Ostmitteleuropas 1450-1650. Die ostmitteleuropäischen Volkswirtschaften in ihren Beziehungen zu Mitteleuropa* (Köln-Wien, 1971) and Arthur Attman, *The Russian and Polish*

merchants displaced native Danzigers as the century progressed and the Lübeckers were virtually totally excluded.<sup>55</sup> Increasingly ousted from participation in the dynamic bulk trade between Danzig-Elbing and the West and confined to the much slower-growing traffic within intra-Baltic commercial systems, merchants of the Hanse yielded both political and commercial influence to western rivals during the sixteenth century.

Baltic commerce can thus be perceived in terms of two independent commercial systems centred on Danzig and Lübeck. Through a series of local trade networks their merchants gained entry to the full range of Baltic ports. By way of the links between Danzig-Antwerp and Lübeck-Leipzig, which were forged in the 1490s, they also obtained access to western and central European commercial and financial systems.<sup>56</sup> For a brief interlude, from 1497 to 1504, the two Baltic trading systems had been linked into a unitary capital market structure but thereafter movements in the price of commercial credit at Leipzig and Antwerp had fluctuated inversely. At first, between 1505 and 1526, Antwerp's Baltic trade felt the benefits of cheap money before a fall in rates at Leipzig from 1527 to 1542 favoured Lübeck. Each displacement of activity between the two bourses in the years to ca 1542, however, saw interest rates on the exchange fall to a lower level than before and the volume of commercial activity through these centres increase. Nor did this pattern of spatial displacement in activity subsequently change. Periods of intense commercial activity at Leipzig (in 1545-1555 and 1565-1595) continued to alternate with similar phases at Antwerp (in 1542-1545 and 1555-1565). >From ca. 1545, however, in as far as this activity was related to conditions on central European exchange markets, it took place in conditions where "monetary" rather than "real" factors shaped changes in interest rates. Between 1542-1595 at Leipzig commercial activity was played out against a background of long-term stable "real" interest rates. At Antwerp, on the other hand, the situation was somewhat different. Here in 1527/8 both conjunctural and structural changes in the city's money markets presaged a similar fate. However, the integration of the city into the new financial system of Seville-Medina del Campo prevented Antwerp suffering the same long-term fate, which befell Leipzig. Henceforth, the changing fortunes of the Indies fleet dominated exchange operations in the city and the influence of central European mining activity weakened. As trade cycle followed trade cycle (in 1527-1542, 1537/42-1565 and 1565-1595) potentially the stage now seemed set for a long-term fall in interest rates and an increase in commercial activity.

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*Markets in International Trade, 1500-1650* (Göteborg: Meddelanden från Ekonomisk-historiska institutionen vid Göteborgs universitet, No.26. 1973)

<sup>55</sup> At Königsberg for instance the Lübeckers constituted only 7% of total trade and 1% of the salt trade. Pierre Jeannin, "L'activité du port de Königsberg dans la seconde moitié du XVI<sup>e</sup> siècle", *Bulletin de la Société d'histoire moderne*, 12<sup>e</sup> série, V (1958). Their activities were largely confined to the import of high-value wares of Central German and Mediterranean origin.

<sup>56</sup> See eg. on Lübeck's trade via Leipzig to Nürnberg: Cl. Nordmann, "Nürnberger Großhändler in spätmittelalterlichen Lübeck", *Nürnberger Beiträge zu den Wirtschafts- und Sozialwissenschaften*, XXXVII-XXXVIII (1938) and Ekkehard Westermann, "Zu den verwandtschaftlichen und geschäftlichen Beziehungen der Praun, Froler und Mulich von Nürnberg, Erfurt und Lübeck in der zweiten Hälfte des 15. Jahrhunderts", in N. Bestmann, F. Irsigler and J. Schneider (eds.), *Wirtschaftsgeschichte und Personengeschichte. Festschrift für Wolfgang von Stromer* (Trier, 1987) and on Danzig's trade with Antwerp, Pierre Jeannin, "Les relations économiques des villes de la Baltique avec Anvers au XVI<sup>e</sup> siècle", *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, Bd 43, Heft 3-4 (1956).

>From its inception, however, the new system was subject to major changes, which initially altered its structure and ultimately brought about its demise. 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 Amsterdam.<sup>57</sup> Yet the effects of the American silver boom were not confined to a geographical restructuring of European capital markets for, as increasing supplies 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. Even before the Iberian trade boom of 1537/42-1565 ran its course the 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. 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 greater 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, with "monetary" rather than "real" factors exerting a dominant influence on their decision making. Finance costs, including those for commercial credit, rose and from 1554-65 trade declined, ushering in a crisis which marked the end of one age and the beginning of another.

Henceforth, from ca. 1565-1610, Lübeck merchants continued to draw on the financial market of Leipzig. The commodities of South Germany and the Mediterranean still passed northward to that city. There, with respect to eastern Baltic markets "real" factor price changes, moreover, opened possibilities for merchants to develop new business strategies. To the east "real" wages were lower than in Lübeck but "real" capital costs remained far higher. Accordingly in the aftermath of the crisis there was a basic restructuring of production patterns within the region. "Cheap" imported raw materials could be processed by capital intensive techniques for re-export eastward. With the products of South Germany and the Mediterranean, these re-exports of domestically processed raw materials accordingly entered intra-Baltic trade.<sup>58</sup> Commercial activity thus, as suggested above, continued as before, but at a much-reduced level relative to that now emanating from the West. The primary focus of trade had shifted elsewhere - to Amsterdam and London, which now displaced Antwerp as the financial and commercial metropoli of the West. Here the transformation of domestic capital markets now attracted merchants to these cities to avail themselves of cheap commercial credits. Effective bullion markets, tapping the wealth of the Indies, also afforded them the opportunity to acquire a prime exportable commodity - specie. A new trade therefore emerged, particularly in the Baltic, which had suffered from acute shortages of specie since ca 1540. The prevailing differential purchasing power of specie in East and West made the eastern commodities phenomenally "cheap." It thus became highly

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<sup>57</sup> See, for a preliminary outline of the evidence on this subject Herman van der Wee and Ian Blanchard "The Habsburgs and the Antwerp Money Market: the Exchange Crises of 1521 and 1522-3" in Ian Blanchard et al. (eds.) *Industry and Finance in Early Modern History...*, pp. 27-30.

<sup>58</sup> E. Harder-Gersdorff, "Lübeck, Danzig and Riga", *Hansischer Geschichtsblätter*, XCVI (1978).

advantageous to export the precious metal to obtain “cheap” commodities and, consequently, commerce expanded rapidly from ca. 1565-1610, but always to the tempo of American specie production and trade.<sup>59</sup>

### **South Germany and East-central Europe.**

In South Germany the situation was not significantly different. Here (at Augsburg), in the aftermath of the Imperial and French State bankruptcies, “monetary” rather than “real” factors shaped changes in interest rates.<sup>60</sup> “Real” wages fell in the years to 1645, but by far less than in England and the Netherlands.<sup>61</sup> Accordingly, in spite of specie purchasing power differentials, because of technologically induced productivity changes, unit factor costs and commodity prices (measured in terms of silver) remained in the Northwest below those of the South Germany.<sup>62</sup>

Consequently, after the financial crisis of 1564, trade in Anglo-Netherlands manufactures, and textiles in particular, continued to expand. Passing now via Emden, Stade or Hamburg, such wares, finished and dyed at Nürnberg,<sup>63</sup> could still be vended in increasing quantities to consumers in Germany and Central Europe - at least until ca. 1610.<sup>64</sup> South German wares, produced by traditional methods, could not be as easily sold, however, on the markets of north-western Europe. Nor were such wares any more easily vended on the markets of northern (Baltic), central- or south-eastern Europe. The weavers and artisans, the bleachers and clothiers of South Germany were all confronted with major difficulties on these markets. Suffering from a sales crisis with decreasing prices (measured in terms of silver), most of them put up a fierce resistance to any alteration in their traditional mode of production<sup>65</sup> They just could not understand why their well-known, high-quality products were no longer in the same demand as before.

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<sup>59</sup> See amongst many other works eg. Antoni Maczak, “Der polnische Getreideexport und das Problem der Handelsbilanz (1557-1647)” and Maria Bogucka, “Die Bedeutung des Ostseehandels für die Aussenhandelsbilanz Polens in der ersten Hälfte des 17 Jahrhunderts” in I Bog (ed.), *Der Aussenhandel Ostmitteleuropas 1450-1650. Die ostmitteleuropäischen Volkswirtschaften in ihren Beziehungen zu Mitteleuropa* (Köln-Wien, 1971), Antoni Maczak, “Zusammenhänge zwischen Fernhandel und ungleichmässiger Entwicklung polnischer Wirtschaftsgeschichtegebiete im 16 und 17 Jahrhundert”, *Jahrbuch für Wirtschaftsgeschichte*, III (1971) and “The Balance of Polish Sea Trade with the West”, *Scandinavian Economic History Review*, XVIII (1970); Maria Bogucka, *Handel zagraniczny Gdanska w pierwszej polowie XVII wieku* (Wrocław, 1970)

<sup>60</sup> Reinhard Hildebrandt, “The Effects of Empire...”, pp. 59-65; table 2.1, p. 74.

<sup>61</sup> Fernand Braudel & Frank Spooner, “Prices in Europe from 1450-1750” ... p. 482.

<sup>62</sup> If wheat remained cheaper in the German lands, meat was not. Nor were most manufactures (bricks, wool, flax and textiles). Ibidem, pp. 477-479

<sup>63</sup> Indigenous woolen cloth production at Nürnberg had collapsed in the 1550s, H. Sakuma, *Nürnberger Tuchmacher, Weber, Fäber und Bereiter vom 14. bis 17. Jahrhundert*. (Nürnberg, 1993), pp. 318 f.

<sup>64</sup> W. R. Baumann, *The Merchant Adventurers and the Continental Cloth Trade, 1560s to 1620s* (Berlin and New York, 1990), pp. 305 ff; Barry Supple, *Commercial Crisis and Change* (Oxford, 1964), pp. 52 ff; W. G. Endrei, “English Kersseys in Hungary”, *Acta Historica*, XXI (1975), pp. 123-152.

<sup>65</sup> Claus-Peter Clasen, *Die Augsburger Weber. Leistungen und Krisen des Textilgewerbes um 1600* (Augsburg: Abhandlungen zur Geschichte der Stadt Augsburg, Bd. 27, 1981), pp 237-260, 308-317

The sales crisis of the 'seventies resulted primarily from a basic restructuring of continental European markets. To the Northwest the Antwerp market collapsed,<sup>66</sup> extending conflicts in the Netherlands hampered traffic by land and sea and made trade with that region dangerous, even impossible. Nor did the subsequent shift in the focus of commercial activity to Amsterdam significantly alleviate the situation for the South German producer. As has been suggested, in spite of specie purchasing power differentials, technologically induced productivity changes by reducing unit factor costs and commodity prices (measured in terms of silver) allowed indigenous Anglo-Netherlands producers to consistently undercut those of their South German rivals. On the markets of northern, central or south-eastern Europe the South German producer was confronted with a not dissimilar situation. Here falling commodity prices (measured in terms of silver) allowed domestic producers to undercut imported products, causing the South German merchant houses to increasingly ship only specie or textiles of inferior quality, like raw fustians in small pieces, thence.

With respect to the central-, south-eastern European markets, however, "real" factor price changes opened possibilities for the development of new business strategies. To the east "real" wages were lower than in the South German lands but "real" capital costs remained far higher. Accordingly in the aftermath of the 'seventies crisis there was a basic restructuring of production patterns within the region. In the lands of central-, south-eastern Europe cheap labour but expensive capital encouraged the extensive production of raw materials and semi-fabricants, providing basic staples, which found a ready market in South Germany. Hungarian cattle played a strategic role in the provisioning of the towns there. Bohemian malt was brought to Nürnberg. Honey from Hungary and lands further east was brought in great quantities via Wien for sale in upper Germany and upper Italy. Further grain, cattle and wine passed from the Austrian lands not only to Nürnberg and Augsburg, but also served to provision the western Austrian mining centres. The greatest exporter of provisions from Lower Austria to Tirol in these years was the Fugger.<sup>67</sup>

Through the same trading systems to the east and south the South German producers also received cheap supplies of raw materials and semi-fabricants. The "real" price of textile raw material imports (flax at Frankfurt and Augsburg; wool and cotton at Leipzig) fell markedly over these years.<sup>68</sup> Secure in supplies of cheap raw material, Augsburg production once more expanded. The numbers of master weavers in the city increased between 1536 and 1601 from 1,451 to 2,763 (including 598 who did not possess a loom). By the latter date, this group made up 21.5% of all taxpayers and ca. 43% of all master craftsmen.<sup>69</sup> In the smaller imperial city of Memmingen numbers increased between

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<sup>66</sup> See Geoffrey Parker, *The Dutch Revolt* (London, 1977) and the same author's "War and economic change: the economic costs of the Dutch Revolt" in *War and Economic Development. Essays in Memory of David Joslin* (ed.), J. M. Winter (Cambridge, 1975), pp. 46-71.

<sup>67</sup> Erich Landsteiner, "Wirtschaftliche Integration und frühneuzeitliche Staatsbildung im mittel- und südosteuropäischen Raum, 1450-1650," p. 21 Discussion paper for Session C4: "Patterns of political and economic integration in central and southeast-central Europe 15<sup>th</sup>-17<sup>th</sup> centuries" at Economic History Congress in Seville 1998.

<sup>68</sup> But remained consistently above the prices of such wares imported by sea to Amsterdam and London. Fernand Braudel & Frank Spooner, "Prices in Europe from 1450-1750" ... p. 481.

<sup>69</sup> Claus-Peter Clasen, *Die Augsburger Weber...* pp. 9-20.

1583-1607 from 258 to 380.<sup>70</sup> In Augsburg output of fustians more than doubled. Productivity seems also to have advanced, as from 1536 and 1601 the number of weavers rose by 90.4% but total production increased by nearly 165%. Thus in Augsburg such production growth rested on enhanced productivity and imports of increasingly cheap raw materials. In Nürnberg merchants' factors, by negotiating increasing numbers of forward contracts with producers in northern Bohemia, Saxony-Silesia and Upper Austria, obtained a growing volume of cheap raw linens for finishing in their home city.<sup>71</sup> In both cases, by utilising relatively cheap capital to exploit regional specie purchasing power differentials, textile manufacturers were able to obtain low cost raw materials to which a skilled, and increasingly productive, labour force then added value. A similar situation, moreover, prevailed in the Nürnberg metallurgical industries. In this instance relatively low cost iron and steel, in either a raw or half-finished state, from the Styrian Erzberg (Innerberg) was imported by members of the "Gesellschaft der Steyer Eisen und Stahlhändler" in increasing quantities to that city during the last quarter of the sixteenth century. Again the funding of this operation was largely (40%) provided by the Nürnbergers. Again, on receipt a highly skilled workforce transformed the raw materials and semi-fabricants into armaments.<sup>72</sup> In such ways the South German merchant houses were able to provide themselves with wares which, if not saleable on the markets of the North-west, they could now vend in northern, central-, south-eastern Europe.

That merchant group itself, moreover, made its own contribution to the ensuing production-trade boom to northern, central-, south-eastern Europe during the years ca. 1580-1610. It entirely altered its structure. Only a few of the old well-known families like the Fugger, Welser, Imhof and Rehlinger carried on their business into the seventeenth century. Most of the old families withdrew from business, invested their wealth in landed property and/or enlarged their real estate in their hometown, often filling a life-long seat on the city council there. Some lived like country gentlemen or even tried to become ennobled.<sup>73</sup> New families, however, now entered the front ranks of the group in their place.<sup>74</sup> New forms of commercial organization also appeared. Unlike the well-known firms, in the first half of the century, with their strictly centralized organization, and many factors all over Europe, sometimes even overseas, the "new generation" amalgamated into several medium-sized, separate firms with only a limited number of their own factors, but co-operating the one with the other. By such means overheads were

<sup>70</sup> A Westermann, "Zur Geschichte der Memminger Weberzunft und ihrer Erzeugnisse im 15. und 16. Jahrhundert", *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, Bd. 12 (1914), pp.385-403. 567-592. On the textile industry of the imperial city of Nordlingen see Ch. R. Friedrichs, *Urban Society in an Age of War: Nordlingen, 1580-1720* (Princeton, 1979), pp. 73-94, 312-320.

<sup>71</sup> G Aubin & A Kunze, *Leinenzeugung und Leinenabsatz im östlichen Mitteldeutschland zur Zeit der Zunftkaufe* (Stuttgart, 1940) and H. Marschall, "Der Handel der Stadt Wels im 16. Jahrhundert bis zum Bauernkrieg" in *Jahrbuch der städtischen Museums zu Wels*, 1935, pp. 58 f.

<sup>72</sup> Erich Landsteiner, "Wirtschaftliche Integration...", p. 22

<sup>73</sup> Reinhard Hildebrandt, *Die "Georg Fuggerischen Erben"*, *Kaufmännische Tätigkeit und sozialer Status 1555-1600* (Berlin: Schriften zur Wirtschafts- und Sozialgeschichte, Bd. 6, 1966), pp. 51-7, 146 and by the same "The Effects of Empire...", p. 67.

<sup>74</sup> Reinhard Hildebrandt, "I 'merchant bankers' della Germania meridionale nell' economia e nella politica del XVI e el XVII secolo" in *La repubblica internazionsle del denaro tra XV e XVII secolo* (eds) Aldo de Maddelena & Hermann Kellenbenz (Bologna: Annali dell' Istituto storico italo-germanico Trento, XX, 1986), pp. 224-228; Götz, Freiherr von Pölnitz, *Anton Fugger* (Tübingen: Studien zur Fuggergeschichte, 3 vols. in 5 parts, 1958-1986). Vol 3/2 in collaboration with Hermann Kellenbenz, pp. 429-433.

reduced and the rate of capital turnover increased, thereby reducing transactions costs and permitting them to effect reductions in the final sales price of their wares.<sup>75</sup>

By a transformation of both production base and commercial organization, the South German merchant banking houses had, in the aftermath of the 1570's crisis, laid the foundations for a major production-trade boom to northern, central and south-eastern Europe during the years ca. 1580-1610.

Then suddenly during the years 1598-1610 the boom aborted. At this time the import of English cloths and particularly the ubiquitous kersey, which had passed in large quantities through Nürnberg and Wien during the late sixteenth century, collapsed.<sup>76</sup> No less affected were the trades in provisions - lower Austrian wines,<sup>77</sup> Hungarian cattle<sup>78</sup> - and raw materials - Styrian iron and steel<sup>79</sup> - from central and south-eastern Europe and the reciprocal trade in textiles<sup>80</sup> and weapons thence.

### (c) "Continental Europe," 1610-1770

*Monetary Stock Dis-equilibration.* In part, the crisis of 1598-1610 arose from yet another restructuring of European specie markets associated with major monetary disorders - the Kipper und Wipperzeit.<sup>81</sup> Underpinning these changes was a decline in supplies of silver from the Americas<sup>82</sup> which, in enhancing the price of that metal triggered a series of monetary movements. Rapid economic growth in England and the Netherlands, in causing those nations to retain an increasing share of declining American specie imports, resulted in a collapse in the re-export of these metals. Within "Maritime Europe" commerce in specie, particularly in the Baltic and Mediterranean trades, dwindled.<sup>83</sup>

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<sup>75</sup> Reinhard Hildebrandt, "The Effects of Empire...", p. 72.

<sup>76</sup> W. R. Baumann, *The Merchant Adventurers ...* pp. 305 ff; Barry Supple, *Commercial...* pp. 52 ff; J. S. Gould, "The Trade Depression of the 1620s", *Economic History Review*, Second Series, VII, 3 (1954), pp. 81-90; W. G. Endrei, "English Kerses ... pp. 123-152.

<sup>77</sup> Erich Landsteiner, "Weinbau und bürgerliche Hantierung. Weinproduktion und Weinhandel in den landesfürstlichen Städten und Märkten Niederösterreichs in der frühen Neuzeit" in *Stadt und Wein*, (ed.), F. Opll (Linz/Donau, 1996), pp. 28, 50.

<sup>78</sup> Ian Blanchard, "The Continental European Cattle Trade, 1400-1600", *Economic History Review*, Second Series, XXXIX, 3 (1986), pp. 444, 457-8.

<sup>79</sup> Erich Landsteiner, "Wirtschaftliche Integration...", p. 22 and annex graph.

<sup>80</sup> As in the case of woollens these years saw the displacement of South German linens on the markets of Central-, South-eastern Europe: Sigismund P. Pach, "Zur Geschichte der Handelsbeziehungen zwischen Österreich und Ungarn im 15. und 16. Jahrhundert", *Mitteilungen des österreichischen Staatsarchives*, XXV (1972), pp. 244-256; Vera Zimányi, *Economy and Society in Sixteenth and Seventeenth Century Hungary, 1526-1650* (Budapest: Studia Historica Academiae Scientiarum Hungaricae, vol. 188, 1987), 28f.

<sup>81</sup> Charles P. Kindelberger, "The Economic Crisis of 1619 to 1623", *The Journal of Economic History*, LI,1(1991), pp. 149-175; Maria Bogucka, "The Monetary Crisis of the XVIIth Century and its Social and Psychological Consequences in Poland", *Journal of European Economic History*, IV (1975), pp. 137-152; Arno\_t Klima, "Inflation in Bohemia in the Early Stage of the 17th Century" in *Proceedings of the Seventh International Economic History Congress*, (ed.) Michael Flinn (Edinburgh, 1978), pp. 375-386; Gustav Schöttle, "Die grosse deutsche Geldkrise vom 1620-3 und ihr Verlauf in Oberschwaben", *Württembergische Vierteljahrshefte für Landesgeschichte*, NF. 30 (1921), pp. 36-57 and Robert Wuttke, "Zur Kipper- und Wipperzeit in Kursachsen", *Neue Archiv für Sächsische Geschichte und Alterstumkunde*, XV (1916), pp. 119-156.

<sup>82</sup> Ian Blanchard, *Russia's 'Age of Silver'...* pp. 3-8, 15-20, 24-29.

<sup>83</sup> Artur Attman, *Dutch Enterprise in the World Bullion Trade, 1550-1800* (Göteborg: Acta Regiae Societatis Scientiarum et Litterarum Gothoburgensis, Humaniora 23. 1983), pp. 59-94.

Within these regions silver prices rose. In the Baltic, within the Lower Saxon Circle (encompassing Lübeck, Hamburg, Rostock, Bremen, Braunschweig and Magdeburg), where from ca. 1590 the collapse of Saxon silver production exacerbated an already deteriorating situation, mints sprang up “like mushrooms after a warm rain”<sup>84</sup> and debased coinage “poured forth from them in avalanche proportions.”<sup>85</sup> In these circumstances, as silver prices rose, good Reich coins also left the country and light Polish, Dutch, Spanish and Hungarian coins flowed in. Similarly to the south, in Italy, as contemporaneously the specie import trades dwindled, silver prices rose and quantities of debased money passed northward from thence and Switzerland to South Germany from whence were drawn supplies of good Reich coins. The entry point for the northern Italian counterfeiters and those of Graubunden in Switzerland, especially the Bishop of Chur, was at Lindau on the Bodensee from whence the debased pieces passed via Strassburg to Swabia, Franconia and Bavaria.<sup>86</sup>

Germany and central-northern Poland from ca. 1590-1610 were drained of their good silver, which passing eastward and southward, allowed monetary stocks in the previously specie-short southern Polish (Lwów and Kraków) and Italian markets (Naples, Rome, Udine, Genoa and Sienna) to slowly increase. A reciprocal trade in lightweight, debased pieces flooded the German (Strassburg, Munich, Frankfurt, and Leipzig) and central-northern Polish (Warsaw and Lublin) lands and, becoming current therein, heavily reduced prevailing specie stock levels.<sup>87</sup> They also created acute monetary disorders. As mint vied with mint to obtain available supplies of specie the price of silver rocketed upwards, at centres like Augsburg, Nürnberg and Vienna rising from the already enhanced level of 1.5 florins per Reichstaler in 1616 to between 6.5-10 in 1621-2.<sup>88</sup> In these circumstances the “real” wages of market participants in centres like Augsburg deteriorated rapidly, falling by more than half from 1619 to 1621 and perhaps to a third in 1622.<sup>89</sup> Domestic markets collapsed. Peasants refused to deliver produce to the town or city unless they were paid in Reichstalers or received outrageous prices in coin. Craftsmen, such as shoemakers, potters, saddlers and ropemakers kept their goods at home, and the baker, butcher and fishmonger stopped bringing goods to the market.<sup>90</sup> As the inflation proceeded and the distribution of income and wealth became ever more skewed, riots broke out. The houses of exchange dealers were stormed in Brandenburg and Halberstadt, and in February 1622 a riot in Magdeburg involved several hundred people, leaving 16 dead and 200 injured.<sup>91</sup> In Kraków crowds clashed with the municipal council in 1622 and 1623 largely over monetary matters.<sup>92</sup> Some cities in Saxony forbade gatherings for fear of demonstrations after crowds stormed houses in various places in 1621.<sup>93</sup> Everywhere, both polity and economy were reduced to chaos.

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<sup>84</sup> Herbert Langer, *Kulturgeschichte des 30 jähriges Krieges* (Leipzig, 1978), p. 30.

<sup>85</sup> Gustav Schöttle, “Münz- und Geldgeschichte in ihren Zusammenhang mit der jenigen Schwabens,” *Württembergische Vierteljahrshefte für Landesgeschichte*, NF. 31 (1922-4), p. 84.

<sup>86</sup> *Ibidem*, pp. 78-80.

<sup>87</sup> Fernand Braudel & Frank Spooner, “Prices in Europe from 1450-1750” ... p. 471.

<sup>88</sup> William A Shaw, *The History of Currency* (London, 1898), p.103.

<sup>89</sup> Charles P. Kindleberger, “Economic Crisis...” p. 165

<sup>90</sup> Richard Gaettens, *Geschichte des Inflationen* (Minden, 2<sup>nd</sup> edition, 1986), p.88.

<sup>91</sup> Herbert Langer, *Kulturgeschichte...* p.119.

<sup>92</sup> Maria Bogucka, “Monetary Crisis...” p.146.

<sup>93</sup> Robert Wuttke, “Zur Kipper- und Wipperzeit...” p.150.

The acute debasements, however, provided their own solution to the prevailing problems. The rapid upward spiral in silver prices caused a reversal of coin flows. To the west, Burgundy and Champagne now received billon from Germany, surrendering up such silver as it possessed for a reciprocal trade eastward.<sup>94</sup> Southern Poland (Lwów) was similarly flooded with acutely debased German coins at this time, again surrendering up such silver as it possessed for a reciprocal trade to the north and west.<sup>95</sup> In these circumstances, it proved possible to achieve German and central-northern Polish (Lublin and Warsaw) monetary stabilization. As early as 1618 the Hanseatic cities, Hamburg and Lübeck, concluded a mint treaty. In 1620 they were joined by the Duke of Mecklenberg and by the city of Bremen in agreement with Wismar. The Reichstaler was initially set at 42 shillings (groschen) before being raised, three months later to 48. In 1621 the *Kreistag* at Luneberg set up a commission on minting policy and, on the implementation of its recommendations in 1623, the Kipperzeit in the Lower Saxon *Kreis* was ended, at the same time as stabilization was achieved in Upper Saxony.<sup>96</sup> In the latter *Kreis* many mints had stopped producing Kippergeld in 1622 and 1623 because its passers could get nobody to accept it. The Elector accordingly, on the advice of his fast reporting monetary commission, ordered a return to the standard of the 1559 Imperial Monetary Ordinance and began coining on that basis.<sup>97</sup>

Thus was stabilization achieved, and from ca. 1623-1635/55 the process of rebuilding the German and central-northern Polish monetary stocks continued apace.<sup>98</sup> As long as silver imports from the Americas dwindled, however, the situation was an unstable one. The rebuilding of the German and central-northern Polish monetary stocks was only achieved by denuding neighbouring countries of their remaining silver. The resultant rapid upward spiral in silver prices in these latter centres, however, raised the threat of a reversal of the prevailing coin flows. When this was finally realised, during the years 1635-1655, a second wave of disorders pervaded the German and central-northern Polish lands, acutely reducing the level of monetary stocks. In conditions of declining American silver imports, a distinct pattern of monetary instability had imposed itself on the specie markets of Germany and Central Europe. When the third and fourth production-cycles of the Central- and South American ran their course during the years 1653-1730, pushing output to even lower levels than before,<sup>99</sup> moreover, it appeared as though this pattern would become an endemic feature of monetary relations within the region. The new high level of silver prices, by encouraging a revival in the Central European silver industry,<sup>100</sup> however, ensured that this would not be the case. Born upon a flood of locally produced silver, from ca. 1655-1760 a new monetary stability prevailed in the German and Central European lands, but in very different conditions to those prevailing during the years ca. 1565-1610.<sup>101</sup> Such was the abundance of the white metal that, passing northward by way of the Elbe to Hamburg and Lübeck, it was once more exported. It passed either south towards the Low Countries or east, the latter flow

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<sup>94</sup> Frank Spooner, *Monetary Movements in France...* pp. 4, 9.

<sup>95</sup> Maria Bogucka, "Monetary Crisis..." pp. 141-143.

<sup>96</sup> Richard Gaettens, *Geschichte des Inflationen...* p.91.

<sup>97</sup> *Ibidem*, pp. 92-3.

<sup>98</sup> Fernand Braudel & Frank Spooner, "Prices in Europe from 1450-1750" ... p. 472.

<sup>99</sup> Ian Blanchard, *Russia's 'Age of Silver'*...pp. 20-22.

<sup>100</sup> *Ibidem*, pp. 50-54

<sup>101</sup> Fernand Braudel & Frank Spooner, "Prices in Europe from 1450-1750" ... pp. 470-1

allowing Lübeck merchants to increase their share of the lucrative Russia trade at the expense of the English and Dutch. Product markets were transformed. The Hanseatic towns ran an adverse balance of trade and exporting silver created a distinct monetary zone in the north. The German lands and those of eastern-central Europe as whole, however, whilst witnessing a closing of intra-regional silver purchasing power differentials, remained in much the same position with regard to North-western Europe as before.

In the latter region, diminishing silver flows from the Americas, creating shortages during the years ca. 1655-1760, and enhancing free market silver prices, caused a diminishing flow of silver for coining as mint prices lagged. As supplies of gold increased during these years, on the other hand, and prices fell, more of that metal was minted. The previous de facto silver mono-metallism gave way to a true bi-metallic system embracing both metals. This tendency already apparent during the first ‘crisis’ of 1625-55, became particularly pronounced during the second, although as during the years 1670-1720 European traders scrabbled for available supplies of gold, mint masters were forced to enhance both metals’ mint price in an attempt to alleviate overall short-term supply deficiencies. By the 1720s, however, the North-western European crisis was over, and, as monetary stocks once more began to grow, the value of silver relative to gold was increased, and the bi-metallic ratio, which had risen over the previous half century from 14.25 to 15.5:1 fell from that level to 15.1:1.<sup>102</sup> In no case, however, amongst the nations receiving Spanish or Portuguese gold was the adjustment sufficient and silver remained grotesquely undervalued, causing a collapse in the minting of that metal. The impact of these changes was dramatic and nowhere more so than in the United Provinces.<sup>103</sup> Down to 1720 a de facto silver mono-metallism had reigned therein, the gulden providing the basic circulating medium. Then steadily as free market silver prices rose and gold prices fell, the country was denuded of its coinage. Where once there had only been silver, gold now stood in its place, causing merchants to demand the gold ryder as their standard or at least requiring a statement as to the tenderability of the ducat.<sup>104</sup> In these circumstances, whilst domestic prices quoted in terms of gold stabilized, export prices to the German lands and those of eastern-central Europe, which were measured in terms of silver at rates which were in excess of the official 15.1:1 bi-metallic ratio, were markedly enhanced. Again, a widening silver purchasing power differential was created between the two regions.

*Fiscal Policy and Capital Market Changes.* German and eastern-central European manufacturers and merchants thus during the years ca. 1655-1760 found themselves in a very different situation to that of the years ca. 1565-1610. In their intra-regional relationships, as far as “monetary” factors were concerned, they now operated on what was essentially a level playing field. Their fortunes were increasingly shaped by “real” rather than “monetary” changes.

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<sup>102</sup> Ibidem, pp. 458-9.

<sup>103</sup> On these changes which have attracted a considerable literature, see the brief summary in Kristof Glamann, “The Changing Patterns of Trade”, *Cambridge Economic History of Europe* (Cambridge, 1977), V, pp. 263-4.

<sup>104</sup> Ian Blanchard, *Russia’s ‘Age of Silver’*...p. 31

In terms of capital markets, at least until ca. 1610, in the German lands, base interest rates continued to fluctuate about the 4-5 % norm (figure 1). Those wishing to secure investment funding, however, in the late sixteenth century found themselves operating in a market wherein government intervention was increasingly becoming the order of the day.

In the aftermath of the Peace of Augsburg (1555) increasing co-operation between the imperial Estates and the Emperor paved the way for the regular granting of subsidies, *Römermonete*. These were destined for the fight against the Ottoman invaders in central-, south-eastern Europe, even though Hungary and Transylvania were not part of the Holy Roman Empire.<sup>105</sup> Until that time, this particular subsidy had played only a minor role in imperial finances. From 1519-1555 73.5 *Römermonete* amounting to some 4.8 million florins had been granted. From 1556-1603 the figure increased to 409 *Römermonete*, worth 26.5 million florins and if to this special subsidies from the imperial nobility and even from some foreign principalities are added one arrives at a total sum of some 30.8 million florins.<sup>106</sup> The incidence of direct taxation within the Habsburg lands, particularly during the “Long Turkish War” (1593-1606), rapidly increased (figure 5).<sup>107</sup>

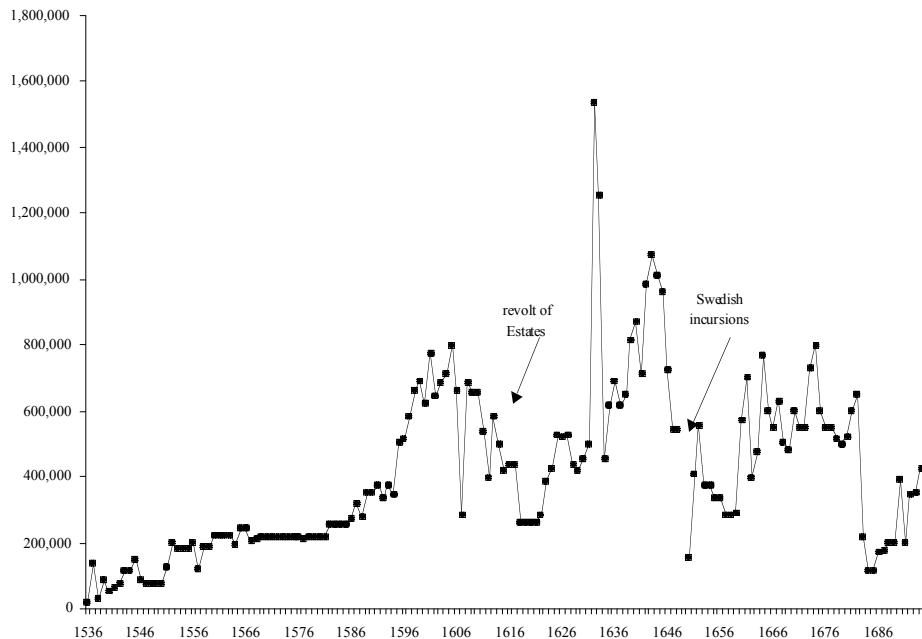


Figure 5. Incidence of direct taxation within the Habsburg lands

<sup>105</sup> The remainder of this paragraph is based upon Reinhard Hildebrandt, “The Effects of Empire...”, pp. 68-70. Footnote references, as here, indicate works of particular importance. W. Schulze, *Reich und Türkengefahr im späten 16. Jahrhundert. Studien zu den politischen und sozialen Auswirkungen einer äusseren Bedrohung* (Munich, 1978), pp. 21-66, 81-110 and 360-363.

<sup>106</sup> W. Schulze, “Die Erträge der Reichssteuern zwischen 1576-1606,” *Zeitschrift für Geschichte Mittel- und Osteuropas*, XXVII (1978), p. 178 ff.

<sup>107</sup> Illustrative of this increasing incidence of direct taxation are the taxes conceded by the Lower Austrian Estates during the years 1536-1695 (including the indirect tax on the consumption of alcoholic drinks farmed by the Estates) : NÖLA., SA., Ständische Akten B 4-17/1-2. I should like to express my gratitude to Erich Landsteiner for affording me access to these materials.

Also the emperor's finance department came soon to regard the subsidies almost as ordinary revenue, whose management required the services of the south German merchant banking houses. Subsidies had to be transferred from all over the Empire - and in the case of foreign subsidies even from abroad - to the imperial treasurers at Augsburg and Leipzig or to the imperial court (Wien/Prague). Their incidence was, moreover, temporally irregular, generally being paid in half yearly instalments over four or five years and, accordingly, it became necessary to anticipate the moneys by raising interim loans redeemable from outstanding instalments. The transfer business and credit operations thus resulting from the subsidies required permanent access to the money market, a far-reaching network of financial relations, and an efficient business organization. The south German merchant bankers could meet these requirements best, particularly as the Imperial Diet always met at one of the free cities in southern Germany (above all at Regensburg or Augsburg). As the burden of direct taxation thus increased, the involvement of the south German houses in Habsburg financial affairs also grew - at least until 1608

Nor when, during the period of the "Long Turkish War" (1593-1606), the south German 'merchant bankers' diverted available funding from the private to the public sectors of the economy, were private enterprises denied alternative sources of capitalisation. The onset of acute deflationary pressures in the Italian economy,<sup>108</sup> in undermining the profitability of domestic enterprises,<sup>109</sup> resulted in a flight of capital as Italian 'merchant bankers' sought out new investment opportunities in Germany and the lands of east-central Europe.<sup>110</sup> During the course of the war their control of the Hungarian cattle trade was such that by diverting some 30% of supplies to Venice they undermined the provisioning of Wien and Upper Germany, much to the chagrin of the citizens who vented their wrath on the Venetian merchant then settled in Wien.<sup>111</sup> In Prague these years also saw them displace the Nürnbergers in the economic life of the city.<sup>112</sup> In Kraków at the end of the sixteenth and beginning of the seventeenth centuries they assumed a position of dominance in the trade of the city.<sup>113</sup> Their presence is even

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<sup>108</sup> Fernand Braudel & Frank Spooner, "Prices in Europe from 1450-1750" ... p. 470

<sup>109</sup> Dominic Sella, "The Rise and Fall of the Venetian Woollen Industry" in B Pullen (ed.), *Crisis and Change in the Venetian Economy of the Sixteenth and Seventeenth Centuries* (London, 1968) and the same author's *Commerci e industrie a Venezia nel secolo XVII* (Venice-Rome, 1961); M Carmona, "Sull' economia toscana del '500 e del '600", *Archivio storico italiano*, CXX (1962) and R Romano, "A Florence au XVII<sup>e</sup> siècle. Industries textiles et conjuncture", *Annales E.S.C.*, No.7 (1952).

<sup>110</sup> Helfreid Valentinitich, "Italienische Unternehmer im Wirtschaftsleben der innerösterreichischen Länder 1550-1650" in J. Schneider (ed.), *Wirtschaftskräfte und Wirtschaftsweg. Festschrift H. Kellenbenz* (Stuttgart: Beiträge zur Wirtschaftsgeschichte, Bd. 8, 1978), I, pp. 695-708.

<sup>111</sup> Othmar Pickl, "Die Auswirkungen der Türkenkreige auf den Handel zwischen Ungarn und Italien im 16. Jahrhundert" in Othmar Pickl (ed.), *Die wirtschaftlichen Auswirkungen der Türkenkreige* (Graz, 1971), pp. 124ff; Erich Landsteiner, "Wirtschaftliche Integration..." p. 32.

<sup>112</sup> J. Janáček, "Die Handelsbeziehungen zwischen Prag und Linz im 16. Jahrhundert", *Historisches Jahrbuch der Stadt Linz*, 1960, pp. 66ff

<sup>113</sup> D. Quirini-Poplawska, "Die italienische Einwander in Kraków und ihr Einfluß auf die polnischen Wirtschaftsbeziehungen zu österreichischen und deutschen Städten im 16. Jahrhundert" in *Wissenschaftliche Zeitschrift der Freidrich-Schiller-Universität Jena: Gesellschafts- und sprachwissenschaftliche Riehe* 26 (1976), pp. 337-353; H. Obuchowska-Pysiowa, "Trade between Cracow and Italy from the Customs-House Register of 1604", *Journal of European Economic History*, IX (1983), pp. 633-653.

recorded in 1620 in Nürnberg.<sup>114</sup> In such a manner, the Italian merchant houses assumed a major role in the private sector of the south German and east-central European economy even as the burden of direct taxation increased and the involvement of the south German houses in Habsburg financial affairs grew - at least until 1608 when the Imperial diet refused to vote new subsidies to Rudolf II.

The revolt of the Estates seriously undermined the Habsburg's credit standing and caused a flight of south German capital, which now sought new outlets on finance elsewhere.<sup>115</sup> The imperial authorities, accordingly, now found themselves in acutely straitened financial circumstances. Unable to anticipate future revenues, current expenditures had to be met out of current revenues. When therefore in 1618, events in Bohemia initiated the Thirty Years War (1618-1648) they had to make unprecedented demands for money upon the population, at a time when, amidst the turmoil of civil war, it became impossible to collect even existing taxes. Fiscal mechanisms for some five years, in conditions of acute monetary disorder, were reduced to the looting of the hapless population by the troops of both sides. Nor, even when fiscal probity was restored from 1623-1646, was the peoples' lot much alleviated. Able to rely only upon intermittent subsidies from sympathetic foreign governments, the imperial authorities were forced to turn the fiscal screw - with disastrous results. An impoverished population could no longer sustain pre-existing savings levels and as a result base interest rates increased from some 4-5% a year to 6-7% eliminating marginal investors, whose enterprises could not sustain the extra 2% annual capital costs, from the market. Average capital productivity accordingly fell and with it "real" wages.<sup>116</sup> Until the Peace of Westphalia ended the war in 1648, across *Mitteleuropas* an increasingly undifferentiated form of economic activity was thus reduced to a very low ebb. The products of the region as a whole, moreover, due to the collapse of the monetary system in 1635-1655, were (in terms of silver) perceived by the merchants of north-western Europe as "cheap."

With the collapse of trade and flight of south German capital, which now sought new outlets on finance markets elsewhere, burghal merchants, who were limited by prevailing interest rates in their capacity to raise necessary funding on local capital markets, could not sustain their position in the market. They accordingly ceded their place to the aristocracy and cameral administration. In 1658 the Idrian quicksilver contract passed to

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<sup>114</sup> L. Peters, *Der Handel Nürnbergs am Anfang des Dreißigjährigen Krieges* (Stuttgart: Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte, Beihefte 112. 1994), pp. 89-98

<sup>115</sup> Reinhardt Hildebrandt, "The Effects of Empire..." pp. 70, 73. In 1605-7 Augsburg bankers became involved in the Baltic trade, shipping grain between Danzig and Venice. On this trade in general see Antoni Maczak, "Der polnische Getreideexport und das Problem der Handelsbilanz (1557-1647)" in I. Bog (ed.), *Der Aussenhandel Ostmitteleuropas 1450-1650. Die ostmitteleuropäischen Volkswirtschaften in ihren Beziehungen zu Mitteleuropa* (Köln-Wien, 1971), pp. 28-46 and Arthur Attman, "Stranglehold on the Vistula. The International Corn Crisis of the 1630s" in J. Schneider (ed.), *Wirtschaftskräfte und Wirtschaftsweg. Festschrift H. Kellenbenz* (Stuttgart: Beiträge zur Wirtschaftsgeschichte, Bd. 8, 1978), II, pp. 545-562 and the contributions to Walter Minchinton (ed.), *The Baltic Grain Trade* (University of Exeter, 1985). On similar investments in the Dutch and English East India Companies during the years 1602-1633 see Reinhardt Hildebrandt, "Interkontinentale Wirtschaftsbeziehungen und ihre Finanzierung in der 1. Hälfte des 17. Jahrhunderts", in Herman Kellenbenz (ed.), *Weltwirtschaftliche und währungspolitische Probleme seit dem Ausgang des Mittelalters* (Stuttgart and New York: Forschungen zur Sozial- und Wirtschaftsgeschichte, Bd. 23, 1981), pp. 61-76.

<sup>116</sup> Fernand Braudel & Frank Spooner, "Prices in Europe from 1450-1750" ... p. 482

the Inner Austrian Hofkammer<sup>117</sup> In 1681 the Neusohl copper works similarly passed under the control of the Wiener Hofkammer.<sup>118</sup> From 1625 unsold iron and steel stocks increased in the warehouses of the Innerberger Hauptgewerkschaft, even before the trade to Upper Germany collapsed in the 1630s.<sup>119</sup> Upper Austrian linen production rapidly declined during the war, whilst that of northern Bohemia and Silesia was no longer transported to Nürnberg, passing instead to Leipzig, Hamburg and English merchants to be exported to North-west Europe.<sup>120</sup>

As the late seventeenth century dawned, therefore, economic activity in the Habsburg lands had been reduced to the production of primary produce which, when exported, provided the funding for a reciprocal import trade in manufactures from France, the Netherlands and England. Traffic westward along the Danube, which had declined during the war, did not recover thereafter. The erstwhile buoyant wine trade to Upper Germany was reduced to but a shadow of its former self. Official attempts to develop an overland transit trade, via Germany, to the Netherlands proved no more successful. Von Becker's organization of the "Okzidentalkompagnie" for the export of raw materials and agrarian products overland to the Netherlands had no more success than his attempt to divert trade thence on the occasion of a threatened outbreak of war with Venice in 1674.<sup>121</sup> Trade now passed elsewhere - to the Adriatic ports of Trieste/Fiume and Venice - from whence exports of wine, metals and other raw materials passed, throughout the late seventeenth and eighteenth centuries, into Mediterranean trade. Anglo-Dutch merchants flocked to these ports and, making forward contracts for the raw materials they required during the period 1670-1770, they showed themselves quite willing to roll-over short-term bill finance to provide long-term investment in the agriculture and industry of the Habsburg lands. The resultant sectoral growth in economic activity, moreover, left its imprint on the institutions of the domestic trade sector. The Wien association of merchants and retailers, the "Bruderschaft der Handelsleute und Kramer" founded in 1662, now came to play an increasing roll in the wholesale trade and in the provision of financial services.<sup>122</sup> Foremost, however, during this period in the take-up of State loans was an increasingly enriched aristocracy, who dominated the principal financial and administrative offices of the State.<sup>123</sup> By the last quarter of the seventeenth century this group's funding covered something like half of the outstanding Habsburg public debt, which by this time was sufficiently large to permit the authorities to dramatically reduce the burden of direct taxation on the population, thereby finally paving the way for the expansion of the "Long Seventeenth Century"

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<sup>117</sup> Helfreid Valentinitsch, *Das landesfürstliche Quecksilberbergwerk Idria, 1575-1659* (Graz: Forschungen zur geschichtlichen Landeskunde der Steiermark, Bd. 32, 1981), pp. 96-105

<sup>118</sup> Jozef Vlachovic, *Slovenská med v 16. a 17. storoci* (Bratislava, 1964), pp. 218-46

<sup>119</sup> A von Pantz, *Die Innerberger Hauptgewerkschaft, 1625-1783* (Graz, 1906) as quoted in Erich Landsteiner, "Wirtschaftliche Integration...", p. 38

<sup>120</sup> G Aubin & A Kunze, *Leinenzeugung und Leinenabsatz im östlichen Mitteldeutschland zur Zeit der Zünfkäufe* (Stuttgart, 1940), pp. 284 ff., A Kunze, *Der nordböhmische-sächsische Leinwand und der Nürnberger Grosshandel* (Reichenberg, 1926), pp. 30f., 66ff.

<sup>121</sup> H. Hassinger, *Johann Joachim Becher, 1635-1682. Ein Beitrag zur Geschichte des Merkantilismus* (Wien, 1951), pp. 164-172.

<sup>122</sup> H. Hassinger, "Wien in Zeitalter des Merkantilismus", *Nachrichtenblatt der Verein für Geschichte der Stadt Wien*, H. 3 (1941) as quoted in Erich Landsteiner, "Wirtschaftliche Integration...", p. 39.

<sup>123</sup> J. Bérenger, *Finances et absolutisme autrichien dans la seconde moitié du XVII<sup>e</sup> siècle* (Paris, 1975), pp. 442-451.

Even as the “Long Sixteenth Century” drew to its close, in conditions of apocalyptic disaster, as war, famine and disease wrought havoc amongst the populations of Germany and east-central Europe, a new economic order was being created in the region. With the collapse of trade and flight of south German capital, which now sought new outlets on finance markets elsewhere, burghal merchants, who were limited by prevailing interest rates in their capacity to raise necessary funding on local capital markets, could not sustain their position in the market. Across *Mittleuropas* an increasingly undifferentiated form of economic activity emerged which was reduced, as a result of increasing fiscal pressures (ca. 1596-1686), to a very low level, per capita income perhaps falling by as much as 20%.<sup>124</sup> The products of the region as a whole, moreover, due to the collapse of the monetary system were (in terms of silver) perceived by the merchants of north-western Europe as “cheap.” Accordingly, even as governmental fiscal pressures reduced economic activity in the German and central-east European lands to the production of primary produce, these wares increasingly passed to either the Adriatic ports of Trieste/Fiume and Venice or the Baltic emporium of Hamburg from whence exports of wine, metals and the other raw materials passed into Baltic or Mediterranean trade. Anglo-Dutch merchants flocked to these ports and, making forward contracts for the raw materials they required, through German or Italian intermediaries, they showed themselves quite willing to deliver specie or to roll-over short-term bill finance to provide long-term investment in the agriculture and industry of the German and central-east European lands, thereby paving the way for the expansion of the “Long Seventeenth Century.”

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<sup>124</sup> Jan Luiten van Zanden, “Pre-modern economic growth: the European economy, 1500-1800,” unpublished paper presented at 4<sup>e</sup> Journées Braudéliennes. NIAS-MHS seminar on “Early modern capitalism”, held at Wassenaar, 23<sup>rd</sup>-24<sup>th</sup> May 1997.