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ECONOMICS 303Y1

The Economic History of Modern Europe to1914

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Lecture Topic No. 1a [for independent reading only]

I. THE ECONOMY OF THE NETHERLANDS: Dutch Economic Hegemony in the European Economy during the 17th and 18th Centuries.

A. The Netherlands and the Modern Industrial Revolution

B. The Foundations of the Dutch Commercial Empire 15th - 16th Centuries

C. The Dutch Overseas Commercial Empire of the 17th Century

Note: This set of lecture has not been delivered orally, in class, for several years, in part because it duplicates lectures in ECO 301Y. While the latter have been updated annually, this set of lectures has not been updated for several years.

For the updated versions in ECO 301Y, to its lecture schedule, at:

http://www.economics.utoronto.ca/munro5/lecnot301.htm

These lectures on the Dutch economy have been retained online only for the interest of some students. No one is under any obligation to read them; and this material will not be covered on the mid-year test or final examination, except in so far as they related to this year's A-List essay topic on: 'The Economic Decline of the Netherlands', which topic will appear on both the mid-year test and the final examination.

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Updated version: 12 September 2012

See also the online lectures on the Dutch economy, given in ECO 301Y (in 2009-2010)

I. THE ECONOMY OF THE NETHERLANDS: Dutch Economic Hegemony in the European Economy during the 17th and 18th Centuries.

A. The Netherlands and the Modern Industrial Revolution

1. Introduction: the Role of the Dutch in the Modern European Economy

a) **Why this course does not begin with Great Britain on the eve of the Industrial Revolution:**

i) **Nominally, or theoretically, this course runs from 1750 to 1914:** from the commencement of the modern British Industrial Revolution -- the true beginnings of modern urban industrialization and the well springs of rapid economic growth and widespread economic development -- until World War I, which ended the 19th-century era of economic development and ushered in quite radically different forms of economic organization during this the 20th century.

ii) **In the past I have indeed begun this course with Great Britain itself,** and the origins of the Industrial Revolution in England and Scotland, though emphasizing the true starting point could not be the 1750s but rather the 1680s.

b) **Why it is important to begin instead with England's chief rival: the Netherlands, in the early-modern era?**

i) **In previously commencing the course with the beginnings of the Industrial Revolution, I necessarily had to make some mention of the rival Dutch economy,** but I could never do justice to this important question: for in fact, it really is impossible to understand the origins and nature of the early Industrial Revolution era in Great Britain, without first understanding the nature of the Dutch economic hegemony, the overwhelming commercial and financial supremacy, and thus the nature of the Dutch economic challenge from the later seventeenth to the late eighteenth century.

ii) **The Netherlands, or properly the Republic of the United Provinces,** as it was then known, home of the Dutch, thus also provides us with the first of five European case studies of economic development in the modern era.

iii) **Surprisingly, this numerically very small people, occupying a once obscure corner of north-west Europe,** did in fact decisively dominate the European commercial and financial economy -- international

shipping, trade, and finance -- from the late 16th to late 18th centuries, until the very beginning of the modern British Industrial Revolution; and we have to seek the reasons why how the Dutch gained and then ultimately lost this economic hegemony.

iv) **It is all very well to say that the Dutch lost their economic hegemony because of the British Industrial Revolution. But that begs the question:**

(1) of why and how the Dutch and not the English dominated the European economy during the 17th and most of the 18th centuries; and

(2) how and why the English came from behind to overtake and supersede the Dutch by the later 18th century.

2. **<u>The Dutch and the Macro-Economic Trends of the 16th, 17th, and 18th Centuries:</u>**

a) **The Dutch case study in European economic development in turn becomes understandable only in the light of the general macro-economic trends in the European economy in the early-modern era:** especially in the two centuries preceding the Industrial Revolution, namely (1) the era of the 16th Century Price Revolution; and (2) the ensuing era of the 17th-century 'General Crisis'.

i) **The Price Revolution era, from the 1520s to the 1630s,** was a long period -- about 120 years -- of sustained economic growth and expansion, marked in particular by:

(1) a sustained demographic upsurge, in which European population about doubled;

(2) by much more urbanization, expanded in scale, with some considerable industrial growth;

(3) by very dramatic overseas commercial expansion and colonial exploitation in first Africa, then Asia, the Americas: north and south, with the Caribbean Sea as a focal point;

(4) and finally by a very marked monetary expansion, from vast new supplies of both gold and silver from Africa and the Americas (Mexico and Peru), which fuelled an already on-going inflation (begun with earlier monetary expansion);

(5) these metals were vitally necessary for Europeans to expand their trade with:

- Asia in particular (Asia being vastly greater in size, population, and economic wealth than the still underdeveloped west European economy), but also
- the Baltic regions of northern Europe and Russia, whose populations were either too sparse and/or too poor to demand that much in the way of European goods (beyond salt, herrings, beer, woollens).

ii) **The era of the 17th-Century General Crisis then followed, from roughly the 1640s to the 1730s: this was an era of:**

1) of demographic decline or stagnation in virtually all of Europe (including even England and the Netherlands);

2) of relative economic stagnation or retrogression in many parts of Europe, east and west, except in the Netherlands and England (though even their growth rates decline);

3) of monetary contraction or stagnation, as precious metal inflows from the Americas declined -- at least

until the early 18th century (when they revived), and when silver outflows to Asia and the Baltic rapidly expanded from the later 17th century and through the 18th century.

c) **The General Crisis period was also an era of greatly heightened international competition over world trade routes and colonies,**

i) with many wars (including wars between England and the Netherlands) fought over control of such colonies and trade routes;

ii) for this was the era in which Europeans began their serious colonization and economic development of North America;

iii) and an era of greatly heightened nationalism, and of economic nationalism in particular, in forms that we now call Mercantilism.

d) **Of all European countries, the Dutch -- or the Republic of the United Provinces gained the most,** from all these macro-economic developments and political developments, gained the most: during periods of both economic expansion and economic stagnation.

i) **The importance of the Baltic zone as the keystone of the Dutch commercial empire:**

(1) The rapid population growth and the general forces of economic expansion had made the Baltic Sea region the most important economic zone for the western European economy, superseding in importance the Mediterranean basin, which had previously dominated the European economy for several millennia;

(2) the Dutch had earlier, or certainly by the early 16th century, gained control over the Baltic Sea and its commerce from the Germans (from the German Hanseatic League of trading towns);

(3) Thus, in an era when population growth produced high agricultural and natural-resource prices (including lumber and metals), along with more general inflation, the Baltic continued to serve as a zone of relatively cheap grain, lumber, naval stores for shipping, and copper and iron:

(4) for these vital Baltic commodities (vital for shipping, the military, and industry) were far cheaper than in the Mediterranean, where the very high and growing cost of timber and naval stores made Italian and Spanish shipping uncompetitive.

(5) When the 17th century General Crisis and agricultural recession (to be discussed later, as a separate topic) reduced the profitability of the Baltic grain trades, the continued growth in international shipping and in warfare, both naval war and land-based war, continued to augment the profitability of trade in ship timbers, naval stores, copper and iron (for artillery).

ii) **American Precious Metals and the Asian and Baltic Trades:**

(1) For most historians, the importance of the vast influx of Spanish American metals, above all silver, during the 16th and 17th centuries was either to create or aggravate that century-long sustained inflation we now call the Price Revolution, as indicated on the earlier overhead graph

(2) But for international economic expansion and for the Dutch, its much greater importance was undoubtedly to finance a vast expansion in long-distance maritime trade with two regions that had little demand for west

European manufactures and other products: i.e., Asia and the Baltic (with Russia).

(3) In the international race of maritime powers to control international trade and sea routes, the Dutch beat out all other Europeans to dominate not only the Baltic trades but also the much newer Asian trades (to the 18th century), making Asia and the East Indies the second most crucial sector of their Commercial Empire.

d) **Mercantilism and the Dutch**: important in several respects.

i) **This particular point will be fully appreciated only after we have examined both Dutch and English trade:** and explored the topic of Mercantilism itself.

ii) **The economic philosophy or outlook we now call Mercantilism in essence argued that:**

(1) Bullion (precious metals) was the chief source of wealth and in turn the chief foundations of national power; and

(2) that most nations could acquire wealth in the form of precious metals only through foreign trade, from having what is called a 'favourable balance' in foreign trade.

iii) **The macro-economics of the 17th-century General Crisis era:**

(1) with relative scarcities of precious metals, monetary contraction or stagnation, and growing international competition in the race to secure overseas colonies, there thus ensued, both:

(2) a heightened concern over precious metal stocks and increased economic nationalism, which was often manifested in outright economic warfare.

iv) **The Dutch played a major role in producing that relative scarcity of silver in western Europe:** through increasing exports of precious metals (silver) to both the Baltic and Asian zones of their commercial empire.

v) **But significantly, the Dutch themselves were not mercantilists in their attitude towards precious metals (nor could they be):**

(1) for they wisely viewed such metals as just another commodity, and a very necessary export commodity, in international trade -- not as the unique form of wealth;

(2) and thus they did not pursue policies to prevent the export of bullion

vi) **nor indeed did they adopt other mercantilist policies that impeded the flow of either metals or goods,** because their international commerce, essentially an exchange or entrepôt commerce, depended upon the free flow of both goods and metals, into and out of their country.

vii) **In so far as the Dutch were so successful,** and dominated international shipping, trade, and banking from the 16th to 18th centuries, their economic power was the primary incentive or reason for so much mercantilist legislation in other countries: i.e., legislation designed to cut the Dutch down to size, to eliminate the Dutch as middlemen in other countries' trade (especially English trade).

viii) **But ultimately the Dutch became victims of the international warfare of the later 17th and 18th centuries,** and proved to be militarily too weak to defend their empires in the face of both English and French military aggression and superior fire power.

3. The Dutch Commercial Empire as a Case Study in European Economic Development

a) **in that its commercial and financial supremacy over two centuries did not lead to modern industrialization:**

i) Indeed, the Dutch provide a most important case study of an economic leader that lost its dominance by shifting to finance rather than to industrialization,

ii) thus allowing her rival Great Britain, the number two economic power, to achieve an Industrial Revolution that would allow the British to gain European economic supremacy (though for less than a century, in 19th century).

b) **An over emphasis in Dutch economy of shipping trades, on transacting other people's commerce, more naturally led to insurance and finance:** the Dutch mercantile government discouraged industrialization -- any protectionist policies to promote industrialization that would interfere with their international trade and finance, which was so dependent on the free flow of goods and services.

c) **Indeed, by promoting the commercial growth of other countries,** in particular by financing their trade and by investing so much capital in other countries, Dutch may well have paved much of the road to their own economic downfall in the later 18th century.

d) **Furthermore, by forsaking the very mercantilist policies that the British in particular used to foster domestic industrialization,** and an export trade in finished manufactured goods, along with the naval and military power deemed necessary for a modern state, the Dutch may also have doomed themselves to economic decline, in an era which increasingly fostered industrialization over commerce, and military power over peaceful commercial relations.

e) **Nevertheless, we should remember that Dutch commercial policies did ensure Dutch economic supremacy in Europe for almost two centuries;** and that was about double the time span of the ensuing era of British economic hegemony in the world (from the 1770s to the 1870s).

B. The Foundations of the Dutch Commercial Empire 15th - 16th Centuries

1. The Chief Economic and Political Factors in Rise of Dutch Commerce

a) **Socio-Economic Factors**: personal freedom and the virtual absence of the medieval barriers of Feudalism and Manorialism (which did survive in early-modern England).

i) **The Free Peasantry of the 16th Century:**

(1) by the early 16th century, Holland had a fully free peasantry,

- almost half of them (42%) then owned their lands outright;
- most of the rest held rental lands rented their holdings for annual cash quitrents, without any other obligations.

(2) Holland then had only 12 feudal families, owning just 10% of the lands, which, to repeat, they rented out as freehold tenancies.

ii) **The Livestock Foundations of Dutch Agriculture and Dutch Society**:

(1) Later-medieval Holland had an agrarian economy that was basically pastoral: i.e., livestock raising rather than the cultivation of grains and other arable crops.

(2) In a stimulating article, Jan De Vries has argued ['On the Modernity of the Dutch Republic,' *The Journal of Economic History*, 33 (Mar 1973)] that agrarian economies based on livestock rather than on arable (i.e., grain growing) are better able to resist feudalism, manorialism, and enserfment.

(3) De Vries commented that: 'The mobility of a herding population and the ability of livestock to serve as a medium of exchange make herders less exposed to enserfment than a sedentary arable farming population'.

(4) Furthermore, because livestock husbandry is labour extensive it leads to naturally to supplementary bye-employments and especially to trade, in order to secure other foodstuffs -- i.e., grain and other arable crops.

(5) Livestock economies for these reasons become monetized earlier and more fully than grain-based arable economies.

iii) **Land Reclamation by Free Peasants:**

(1) Indeed much of the agricultural land, especially the pasture lands, in both Holland and its southern neighbour Flanders had been long ago reclaimed from the sea by free peasant communities.

(2) Thus the medieval Counts of Holland and the Church (monastic abbeys) could succeed in attracting colonist settlers only by offering these peasants full freedom and very low cash rents for their new lands.

v) **Individual Farms:** In both Flanders and Holland, there was almost no communal farming; farming was almost entirely undertaken on individual (unified), private, small-scale farms, which were amongst most productive in Europe.

b) **Highly Advanced Agriculture**: **Agricultural Precocity**

i) **one of the very earliest benefits of that economic freedom, the freedom from feudal and servile constraints was the very high level of agricultural productivity:** which freed labour and resources for employment in trade and industry, permitting and promoting population growth, especially urban growth.

ii) **Indeed this whole region of the Low Countries (comprising modern day Belgium and the Netherlands) enjoyed a very high level of agricultural productivity,** the very highest in northern Europe.

iii) **High agricultural productivity freed labour and resources for employment in trade and industry,** and thus promoted both urbanization and commerce, especially overseas trade, which in turn promoted further demographic growth.

iv) **Nevertheless there were other factors responsible for demographic growth**: in particular both maritime commerce and the fisheries, both of which provided alternative sources of foods, including especially imported grains from the Baltic region.

iv) **Agricultural productivity and urbanization**: three features

(1) by the mid-fifteenth century, Holland had become 45% urbanized and by the early 16th century, 54%: more so than Flanders or Brabant.

- Readily accessible urban markets and high population densities both promoted highly commercialized agriculture and
- necessitated very intensive and productive methods of cultivation.

(2) This agrarian structure (with, as already noted, a very significant livestock component), population growth, and urbanization themselves depended heavily on the expansion of the fisheries and foreign trade, especially for grain imports, as just noted – and worth emphasizing.

(3) consequent land scarcity and its very high price: provided:

- a strong disincentive against investing commercial profits into land, as was so common elsewhere (including England);
- conversely, a strong incentive to reinvest commercial profits back into commerce, some into industry (especially trade-related industries), but more and more into banking and finance, as noted both earlier and again later.

c) **Political Factors: Government by the Towns and Commercial Freedom**:

i) **Most of this region was technically or theoretically part of the far flung Germanic Habsburg Empire,** based on Vienna (Austria)-- the so-called Holy Roman Empire (largely Germanic); but the German emperors in fact had almost no influence in this far distant corner of their loose empire.

ii) **With the absence of strong monarchical rule,** the mercantile towns gained much power in most of the Low Countries, especially in the county of Holland.

iii) **By the early to mid-15th century, the Dutch towns -- of Holland and Zealand -- through a brief civil war, after the death of the last indigenous Count of Holland, had established their decisive political supremacy:** that they were to make the laws, not the prince or the aristocracy.

v) **Political Structure of Holland after 1428**:

(1) Holland under Burgundian rule:

- after the count's death, the twin counties of Holland-Zealand became part of the Low Countries Empire ruled by the French dukes of Burgundy, which subsequently (from 1482) again passed into the hands of the Habsburg Emperor, by dynastic marriages;
- and when the Habsburg Empire split into two parts in the mid-16th century, into the hands of the Kingdom of Spain (the lesser Habsburg branch).
- The details do not really matter here, but Spanish rule and the revolt against Spain does.

(2) A mercantile dominated parliament:

- The Estates or parliament of Holland consisted of 17 town representatives and only 1 member for nobility:
- Holland was thus ruled decisively by the towns, and the towns by the merchants, with little interference from the prince (until the Revolt of the Netherlands in the 16th century).

d) **Physical Geography of the Low Countries**

i) **As the map on the screen indicates,** the Low Countries lay on the estuaries of three key rivers: the Scheldt (Antwerp), the Meuse or Maas, and the Rhine (Rotterdam), giving this region easy access to northern France, Germany, and Central Europe.

ii) **This region also lay on shores of North Sea,** the chief highway and crossroads for northern European trade, linking Scandinavia and the Baltic lands (Germany, Poland, Russia) with north-west Europe.

iii) **Similarly, sea routes via English channel linked the Low Countries:** with coastal France, Spain, Portugal, and the Mediterranean.

iv) **Geography and Historical Tradition**: **'Nothing Succeeds Like Success':**

These geographical factors help explain why this region had dominated the commerce and finance of northern Europe from the 12th century, and why it continued to do so until the late 18th century.

(1) Indeed, this region had a centuries-long tradition of European economic leadership, dating back to the Middle Ages (to the 12th century): a centuries-long tradition of industrial, commercial, and financial expertise.

(2) No region in all of Europe, not even Italy, can compare with the Low Countries in economic importance, in dominating the European commercial economy over such a long period of time: from 12th to the mid-18th centuries, to the eve of the Industrial Revolution.

(3) In terms of maritime port-towns serving as commercial capitals of northern Europe, we begin with:

- the port of **Bruges** in Flanders, dominating commerce and finance from the late 12th century up to the 1460s;
- then we move eastward to the port of **Antwerp** (in Brabant), which held that role for about a century, from the 1460s to the 1560s;
- and then we move northward to the port of **Amsterdam** in Holland, which exercised that commercial dominance for the next two centuries, from the 1560s to the 1760s, when it finally lost that role to London (who held it to 1914).

v) **The Maritime Orientation of Holland and Zealand:**

(1) Holland and Zealand lived principally by and from the sea: from maritime trading and from fishing.

(2) But this region literally developed out of the sea as well, as colonists over the centuries reclaimed much land from the sea by building a series of dykes and polders and drained them.

f) **Two major aspects of those industrial components and that maritime orientation I shall analyse as topics in themselves**:

i) **the herring fisheries, and coastal shipping trades,** both of which led to the Dutch invasion of the Baltic commercial zone.

ii) **the exercise of naval power**:

(1) especially including military power and force, was crucial in the Rise of the Dutch in both of these aspects -- fishing and trade;

(2) naval power was absolutely essential in gaining the Dutch their independence from the Spanish Empire in the later 16th century.

(3) Subsequently, however, we shall also see that the relative lack of naval power was crucial in the decline of the Dutch during the 18th century.

iii) **The most recent study on the rise of the Dutch is:**

(1) Jan De Vries and Ad Van der Woude, *The First Modern Economy: Growth, Decline, and Perseverance of the Dutch Economy, 1500 - 1815* (Cambridge and New York: Cambridge University Press, 1996);

(2) My major criticism of this otherwise fine book is that begins too late (and it does not really begin as early as 1500): in thus overlooking very crucial prior developments.

2. The Herring Fisheries: the First and Strongest Pillar of Dutch Trade [1]

a) **The Rise of Dutch Commercial Power:** began essentially, a full century earlier, in the early 15th century, when the Dutch successfully gained control over the northern herring fisheries from the Germans, the predominant commercial power of the day organized as the Hanseatic League.[2]

b) **Why Was Herring so Important to European Commerce?**

i) **the herring is a very abundant, relatively cheap, and highly nutritious food**: with a European wide demand, when high protein food was scarce.

ii) **herring could be preserved for shipments over long distances**: for storage in winter months (in an era when primitive technology greatly restricted supply of fresh meats and vegetables). Preservation was by salt-curing, by pickling (salt, vinegar, spices), and also by smoke-drying.

iii) **The view that herring was a mass-consumption commodity has been challenged, however**: **by Prof. Richard Unger (1980),** in an article on the Dutch herring trade, in which he argues that until later 16th century or after, herring was a luxury commodity sold chiefly in higher income markets.[3] I am unconvinced for these following reasons:

(1) wage and price data for Antwerp c. 1500 shows that a skilled mason or carpenter could then purchase

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[1] On 31 August 2005, Toronto newspapers reported the death of the world's oldest person on record: a Dutch lady named Hendrijke van Andel-Schipper, born 29 June 1890, 'who swore by a daily helping of herring for a healthy life'; she died peacefully in her sleep.

[2] For further information and a broader survey of these developments, see John Munro, 'Patterns of Trade, Money, and Credit,' in James Tracy, Thomas Brady Jr., and Heiko Oberman, eds., *Handbook of European History in the Later Middle Ages, Renaissance and Reformation, 1400 - 1600*, Vol. I: *Structures and Assertions* (Leiden: E.J. Brill, 1994), pp. 147-95.

[3] Richard Unger, 'Dutch Herring, Technology, and International Trade in the Seventeenth Century,' *Journal of Economic History*, 40 (1980), 253-79: republished in Richard W. Unger, *Ships and Shipping in the North Sea and Atlantic, 1400 - 1800*, Variorum Collected Series CS 601 (Aldershot and Brookfield, Vt., Ashgate, 1997).

about 50 smoked herrings with his daily (summer) wage.

(2) Furthermore, in the Antwerp region, during the 15th & 16th centuries, the Lier Poor Relief Fund purchased up to 20,000 herrings for distribution to the poor annually.[4]

(3) Unger himself states that ca. 1650 the Dutch were marketing 200 million herring a year, while controlling only half the European market or less. Europe's population was then about 100 million (possibly 120 million), only a small part of which was accessible to Dutch sea-borne or river-borne trade. So who then was buying over 400 million herring?

(3) No evidence to indicate that the medieval herring trade was a luxury trade in the way that the Italian trade in spices had clearly been.

c) **The Baltic or North Germans had previously dominated the medieval herring trades**:

i) **Why?** Chiefly because the herring had been considerate enough to spawn in the North German's own Baltic backyard, off the south coast of Sweden (Scania).

ii) **That was just across from the German Baltic town of Lübeck, which controlled two vital aspects of northern European trade in this late-medieval, early-modern era:**

(1) access to the North Sea, across the base of the Jutland peninsula, connecting with the mouth of the Elbe River and its major port, Hamburg, on the North Sea.

(2) vast salt deposits nearby (Lüneberg) for herring curing;

iii) **Lübeck came to be the capital of the German league of trading towns, the famous Hanseatic League**, a loose confederation of four regional collections of trading towns, the most important of which lay on the Baltic and North Seas: (1) Lübeck's Wendish League in the West; (2) Danzig's Prussian League in the centre-east; and (3) Riga's Livonian League in the east.

d) **How the Dutch Gained Mastery of the European Herring Trades**: 15th - 18th centuries

i) **The Dutch themselves had long been engaged in the herring fisheries:**

(1) First, they had also participated, if a minor way, in the German-dominated Scania herring fisheries (Sweden);

(2) More important, the Dutch coastal towns had also been engaged in some independent herring fishing in subsidiary spawning grounds in the North Sea,

(3) Those fishing grounds were near to Holland, but required long-distance, longer-term deep-sea fishing, far from the shorelines.

ii) **Three factors, from the early 15th century, allowed the Dutch to displace the Germans in this vital international industry and trade:**

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[4] For both, see tables in Herman Van der Wee, *The Growth of the Antwerp Market and the European Economy, 14th to 16th Centuries* (The Hague, 1963), 3 vols. See Vol. I: *Statistics*, Appendix 22: 'Herring in Brabant', pp. 277 -86.

(1) interrelated technological changes in shipbuilding and deep-sea fishing techniques

(2) a shift in the primary herring spawning grounds, from the Baltic (Scania) to concentrate on the once subsidiary North Sea spawning grounds: i.e.,, off the coast of Holland (but also England)

(3) depletion of Lübeck's salt flats, compelling all in the fisheries to see new sources of sea salt in the Atlantic: the coasts of southern France and Portugal.

iii) **The Technological Changes**:

(1) During the early 15th century, the Dutch developed superior technical methods both in construction of their fishing boats and in methods of salt-curing.

(2) This involved three interrelated technological innovations: fishing boats, fishing nets, and on-board salt-curing.

(3) These technological changes preceded the shift in the herring spawning grounds, though only by a decade or so.

e) **Technological Changes in Fishing Boats and Fishing Techniques:**

i) **the buis (buizen)**: a new fishing boat, a large, flat-bottomed cargo boat (round stern), with three sets of sails for manoeuvrability, with about 140 tons capacity [see drawing on the screen].

(1) Obviously to fish the North Sea grounds, Dutch had to stay out for several weeks; and thus they had to accommodate the much larger scale catches of herring, held on board for a much longer period, and thus they needed a far larger and better designed fishing boat, in contrast to traditional German crafts, which were little better than row-boats designed for daily outings in coastal waters..

(2) The resulting buizen (buis) were designed for deep-sea fishing for periods of a week or more, and for holding vastly larger catches of herring.

ii) **Innovations in curing**: on board gutting and salting of freshly caught herring.

(1) The traditional method had been to gut or disembowel the herring onshore, on return from the fishing expedition: to fill the cavity with salt and pack them in barrels with brine.

(2) The Dutch innovation, also dating from about the early 15th century, was to do all this on board ship, immediately after catching the herring, when the fish was at its freshest; and to use better quality salt.

(3) Obviously onboard curing was a necessity if the ship was to stay out for a couple of weeks; and this was only possible with a very large ship, with space for both salt and the cured herring.

(4) The rapidity of gutting the herring in vast quantities on board ship accidentally led to a significant improvement in quality: by leaving the stomach appendices, which contained chemicals (*trypsin)* that speeded up the curing process to provide better freshness -- i.e., with a more immediate seal -- and improved both aroma and taste, thus giving Dutch herring a major quality advantage.

(5) So this essentially dual innovation in ship design and curing allowed the Dutch to gain considerable economies of scale while improving the quality of the product.

iii) **Large-scale fishing nets, strung between and among several buizen:** vastly increased the scale of the

herring catch.

iv) **With these innovations,** the Dutch able to capitalize on the next major, decisive, but fortuitous event, involving the herring fisheries.

f) **The shift of the Scania Spawning grounds**:

i) **Sometime in the early to mid fifteenth century,** the herring mysteriously began to alter their spawning grounds off the south coast of Sweden (Scania), to concentrate almost entirely on the North Sea spawning grounds, the Dogger Banks especially, between Holland and England (actually closer to England).

ii) **This shift is still unexplained, but two theories may be advanced:**[5]

(1) **Change in the salt level of the Baltic (from fresh water intake)**: not yet explained fully (from melting glaciers).

- But the saline content is extremely important in determining the growth and supply of the plankton and other sea life from which herring feed.
- The much saltier North Sea came to have a decisive advantage in more abundant and richer food supplies for herring.

(2) **Depletion from overfishing, in response to Dutch competition**: no constraints on using an unregulated public good. Individual German fishermen responded to Dutch fishermen by increasing their own catch, leaving insufficient herring for spawning, thus depleting and eventually destroying their fishing grounds.

(3) The subsequent revival of the Baltic herring fisheries in the 16th & 17th centuries, if on a much smaller scale than the contemporary North Sea fisheries, lends support to this hypothesis.[6]

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[5] The date of this shift in the spawning grounds is a matter of debate. According to Jan De Vries and Ad Van der Woude, *The First Modern Economy: Growth, Decline, and Perseverance of the Dutch Economy, 1500 - 1815* (Cambridge, 1996), p. 248: 'Explanation of this market development must be sought in the unfathomable capriciousness of nature, which beginning in 1589 removed the herring schools from the Swedish coast'. This statement seems to disagree, in both the timing and the causes, with all other studies on the herring trades, which date the transformation to the mid-15th century, by the latest. See Unger (n. 2); and Herman Van der Wee, *Growth of the Antwerp Market and the European Economy, 14th - 16th Centuries*, 3 vols. (The Hague, 1963):Vol. I: *Statistics*, Appendix 22: 'Herring in Brabant', pp. 277 -86. Van der Wee states: **'**The first explicit mention known to us of [salted] herrings in barrels that were not from Scania occurs in 1421: *harinc die men seit van binnenlants dat men ghenen scoenssen hering en vant* ['domestic herring [purchased] because no Scania herring could be obtained']. From that time the purchases of barrel herring from Scania became increasingly rare and from the second half of the fifteenth century they completely and finally made way for the herring of Brabant (first the brand from Antwerp, later from Malines)...'. A Scandinavian chronicle, known as the *Rufus Chronicle*, contains the following entry for 1425: 'This autumn, as of old, the merchants and the fishermen from the towns travelled to Scania in Denmark [sic: southern Sweden, under Danish control] for the herring catch ... but for whatever reason, no herring came into the Sound. Rather they betook themselves to the North Sea and made the Flemish and the Dutch rich. Because God had withdrawn and denied His blessings from the Danes, which is evident to all'. [cited in: John P. Maarbjerg , 'Of Herring, Salt and the Decline of the Scanian Fairs', unpublished working paper

[6] See Maarbjerg , 'Of Herring, Salt and the Decline of the Scanian Fairs' [in n.4]: citing the following chronicle of Olaus Magnus in the mid 16th century, commenting (with obvious exaggeration) that 'herring

iii) **The Salt problem:** Similarly, around this same time, there was a shift in the primary supply of salt from the Lüneberg salt flats, near Lübeck, to the Bay of Bourgneuf, in the Bay of Biscay: for extraction of sea salt, off the coast of southern France, northern Portugal.

g) **Dutch Advantages from controlling North Sea herring fisheries:**

i) **The character of the North Sea herring:** greater salt content in the North Sea (greater salinity with warmer waters, warmed by Gulf Stream) meant more plankton food for the herring; and that meant much larger herring -- 33% to 50% larger than Baltic herring.

ii) **Much lower transport costs involved,** than with the Scania fisheries;

iii) **Much closer access to a vastly new greater source of salt, in France's Bay of Biscay:** and thus also lower costs involved in the salt trade.

h) **The Dutch herring trade in the 15th and 16th centuries**:

i) **during the 15th century, these innovations and cost advantages,** along with the shift of the herrings' spawning grounds, enabled the Dutch to wrest control of the herring fisheries away from the Germans -- certainly lost to the Germans by the mid-15th century.

ii) **That loss seriously undermined German economic power,** and allowed Dutch trade to expand even further in both the Atlantic and Baltic Sea regions.

iii) **The Dutch marketed herrings to all European ports**: from the Baltic, along the Atlantic, to the Mediterranean, necessarily picking up return cargoes.

iv) **Herring trades provided a strong stimulus to Dutch shipbuilding**: which gave the Dutch a further incentive to invade the Baltic commercial zone in order to obtain the necessary ship timbers (from Scandinavia, Poland, Prussia).

v) **The Fisheries and Dutch Employment:**

(1) In 17th century, the Dutch herring fisheries and trades came to employ about 20% of Holland's population, directly and indirectly;

(2) their fleets of over 500 busses produced about 200 million herring annually;

(3) the value of their herring exports well exceeded the value of England's chief export, which was woollen textiles.

vi) **In summary,** in 1606, the Dutch States General (federal parliament) referred to the herring industry as the 'chiefest mine of the Netherlands' -- its chief source of wealth. In 1700, the Dutch still controlled over 50% of the world market in herring; but that lion's share shrank to just 10% by 1800, when they lost most of the herring trade to the English and French.

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arrives at the [Scania] coast in such numbers that not only do the nets of the fishermen burst, but also if one sets a doubled-edged war axe or halberd in to the school of fish, it will remain standing'.

3. **Expansion of Dutch Trade Into the Baltic Sea Regions**

a) **The Dutch began to invade the Baltic trades in the later 14th century**:

i) **they began innocently enough as mere agents or subcontractors for the Germans**:

(1) since the safest and most direct route from Hamburg to German markets in England, Low Countries, and France went through or via the Dutch coastal towns and inland waterways;

(2) Dutch coastal shippers, with obvious advantages in these waters, took over some of this trade.

ii) **The Development of a Direct Sea route into the Baltic:**

(1) From the later 14th century, both the English and then the Dutch began utilising a direct sea-route into the Baltic, sailing around Denmark (see the map).

(2) As you can readily imagine, a direct sea-route without any transshipping was much cheaper than the traditional canal and overland route linking Hamburg and Lübeck;

(3) and this Anglo-Dutch sea invasion naturally posed a serious threat to the commerce of these two Hanse towns.

iii) **The Dutch commerce with the Baltic region:**

(1) The Dutch brought four major commodities, with high demand, into the Baltic: herring, salt, beer, and woollen textiles (of both Dutch and English manufacture);

(2) In return, they exported from the Baltic increasing supplies of grains (rye), to feed their own towns, and others as well; lumber and naval stores to build up their shipping fleets; and iron & copper, especially the latter, in high demand to make artillery (the major offensive weapon from the end of the Hundred Years' War in the mid-15th century).

iv) **The German reaction to this invasion was a natural one**: hostile monopolism to keep out the foreigners, by force if necessary.

b) **The Hanseatic League and the English**: the Germans made a fatal error by concentrating upon the English threat in early 15th century, while initially ignoring the Dutch:

i) **The English appeared to be a bigger threat because**:

(1) they were a major military power, with a strong navy, that had almost conquered France in the Hundred Years War, during the early to mid 15th century (1415-35);

(2) the English were also becoming the single most important producer of woollen cloth, the major manufactured commodity sold in Baltic and German markets (on which: more later).

(3) Germans mistakenly viewed the Dutch as subsidiary members of the League, dependent on the Germans, as weak rivals who could be coerced.

ii) **To make a long story short**: **by the early to mid-15th century the Baltic Germans had effectively beaten the English**, and had effectively excluded them as an important player in the Baltic trade:

iii) **But in the middle of this Anglo-Hanseatic struggle the Dutch attacked in force**: from the later 1420s, after allying with the Danes, they fought several naval and piracy wars with the Baltic Germans, led by

Lübeck;

iv) **but the Germans did not wish to fight a two-front war**: and so the German Hanse, led by Lübeck, temporarily bought the Dutch off with a truce (Treaty of Copenhagen, 1441) giving them supposedly free access to Baltic.

v) **Lübeck (and its Wendish League) intended to renege on this treaty after finishing off the English**: but by the 1470s, the Dutch were too strong, militarily and commercially; and the Germans too weak and divided.

vi) **German internal dissension was crucial weakness**:

(1) the eastern Baltic landowners of Prussia and Poland found that they got better terms in trading with the Dutch, than with the Wendish Hanse;

(2) and so indeed the Hanseatic towns of the two eastern leagues, the Prussian and Livonian, also found Dutch trade too attractive, with quicker and cheaper service, and better trading terms.

(3) So they refused or failed to support Lübeck and its allies in war against the Dutch, and let Dutch commercial power expand.

vii) **As the graph shows, by the mid-16th century,** the Dutch were already accounting for the lion's share of Baltic shipping, with shipping costs so low that nobody could compete (for reasons we shall see in examining Dutch shipbuilding).

viii) **These two related events,** the English defeat and the Dutch victory, gave the Dutch a crucial century head start in the vital Baltic trade, now the most important arena of European commerce.

4. <u>The Revolt of the Netherlands and Rise of Amsterdam, 1568 - 1609</u>

a) **Spanish Rule in the Habsburg Low Countries:**

i) **As noted before, not only Holland but all of the Low Countries had again come under the direct rule of the Germanic Imperial house of Habsburg through marriage;** and when the Emperor Charles V abdicated his throne in 1556, he split the Germanic Habsburg Empire into two, giving the western half to his younger son Philip, who became Philip II King of Spain.

iii) **The Spanish Habsburg Low Countries from 1556**:

(1) was composed of 17 different provinces or principalities, formerly independent, but technically or ostensibly a part of the Germanic Habsburg empire (so-called Holy Roman Empire)

(2) Through dynastic marriage alliance between the Habsburg and the king of the newly united Spanish kingdom, these Netherlander provinces were placed under Spanish rule.

(3) The new Spanish governors of the Netherlands, the first truly foreign rulers of this region, soon imposed a harsh centralization on these provinces, curbing the power of the towns, levying heavy taxes, and imposing a harsh, austere Hispanic form of Catholicism.

b) **The Revolt of the Netherlands Against Spanish Rule:**

i) **Open military revolt and warfare against Spain began in 1568**: as a war for both national liberation and religious freedom, known as the 80 Years War: 1568-1648 (for the final peace).

ii) **War effectively ended with the Truce of 1609, with the following results**:

(1) The Spanish had reconquered the southern 10 provinces, which included Flanders, once the most economically dominant province of the region (now forming the kingdom of Belgium).

(2) The northern 7 provinces, led by Holland, formed a political confederation (Union of Utrecht, 1579). Protected by Dutch naval power and by river barriers (Rhine and Maas), this confederacy won their full independence from Spain to form a new republic, Republic of the United Provinces, with Amsterdam as the capital.

c) **Economic Consequences of the Dutch Victory**:

i) **Amsterdam, fully protected by inland waterways (on the Zuider Zee) and Dutch naval power,** rapidly displaced other ports in the Low Countries (Bruges and Antwerp) to become decisively also the commercial-financial capital of the European economy in the 17th and early 18th centuries.

iii) **Holland especially became predominantly Protestant,** from the flood of refugees from the south and other Protestant and Jewish refugees from across Europe;

iv) **Holland soon became an island of political and religious freedom.**

v) **This Dutch victory embodied a potent combination of fervent anti-Spanish nationalism and a Puritanical form of Protestantism,** both with an intoxicating sense of moral superiority that served as a powerful elixir for Dutch economic aggression, especially against the combined Spanish and Portuguese empires (combined by Portugal's union with Spain in 1580).

C. The Dutch Overseas Commercial Empire of the Seventeenth Century

1. Asia and the East Indies Spice Trades

a) **The Seizure of the East Indies Spice Trade from the Portuguese**

i) **Bullion and spices** were the chief lures, for all the European powers, that produced this multi-national race for overseas colonies.

ii) **While the Spanish seized control of New World silver,** the Portuguese temporarily gained control of the East Indies Spices; and as I've remarked before that American silver allowed Europe to finance a great expansion in Asian imports, chiefly spices, after 1500.

iii) **Chief spices**: pepper above all, followed by cinnamon, ginger, cloves.

iv) **Why spices?**

(1) Spices are in fact not an effective preservative (salt is);

(2) but spices became highly valued for their taste, or ability to impart new tastes, as ingredients in medieval European cuisine for the upper classes, which much resembled modern Indian cuisine (and only partly to disguise taste of food);

(3) spices were highly regarded also for their medicinal properties.

v) **Spices were then enormously expensive:** because of all the transport and transactions costs in bringing them from the East Indies, and because of the strong demand for them from the upper classes.

(1) This was an extremely risky trade, with sharp price fluctuations and thus with occasionally enormous profits.

(2) Indeed, it was the most lucrative form of medieval and early-modern trade, until later 17th century -- when for unexplained reasons European tastes and cuisine radically changed.

vi) **The Portuguese were too weak in manpower, shipping, and capital resources to maintain a permanent monopoly,**

(1) Their control over the Indian Ocean spice trades and other commerce was broken by the Arabs in 1530s,

(2) They in turn restored the Mediterranean link, giving Venice an Indian Summer of renewed prosperity in later 16th century.

vii) **The Portuguese, however,** still retained an important share of the trade in spices, distributing them from Antwerp, until 1549 when they shifted their spice staple to Lisbon (to gain closer access to the now cheaper American silver).

viii) **The Lisbon Spice Staple:** allowed the Dutch to take over the European distribution of spices, i.e., from Lisbon, because the Portuguese lacked their own commercial facilities. But in then in 1580, Spain absorbed Portugal and denied the Dutch entry into Lisbon.

ix) **Mediterranean warfare (Turks)**: furthermore, in 1580s and 1590s, also disrupted the alternative spice route via Venice: thus both the Dutch and the English had a strong incentive to establish their own direct sea route to the East Indies (and Dutch sailors had served with Portuguese).

x) **The Dutch** reached the East Indies first, in late 1590s, and immediately set out to dislodge the now weakened Portuguese.

(1) the Spanish government, embroiled in European warfare, was quite unwilling to waste resources in defending these Portuguese outposts.

(2) In 1601, Dutch inflicted a crucial defeat on the Portuguese fleets in East Indies, crippling their power (though it took Dutch many more years fully to dislodge the Portuguese, who held on to scattered posts in Indies and India.)

b) **The Dutch East India Company was formed in 1602**: ensuring Dutch supremacy in the East Indies for next 350 years (to World War II).

i) **This was a private joint-stock company, with important government support:**

(1) **importance of joint-stock**: enabled company to raise very large capitals through sales of stock, i.e., shares of ownership; and large capitals were necessary to conduct long-distance long-term trade.

(2) **the Dutch government (Republic of the United Provinces):** granted the company a full monopoly on Asian trade.

ii) **the government also provided the company with military power to impose colonial rule:**

(1) to stamp out all competition in East Indies from native Indonesians, Chinese, and Europeans.

(2) The aim was to give the company *monopsony* power in buying spices in East and monopoly power in the West.

iii) **The English seemed to be the greatest threat, after the defeat of the Portuguese.**

(1) They had also set out in late 1590s to establish a direct sea route to East, and established their own East India Company ahead of the Dutch, in fact, 1600.

(2) But the English proved to be a paper lion, because they lacked the military power of the Dutch.

iv) **The 'Massacre of Amboyna' in 1622 was the crucial test**: the Dutch invaded, arrested, and hanged a dozen English merchants on that spice island.

(1) The English took this subtle hint that they were unwelcome and, lacking any government support, deserted the East Indies for India, where the government, learning a valuable lesson, did support them militarily.

(2) In India, the English also developed a spice trade, but it was distinctly secondary, inferior to the East Indies spice trade, though subsequently in 18th and 19th centuries, India would prove much more valuable.

v) **While Dutch never achieved a complete monopoly in the European spice trade they certainly dominated it,** indeed to extent of dealing a fatal blow to the Venetian economy by 1620.

c) **Character of Dutch Trade with Asia**: two phases:

i) **Phase I, to ca. 1660: Spices and 'Old Colonialism':**

(1) in first half of 17th century, spices clearly dominated that trade, and were source of great prosperity for Dutch East India Company, producing enormous dividends

(2) From the later 17th century, however, spices declined in relative importance for both the Dutch and the English, evidently, as just suggested, as a result of changes in European tastes and cuisine, a much simpler cuisine that no longer prized or even desired spices (except pepper).

(3) yet, even in early 18th century, spices still produced 40% dividends for six straight years, in 1715-20.

ii) **Phase II, from ca. 1660: mass-consumption commodities of 'New Colonialism'**: as other commodities took the place of spices to expand Dutch trade with Asia, including Ceylon (Dutch), India, Persia, China, Japan, including the following:

(1) **Luxury Textiles**: raw silk and silk textiles from Persia, China, and India, as in the past -- not new, but still retained some importance, especially in European textiles mixed with silk yarns.

(2) **Cotton Textiles**: became far more important. These were both the cheaper calicoes and finer muslins from India and Persia, which became the most important item of Dutch trade, accounting for about 40% of Asian imports into Europe.

(3) **Porcelain and Chinaware**: i.e., clay-based glazed (fired) pottery with highly decorative designs from both China and Persia (latter being imitation Chinese), creating large European demand that promoted development of import-substitution pottery industries in Holland (Delft) and England (Staffordshire),

imitating Oriental pottery.

(4) **Beverages**: creation of tea and coffee trades, from China, India, Ceylon, and Arabia [Dutch introduced tea to Europe in 1655.

(5) **Plant fibres**: Jute and Hemp for ropes, sacking, etc.

(6) **Luxury Manufactures and Metalwares**: from Persia, India, China, and Japan, including Japanese copper goods; and copper for Dutch munitions.

(7) **These latter items** accounted for about 25% of Dutch imports from Asia by the 18th century, with broad European markets.

iii) **The Silver Problem:** While this Asian trade was enormously profitable for the Dutch, and also the English, this Asian trade produced a very large trade deficit for Western Europe:

(1) As stressed before, Asian countries had little demand for European trades. During the 17th century, merchandise (including some Asian goods traded within Asia) accounted on average for only 25% of European purchases from Asia, and thus silver shipments had to account for the remaining 75%. of the trading values.

(2) In this respect, to repeat an observation from last week: the significance of American silver in the 16th and early 17th centuries was to cover that payments deficit and permit a very rapid expansion of European trade with Asia;

(3) As also noted: the true beginnings of economic globalization

(4) But even though supplies of American silver declined from the 1640s (but did revive after 1700), Dutch and English trade with Asia continued to grow, resulting in larger and larger silver outflows to Asia. See the tables on the screen.

Exports of Silver to India and East Asia by the Dutch and British East India Companies, in Kilograms of Pure Metal

Decennial Means, 1660-9 to 1710-19

Decade	By the Dutch East India Co.	By the British East India Co.	Total Silver Shipments
1660-69	11,563.1	5,729.6	17,292.70
1670-79	11,854.6	11,364.0	23,218.60
1680-89	18,847.0	29,276.0	48,123.00
1690-99	27,720.9	18,179.0	45,899.90
1700-09	37,392.9	36,294.3	73,687.20
1710-19	37,108.1	41,133.6	78,241.70

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2. **The Caribbean and Latin America**

a) **Dutch Trade in the Caribbean and Latin America**: not nearly so successful as the Asian trades.

i) **In the West Indies, the only important acquisitions,** small ones, were again taken from the Portuguese: small part of Brazil (Dutch Guiana or Surinam) and Caribbean island of Curaçao.

ii) **Spain, controlling most of Latin America,** proved too powerful to lose territory to the Dutch, though they did lose Caribbean islands to English.

iii) **In 1621:** Dutch formed the Dutch West India Company, modelled on the East India Company. But this Company in contrast was a failure: it failed to get any sort of trade monopoly, and failed to compete effectively with the English and French in dominating Caribbean trade, trade with Spanish.

b) **The Company instead turned its efforts more to outright piracy, which proved to be very unprofitable**: the military costs exceeded the revenues. Such a failure was the company that it was dissolved in the 1680s.

c) **But at least the Dutch made fairly good use of Surinam and Curaçao:** to engage in trade with Caribbean and South America: trade in tobacco, sugar.

3. **North America: New Amsterdam and the Crucial Dutch Failure**

a) **Dutch trade to and with North America**: Promises dashed by 'New Colonialism' and the English.

i) **The Dutch actually arrived ahead of the English (though not the French);**

(1) and they chose the best spot for a settlement: the mouth of the Hudson River, where they established in 1614 a trading post and colony named Nieuw Amsterdam, which was taken over by the Dutch West India Company on its formation in 1621.

(2) Enlarged to become colony of New Netherlands, with Fort Orange in the north (present day Albany).

ii) **Like the French, the Dutch concentrated on the highly lucrative fur trade,**

(1) the fur trade promoted virtually no settlement, thus keeping population figures low.

(2) As Canadian history shows, the fur trade inhibits settlement, because of need for large uninhabited forested areas for the beavers, other fur-bearing animals.

b) **Failure of Dutch Colonial Settlements:**

i) **While some settlement did take place later in 17th century,** the colony of New Netherlands remained dangerously small, underpopulated, and increasingly wedged in by the much larger English colonies. In 1660, it had only half the population of Connecticut, a small English colony.

ii) **Finally, at the beginning of the second Anglo-Dutch war, in 1664,** the English seized Nieuw Amsterdam -- which they renamed New York.

iii) **That was the effective end of the Dutch in North America:** and for some historians, this represents the failure of the economics of 'Old Colonialism' in an era now dominated by the economics of 'New Colonialism'.

c) **Why this Dutch defeat turned out to be so crucial:** will become more apparent when we examine the

development of England's North American colonies and see how vital they became for the British Industrial Revolution, even after the American Revolution, in supplying Britain with important markets and raw materials (cotton).

d) **The crucial failure of the Dutch overseas commercial empire**:

i) **was thus its failure to establish viable overseas markets and overseas colonial sources of raw-material supplies:** i.e., of raw materials for modern industrialization.

ii) **To repeat the key point:** In the context of the Hobsbawm thesis on the 'General Crisis of the 17th Century' [a major essay topic], the Dutch experience in North America represents the failure of Old Colonialism, while the British success represents the victory of New Colonialism.

iii) **For the Dutch commercial economy,** there was of course the striking exception of the Baltic zone, in their own backyard, which they had acquired and consolidated before even embarking on overseas expansion in Asia and the Americas (and also Africa, which we have here omitted).

4. <u>The Baltic in the 17th and 18th Centuries: Keystone of Dutch Power</u>

a) **The Baltic zone**: Scandinavia, Germany, Poland, Russia. Remained the true cornerstone of the Dutch commercial empire in the 17th century:

i) **accounted for over 75% of Dutch commercial capital investments**: [according to Violet Barbour]. But this importance of the Baltic trades in the 17th century has recently been disputed by Jonathan I. Israel, *Dutch Primacy in World Trade, 1585 - 1740* (Oxford: 1989); and even Ralph Davis suggests that the value of the Asian trades grew to equal that of the Baltic-oriented trades].[7]

ii) **Graph on screen**:

(1) shows that in 17th century, the Dutch still accounted for 80-85% of the ships entering the Baltic;

(2) ca. 1700, Dutch still accounted for 75% of 6000 ships in Baltic trade, and they still outnumbered English ships by a ratio of 13:1.

iii) **In terms of total trade in mid-17th century,** Dutch shipping accounted for 70% of grain trade; and imported 80% of the herring and wine, 50% of salt.

b) **Relative Importance of the Baltic Zone**: grew strongly from the 16th to the 18th centuries, i.e., became more important than the long-dominant traditional Mediterranean zone.

i) **Effect of population growth, urbanization, new settlements**: the increasing pressure on inelastic natural

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[7] The most recent and by far the best study, covering many aspects of Dutch economic history in the early-modern era that cannot be covered in this brief introductory lecture, though again a study that begins much too late, is: Jan De Vries and Ad Van der Woude, *Nederland 1500 - 1815: De eerste ronde van moderne economische groei* (Amsterdam: Balans, 1995); republished, as indicated in the previous note, in English translation as *The First Modern Economy: Growth, Decline, and Perseverance of the Dutch Economy, 1500 - 1815* (Cambridge, 1996). Partly for this reason, I have devoted more space to the period before the 1550s, when this book really begins.

resources led to rapid increases in demand for Baltic grain, lumber, and metals.

ii) **The depletion of forests and woodlands in the Mediterranean region**: had resulted in soaring ship construction costs that helped make Italian and Spanish shipping uncompetitive, while Dutch ship building costs low.

iii) **Overseas expansion and colonization**: further increased demand for Baltic lumber and naval stores in 17th and 18th centuries.

iv) **Impact of European and international warfare in 17th and 18th centuries**: increased demand for arms and ships, hence again augmenting demand for Baltic lumber and metals (copper and iron).

v) **Let's look now at the economic geography of the Baltic zone**:

c) **The Baltic Grain Trades**: Prussia and Poland

i) **Grain** was the single most important commodity in Dutch Baltic trade during the 16th and early 17th centuries, the era of rising grain prices, when Dutch viewed this as their 'mother trade' (*moeder handel*). Rye was by far the chief grain, followed by barley, wheat, and oats.

ii) **chief region producing those grains**:

(1) was the Vistula Valley region of Poland, with port of Danzig.

(2) this region (including also East Prussia) had become the chief granary for western Europe, thanks in particular, during the 16th century, to the creation of vast grain estates by German Junker landlords, who enserfed their peasants to work these estates -- servile labour.

iii) **Low-Cost Grain Trade:** the Dutch were able to supply western Europe more cheaply with grain than most other western suppliers, to mid 17th century, because of the following factors:

(1) low cost grain production on these vast Prussian-Polish estates

(2) Low cost Dutch shipping and low cost trade distribution

iv) **Decline:** But from the mid-17th century, the Dutch grain trade declined in both volume and value, for reasons already noted

(1) **serious population decline**: in some of major Dutch markets

(2) **development of competing forms of carbohydrates**: corn, rice, potatoes (as mentioned before).

(3) growth of serious English competition in overseas grain trade, as shown on the graph on the screen.

The Baltic and English Grain Export Trades
Average Annual Exports in Quarters (of 8 bushels)*
1600-49 to 1700-49

PERIOD	BALTIC**	ENGLAND	TOTAL
1600-59	719,250	?	?

1650-99	585,900	26,250	612,150
1700-49	325,500	453,600	779,100

* 1 Quarter = 8 bushels = 64 gallons of grain = 480 lb. (1 bu. = 60 lb.; 6 x 80 = 480 lb.)

** About 80% on the seaborne Baltic grain exports, on average, were carried in Dutch ships (a higher proportion in the earlier than in the later periods).

Average Annual English Grain Exports in Quarters (of 8 bushels), 1700-09 to 1760-64

DECADE	GRAIN EXPORTS IN QUARTERS
1700-09	283,000
1710-19	369,000
1720-29	426,000
1730-39	531,000
1740-49	661,000
1750-59	655,000
1760-64	746,000

d) **Baltic Trades in Lumber and Naval Stores**:

i) **This Baltic trade also grew rapidly with population growth in 16th and 17th centuries,** especially with deforestation in the Mediterranean.

ii) **unlike situation in grain, no new competitors emerged in the lumber trade in later 17th century,** when both warfare and expansion in international shipping continued to increase demand for timber and naval supplies, so that their prices did not fall with depopulation. [N.B. New England did not become a serious competitor until later 18th century]

iii) **The whole of the Baltic region in fact supplied lumber**:

(1) especially Norway for tall spars (masts); coasts of Prussia, Sweden, Poland, and Livonia for lumber in general.

(2) The lumber, etc. was generally cheap because of vast stands of timber with sparse population

(3) Thus little deforestation from settlements, urbanization, construction, fuel consumption: cheap because of very low domestic demand, and low marginal costs in extraction.

iv) **Other naval stores came chiefly from the eastern Baltic (Russia, Livonia, Courland)**: i.e.,

commodities for ship construction: pitch and tar for ship-caulking; hemp for ropes, rigging sails; flax for canvas sails.

v) **Wood-Based Commercial Supremacy:** These Baltic supplies of cheap lumber and naval stores provided basic foundation for Dutch supremacy in shipbuilding and supremacy, especially when Mediterranean shipbuilding costs soared in 17th century.

e) **Baltic Trade in Metals**: the iron and copper of Sweden

i) **Copper:** again, as Central European copper mines became depleted by later 16th century, the vast copper supplies of Sweden became much more valuable.

ii) **Warfare:** but especially Thirty Years War (1618-48) and 18th century-warfare involving Britain, France, and Spain, again greatly increased the demand for copper and iron in artillery (naval and land):

(1) **Copper was initially the more important**: copper mixed with tin to make bronze cannons. Even though cast-iron cannons were or had become cheaper by this era, bronze cannons were still regarded as safer and more reliable -- and certainly less lethal if shattered by explosions (since bronze was softer).

(2) and cast iron cannons in this era were still liable to fissures and cracking (for reasons we shall see when we come to the iron industry), while pure steel artillery was still a most expensive luxury.

(3) First shift to cast-iron cannon with naval artillery in the later 17th century.

(4) **18th century**: innovations in iron-casting involving both coke and silicon, with vastly superior quality iron castings, then shifted the balance decisively to iron artillery.

iii) **For copper**: the principal source was the Stora-Kopparberg (copper mountain) mines in Falun region of Sweden, 300 km NE of Stockholm. At its peak in mid-17th century, producing about 3,000 tons of copper a year.

iv) **The Dutch soon gained control of these copper mines by the age old technique of lending money to the king in return for mining leases;**

(1) and the Dutch merchant-financier families (De Geer, Trip) not only controlled the copper mines and copper trades,

(2) but also developed munitions factories in both Sweden and Holland itself (even importing Japanese copper).

(3) That made the Dutch leading producers and traders in munitions.

v) **18th Century Iron:** With the 18th-century shift more to iron artillery, Sweden still maintained its importance, because it had even more abundant supplies of high quality iron ores that made it world's leading iron and steel producer until much later displaced by the British Industrial Revolution (after the Napoleonic Wars -- 1815).

f) **The Dutch Import Trade Into the Baltic Region**: the chief commodities

i) **Salt**: from France and Portugal, was the chief import

ii) **Fish**: herring especially (still the major market) and also Atlantic cod, came next in importance.

iii) **Textiles**: woollens of both England and Netherlands (the Leiden cloth industry) followed by wines, spices, tobacco, and some manufactured goods.

iv) **West-European Import Deficit with the Baltic:** But as stressed earlier, this region like Asia constituted a deficit region for Western European trade.

(1) It has been estimated that in 17th and 18th centuries, the value of Baltic exports exceeded imports by a ratio of well more than 2:1; that of total value of Baltic commerce, 70% was in goods exported from Baltic and only 30% in goods imported.

(2) The decline of the grain trade did not change this imbalance, because that decline was more than exceeded by increase in lumber and metal exports from the Baltic to western Europe (i.e., imports).

v) **Reasons for this trade imbalance in 17th and 18th centuries**:

(1) **sparse population** of much of this region (especially Scandinavia).

(2) **Serfdom of more densely populated regions of Russia, Poland, Prussia**: effectively removed much of the population from a market economy (Hobsbawm, 'General Crisis' topic again).

vi) **Therefore, this trade deficit (the balance)**:

(1) had to paid for by silver shipments into the Baltic, helping to more drain silver from western Europe.

(2) While the Dutch carried much of this silver, remember that it was in effect the silver of their West European customers -- they were not losing their own silver.

D. The Industrial Link: Dutch Shipbuilding and Commercial Supremacy

The Dutch supremacy in commerce and finance to a considerable extent was sustained by an equally impressive supremacy in ship-building, which in turn was partly based upon Dutch shipping and commercial supremacy.

1. Technological Innovations in Dutch Shipbuilding: The Fluitschip

a) **The Dutch Fluitschip**: This was a superior cargo boat representing optimum trade-off between cargo space and speed. It was not a radical innovation, but the end product of evolving ship design during 15th and 16th centuries.

i) **Origins lay in creation of the northern *carrack***: combining features of:

(1) the old northern round cargo boat, called the cog (*kogge)* with square sails, and

(2) the Portuguese *caravel* with Arabic-style lateen sails.

ii) **Evolved through various stages**: from the *hulk* to *buyscaraveel* to *boyer* to *vlieboot* to full-formed *fluitschip,* which was first documented, at Hoorn, around 1595.

b) **Ship-Rigging**: **three-masts of the carrack type**:

i) **Actually had fewer sails and was somewhat slower than other carracks**:

(1) with two sets of square sails for speed, and a lateen sail on rear mizzen mast, for manoeuvrability;

(2) also had a strikeable top mast for speed in good weather (removable in bad weather).

(3) but with this rigging, the carrack had enough speed to get the ship from Amsterdam to Lisbon to eastern Baltic and back to Amsterdam before winter freeze set in.

(4) Beyond that speed threshold, however, extra speed was not so advantageous for the bulk goods trades.

ii) **Cost Savings:** fewer sails, simpler rigging, and extensive use of pulleys, etc. meant a much smaller crew and thus greater cost savings.

c) **Construction Design to provide optimum speed and cargo space**:

i) **very long craft**: with a length from 4 to 6 times the beam (vs. standard 3 times), to give extra speed without sacrificing cargo space (vs. round northern cargo), with 300 - 500 tons displacement.

ii) **Hull** was designed with low centre of gravity to ride out storms.

iii) **Flat-bottomed** to provide shallow draft in coastal waters, and to travel fairly far up-river.

iv) **Pine Construction:** Fluitschips were built extensively of pine, except where hull stress required the stronger oak: that made these ships much lighter and hence speedier, and also far cheaper to build.

d) **Special design feature**: **no cannon**:

The lack of cannon offered the fluitschip several advantages:

i) **another factor permitting pine-construction**: weight of cannons and munitions, recoil stress, and defence would all have required oak wood.

ii) **no cannons again also meant much greater speed**: with smaller crews.

iii) **More space:** Absence of cannons, munitions, and special crews thus also meant that much more space for revenue-earning cargoes.

iv) **All other countries armed their merchant ships**: with many cannon and so designed their ships accordingly: armed their ships to protect their luxury and semi-luxury cargoes.

v) **But the Dutch had a volume of trade that permitted specialization (and savings on transaction costs)**: i.e., this was a ship specialized for the bulk-cargo trades only, on the assumption that cargoes of grain, lumber, metals, etc. were much less subject to piracy.

vi) **When piracy or war a threat**: when protection needed for silver shipments, the Dutch used the convoy system, with extra warships to protect their flutes.

2. **Low-Cost Shipbuilding (Fluits): Summary of Factors**

a) **mass production with extensive mechanization**: in a large-scale, capital intensive shipbuilding industry: made possible by

i) **large volume of Baltic trade:** which thus permitted specialized ship design.

ii) **simple design, with simple rigging,** which permitted standardization of parts (vs. individual ship design).

b) **Dutch engineering**: devising wind-powered sawmills and cranes, etc.

c) **Use of pine**: instead of oak in construction (see reason above)

d) **cheap capital for capital intensive industry**: low interest rates of about 4%, compared to 10% for their rivals. Made possible by large volume of commercial profits and highly developed financial structure.

e) **Cheap Baltic Timber and Naval Stores**:

i) **Chiefly because of the Dutch dominance of the Baltic trades,** and thus very large volumes of cargo that they handled.

ii) **ability of Dutch to buy in bulk for cash:** obtain much lower prices.

iii) **Much lower freight charges:** i.e., lower shipping costs.

f) **Results**: the Dutch were able to build their cargo-boats, especially fluits for only 2/3 costs of their chief rivals: Thus in 1676 Dutch shipbuilding costs were only £4.50 a ton compared to English shipbuilding costs of £7.15 a ton.

3. **Low-Cost Shipping: The Economics of Low Freight Rates**

a) **Low Construction Costs**: for reasons just outlined

b) **Cheaper Capital Costs**: as noted, 4% on average, vs. 10% for their rivals.

c) **Higher labour productivity and thus lower labour costs**:

i) **because far fewer men were required to man Dutch fluitschips,** for reasons just given (simpler design, rigging, defence; no cannons to man): Dutch used 10 men vs. 30 sailors on English and French ships of comparable size (300 tons).

ii) **That should nullify or at least counter the common argument about labour:** that 'high wages' were a factor in the Dutch 'decline' of the 18th century: high wages reflect high productivity.

d) **More Cargo Space per 300 ton vessels**: for reasons already outlined: i.e.,:

(1) no cannons or munitions; (2) simpler rigging; (3) fewer men.

e) **Greater Speed and Shorter Round Trips**: Time Savings

i) **partly because of the cargo boats were speedier than rival ships;** but more because Dutch ships were tied up in port for much shorter length of time.

ii) **That savings on transaction costs**:

(1) was a function not only of large volume of Dutch cargoes, but also of commercial organization and mechanization in the Amsterdam market.

(2) Cargoes were quickly loaded and unloaded with large dock and warehouse facilities and mechanized cranes.

iii) **Rapid turnovers of cargoes**: meant very large savings on working-capital costs and thus on interest charges.

f) **Superior commercial and financial organization**:

i) with specialized brokerage houses that quickly supplied buyers and sellers for cargoes;

ii) and the also arranged for immediate financing of their transactions.

g) **Nothing succeeds like success**: having full cargoes for much of two-way trade (and fuller cargoes even for Baltic import trade) than their rivals meant far smaller unit costs: could cut freight rates to half of rivals.

4. Dutch and Foreign (English) Shipping Compared

a) **Why Did the English and French (and other rivals) not copy the Dutch?**

i) **In the long run they did, of course,** so that by the mid-18th century they were building ships as cheaply as the Dutch; and may even have been more advanced then in their techniques.

ii) **in meantime,** they also bought, borrowed, and stole Dutch ships; but in short run the English could hardly build up fleets quickly in this fashion, to challenge the Dutch.

b) **Problem was that Dutch, by commanding such a large volume of Baltic trade, presented a vicious circle to their rivals**:

i) **English could not initially build nor operate ships as cheaply as the Dutch;** and thus could not afford to import Baltic naval stores as cheaply.

ii) **With much smaller trading volume,** the English could not afford to specialize their shipping, and thus not operate low cost cargo boats.

iii) **Smaller trading volumes and small profits:** meant English could not achieve capital accumulation and financial structure to produce low interest rates that the Dutch enjoyed; and higher costs all around made it difficult to build up trading volumes, and produce profits.

c) **For international trade**:

i) **the only way out for the English:** was to develop those areas where the Dutch did not enjoy a comparative advantage, particularly in the Asian, Mediterranean, and Caribbean trades where the Dutch could not use the fluitschips, and had to use standard, fully armed ships.

ii) **For these higher-valued semi-luxury or luxury trades,** low-cost shipping not so important; but fire power and defence (which meant lower insurance costs) was more important. In both the Mediterranean and the Caribbean trades, the English gained the edge.

d) **Short-term advantages vs. Long-term Costs**:

If Dutch Fluitschips were initially a great advantage, these unarmed ships became a disadvantage in extensive warfare of 18th century.

i) **Heavy Military Costs:** Dutch had to go to the great added expense of building and supplying armed warships for both a regular navy and for convoy duty in guarding their far flung fleets of fluits, while the English and the French could easily convert armed merchantmen into attack ships. The English navy was thus far more flexible, elastic in supply, and much cheaper.

ii) **Warfare and the Dutch**:

(1) note how the Dutch skilfully used naval power and warfare to build up their vast commercial Empire, so successfully at least in the Baltic and in Asia;

(2) but ultimately they lost that commercial empire by failing to secure the physical and financial means of protecting it.

(3) In an age of warfare, in a mercantilist age of warfare indeed, the British proved to be the decisive victors by using their military power so effectively to ensure ultimate economic dominance.

e) **For English economic growth**:

The answer also lay in the following:

i) **developing overseas colonies both as markets and sources of raw materials,** especially the North American colonies;

ii) **in developing other sectors of their economy:**

(1) in particular to build up an industrial structure to supply goods for international trade;

(2) and also to build up a banking-financial structure, competitive with the Dutch, to finance both industrial and commercial expansion.

iii) **Thus,** these were the chief tasks of the 18th century Industrial Revolution in Great Britain.

E. Dutch Banking and Finance in the 17th and 18th Centuries

1. **Dutch Banking and Financial Hegemony in 17th and 18th Centuries**

a) **the interaction of commerce and banking:**

i) **As I stressed earlier,** Holland's commercial structure and her commercial supremacy in the early-modern European economy almost automatically led to a similar supremacy in banking and finance during the 17th and 18th centuries.

ii) **Amsterdam became not only the commercial capital,** but also the financial capital of Europe with the world's leading bullion and capital markets.

b) **Main Features of Dutch Financial Economy:**

i) **The Bourse (Beurs:** modelled on the Antwerp Beurs, founded in 1531): founded in 1608 as a commodity exchange, which soon developed into a full-fledged stock exchange, for shares in both Dutch and foreign companies (English)

ii) **The Wisselbank, or Exchange Bank of Amsterdam (1609)**: separate topic

iii) **The Lombard Bank or Lending Bank (Bank van Leening)**: founded in 1614, to make short-term commercial loans, not permitted by Exchange Bank.

iv) **Merchant-Banking**: merchant financial houses (family firms, partnerships, etc) that engaged in bills of exchange banking; or what later came to be called 'acceptance banking': to be explained later.

c) **Dutch Financial Innovations?**: In fact, the Dutch made no real innovations in banking and financial institutions; but instead they perfected and developed the banking institutions that they had inherited from the Italians, the South Germans, and the Flemish (i.e., from Antwerp) before them.

2. **The Wisselbank van Amsterdam: the Exchange Bank**

a) **Established by the city of Amsterdam itself in 1609:** modelled on Venice's Bank of Rialto (1587):

i) **As such,** it was the first and certainly the greatest public bank established in northern Europe.

ii) **It directly spawned several other similar civic banks in the Netherlands:** in Middelburg (1616), Delft (1621), Rotterdam (1635); and abroad, in Hamburg (1619) and Stockholm (1656).

b) **Giro or Exchange Bank**:

i) **it was set up specifically and uniquely as an exchange bank or giro bank,** to regulate both money-changing and the money supply.

ii) **Indeed it was given a full monopoly on money-changing (1609),** by a decree that had also outlawed private deposit-banking as well.

iii) **but that monopoly was modified in 1621:** by a decree that restored private deposit banking.

c) **Its Exchange Functions**:

i) **prime function was to prevent the use of any foreign coins in domestic trade**: to deal with the very considerable problem of fraud that resulted from the circulation of debased, clipped, counterfeit or otherwise fraudulent foreign coin brought back by Dutch merchants from all over Europe; or imported by various

foreign merchants trading in Holland.

ii) **Furthermore,** many private money-changers themselves had been cheating in exchanging foreign coins for domestic coins.

iii) **So with a full monopoly on money-changing,** the Wisselbank required all merchants to bring all foreign coins to the bank.

(1) The bank officials then weighed the coins, tested their fineness,

(2) and then credited the value of the bullion contents (precious metal) to their deposit accounts: recorded in a bank money called florins (or guilders).

iv) **The bank florin represented a fixed,** unvarying amount of pure silver, from the bank's foundation until it was dissolved in 1822: it was reckoned from the silver standard of the largest Dutch coins (*rijksdaalder*, 1606-1700; silver *rijder*, 1659-1798; and silver *gulden*, 1681-1806): 1 gulden = 9.6 grams of pure silver.

d) **Mercantile Payments via the Wisselbank**:

i) **All merchants were in effect required to keep deposit accounts with the Wisselbank,** and merchants thus normally made payments to each other by written transfers:

(1) instructions to debit a sum to merchant A's account and credit that sum to merchant B's account.

(2) Thus written transfers much like modern cheques.

ii) **Merchants were also permitted to withdraw cash in the form of silver or gold coin from their accounts:**

(1) but only very large denomination coins.

(2) Those coins were usually reserved to meet the needs of foreign trade, especially the Baltic and East Indian trades (which continually drained silver, for reasons already mentioned under Dutch trade).

iii) **Payment by bank account transfers -- in effect, by cheques or drafts -- was by far the most common means of making transactions in Holland**:

(1) far more convenient and trustworthy than using coins, because even good Dutch coins could get clipped and worn, losing their silver.

(2) Thus since bank florins (bank account credits) always represented a fixed amount of pure silver, because written transfer payments (i.e.,cheques) were so convenient, bank florins normally commanded a premium over current silver coins, or an agio, of about 5%.

e) **Bills of Exchange and the Wisselbank**:

i) **Under Dutch law, all merchants,** domestic or foreign, were required to make all bills-of-exchange transactions over 600 florins through the Wisselbank, i.e., to have all redemption payments paid into deposit accounts at the bank. [Bills of exchange or letters of payment will be explained in more detail when we come to banking as a separate topic, during the Industrial Revolution era.]

ii) **One purpose was to prevent unregulated use of bills-of-exchange,** which could mean an inflationary expansion of the money supply; to prevent fraudulent bills.

iii) **but real reason:** may have been to force all merchants to maintain accounts with the Wisselbank (since all merchants used bills of exchange).

f) **the Wisselbank as a Bullion Dealer**:

i) **the Wisselbank became Europe's largest dealer in bullion and precious metals;** and in that role, it supplied the Dutch mints with bullion for silver and gold coinage, principally silver coinage.

ii) **Technically and legally the Wisselbank had a monopoly on all bullion transactions;**

(1) and private merchants were not allowed to sell bullion to each other or to export it (to keep mints furnished with bullion).

(2) But from about the time that the English Parliament made bullion exports legal (1661), the Dutch were similarly ignoring this restriction.

g) **A Credit Role for the Wisselbank**:? I have repeatedly stressed that the Wisselbank, as a giro or exchange bank, was by its structure not a credit or lending bank; but were the circumstances under which it extended some credit?

i) **Credit from Bullion Deposits**: from about 1683, the Wisselbank inaugurated the policy of extending credit on the security of bullion deposits held at the Wisselbank, credit at the rate of ½%.

(1) The bullion would be held in the bank's vaults as security for the bank loan, which would be credited in bank florins to the merchant's account: i.e., as a written entry

(2) If the merchant failed to repay, the bank would simply claim the bullion put up as security. But in the meantime, the bank could also use that bullion: sell it, trade it, or exchange it at the mint for coin, so long as the bank was able to replace and supply the bullion when the merchant required it.

(3) Allowed the Wisselbank to permit some credit expansion in Dutch trade.

ii) **Extension of Government Credit**: the Wisselbank also extended some credit to major governmental institutions:

(1) to the city of Amsterdam itself (which owned the bank), the States General (Dutch Parliament), the Lending Bank, and the Dutch East India Company, the latter being government-supported institutions.

(2) the interest rates were 3.5% - 4.0%. Technically these were not interest charges, but rather fines for overdrafts, since the Wisselbank was not permitted by its charter to make true loans: i.e., fines for using funds not covered by the deposits.

iii) **Apart from these occasional overdrafts, we can still say that the Wisselbank was not a credit bank:**

(1) it did not otherwise lend money to the public, nor did it discount bills of exchange or other credit instruments.

(2) All such credit and lending operations were left to the Lending Bank and to private Dutch merchant banks.

h) **The Economic Importance of the Wisselbank**: its contributions to Dutch and European Economic Development -- in terms especially of monetary stability:

i) **stable coinage and stable money**: the Wisselbank created and maintained almost perfect monetary stability

within the Netherlands:

(1) by eliminating fraudulent coinage from circulation, by using its power with the government to prevent any coinage debasements, by ensuring that only sound Dutch coinage was issued and circulated, by regulating bills of exchange, and by providing the economy with a sound, stable and invariable bank currency in the form of bank florins (guldens).

(2) that greatly increased mercantile confidence in the monetary system and in the economy.

(3) greatly reduced transaction costs in the economy -- especially in making most payments by bank money (book-account transfers or cheques).

ii) **Bills of Exchange Transactions**: by establishing a perfectly stable coinage and monetary system, the Wisselbank thus maintained a perfectly stable and reliable exchange rate on Dutch currency.

(1) that therefore encouraged foreign merchants across Europe to have their bills-of-exchange drawn on Amsterdam banks: i.e., to have bills redeemed and collected in Amsterdam, eliminating risk of loss through adverse fluctuations of the exchange rate.

(2) Consequently, the Wisselbank provided an international clearing house for banking transactions: for settlements of debits and credits.

iii) **Economized on scarce silver**:

(1) By encouraging or forcing merchants to use only bank money, bank account transfers, and bills of exchanges for most domestic trade and much international trade as well, the Wisselbank could therefore reserve silver for where it was most needed: namely, the Baltic and East Indian trades, which for reasons already seen were continuous trading-deficit areas into which growing amounts of silver were being poured.

(2) The Wisselbank thus allowed the Dutch and West European economy to economize on the use of silver coinage, whose supply was becoming increasingly scarce in the 17th and 18th centuries, at very time when the demand for precious metals in international was also rising.

iv) **All these factors together attracted great deal of liquid capital to Amsterdam,** making Amsterdam the world's leading money market, the international banking capital.

v) **The immense confidence that the Wisselbank inspired:**

(1) was certainly partly due to its primary role as an exchange or giro bank rather than a credit bank.

(2) But its inability to extend credit, particularly to do so by discounting, ultimately proved to be its fatal weakness.

3. <u>Dutch International Banking in the 18th Century: Acceptance Banking</u>

a) **The Shift to Banking and Finance in the 18th century:**

With the gradual decline of Dutch shipping and of the active carrying trades by the early 18th century, Dutch commercial activities shifted more and more to banking and finance: banking of all kinds, to insurance, brokerage trades, stock trades, etc., and especially acceptance-banking.

b) **Acceptance-banking**: had developed directly out of the shipping and commodity trades that Amsterdam had built up over the 17th and 18th centuries, in the following fashion:

i) **As Europe's commodity exchange market,** Amsterdam developed a large community of brokerage and commission merchants, whose occupation was to buy and sell ship-cargoes in Amsterdam and other ports for various Dutch and foreign merchants and shippers: i.e., to bring together buyers and sellers.

ii) **In so doing,** it had become commonplace for these brokerage merchants to advance funds to buyers, or advance credit to sellers.

iii) **With the decline in the active carrying, shipping trades,** as foreign countries established their own shipping services, and dealt directly with each other, many of these brokers and commission merchants shifted from the shipping business into finance, especially into financing international trade; and thus Amsterdam banking houses continued to finance European trade, even though the goods traded no longer passed through the port of Amsterdam.

c) **How Acceptance Banking (Accept-Krediet) Worked**:

i) **an acceptance bill is simply the more modern form of the bill of exchange:** in financing international trade, with a few differences. The following is an explanation.

(1) The acceptance bill is one that in effect involves the loan of commodities (i.e., grain, lumber, wine) rather than money, with a contract that specifies future payment for these goods, at some bank in a different country, and in a different currency

(2) Thus, for example you agree to buy Polish grain at the port of Danzig for a price specified in Prussian (German) marks and agree to make payment at an Amsterdam bank, in 60 days time, in Dutch florins (aka guilders)

(3) the acceptance bill is, therefore, a form of straight sales credit.

(4) There are four parties in the acceptance bill: the seller and buyer of the commodities in city A (transaction city) and their two banking agents abroad, who arrange payment or redemption of the bill in city B (payment city): the acceptor or payer of the bill, and the payee.

ii) **Example**: **a Bordeaux merchant instructs his commercial agent in Danzig to buy a shipload of grain and to arrange payment for that grain by drawing an acceptance bill upon a designated Amsterdam bank:**

(1) The buyer is thus borrowing the grain from the grain seller, who is selling it on credit. So the buyer's agent in Danzig gives the Danzig grain merchant a formal bill that requires the specified Amsterdam bank to pay the specified amount, usually in three months time.

(2) The Bordeaux merchant sends a copy of his instructions to his Amsterdam bank (bank A); meanwhile, the Danzig grain merchant mails the bill he has received to his own bank in Amsterdam (bank B). That bank B, acting for the Danzig grain-seller, takes the bill to bank A, as the agent for the Bordeaux merchant; and that bank A receives the bill and writes on the back: ‘we accept,’ meaning that it promises to honour bill and

make full payment on the date of maturity (redemption date).

(3) Hence the term 'acceptance banking;' and that bank is called an 'acceptance bank'. That bank might agree to make payment, cash the bill, ahead of time; but obviously, as indicated earlier, at discount.

(4) The Amsterdam acceptance-bank (A) has thus agreed to extend financial credit to the Bordeaux merchant.

(5) If that Bordeaux merchant maintains an account there, a credit balance in that bank, he can simply instruct that bank to recover both its credit advance and its banking costs (which might also include shipping insurance premiums) and its profit, by a simple account-transfer, debiting the Bordeaux merchant's account.

(6) If the Bordeaux merchant does not have an Amsterdam bank account, then the Amsterdam acceptance bank would draw a second bill upon a Bordeaux bank (acting for the Bordeaux merchant) for the sum advanced plus all costs and bank profit.

iii) **Such acceptance-banking,** along with other forms of banking and maritime insurance, trading in stocks, commodity futures, etc., all marked the culmination of Amsterdam's role as the banking capital of Europe, as the chief financier of international trade, as the chief capital investor in the European economy.

iv) **These banking and financial activities were good for both the Dutch and European economies,** and certainly helped to sustain a high level of prosperity in the Netherlands, despite a decline in the carrying trade.

d) **Dangers Involved in Acceptance Banking**:

i) **the immediate danger lay in the fact that it was quite risky:**

(1) for, as you will have noted, the acceptance-banker has obligated himself to redeem the bill on maturity, whether or not his client will have the funds to cover the bill plus expenses.

(2) Obviously, in the example cited, the Bordeaux merchant hopes to cover the bill and repay the bank from the proceeds of the grain sale. But suppose grain prices fall; or worse, suppose that ship sinks?

ii) **Insurance could protect both the merchants and the banks,** unless there were too many claims because of piracy or warfare; and warfare in the 18th century, particularly the second half magnified those dangers.

iii) **Furthermore, a grave danger also lay in the abuse of these banking activities through commercial speculation,** through an over-issue of bank credit on false expectations of economic growth: but sudden adverse fluctuations in international trade, overexpanded booms producing slumps, often resulted from poor communications of this era (as well as from economic dislocations produced by warfare).

iv) **Further problem lay in the over-issue of unsecured paper credit,** fuelling commercial boom, turning into speculative fevers, producing financial bubbles that were bound to burst, particularly as bankers lent money to merchants speculating on both the commodity and stock exchanges.

v) **in the longer run,** the chief danger to the Dutch economy lay in financing the increased economic growth and power of the Netherlands' chief economic rivals, the French and the English. But let us look now at the financial crises of the late 18th century.

■ **<u>The Economic Decline of the Netherlands and the Origins of the British Industrial Revolution:</u>**

1. **The 18th Century Financial Crises**

a) **The Crisis of 1763**: following the end of the Seven Years' War, between England and France.

i) **The Dutch had been the chief bankers of this war,** financing both sides; and in so doing they had issued a flood of unsecured financial paper, part of which became worthless with the French defeat.

ii) **Thus that defeat burst the expanded bubble of financial credit,** producing severe panic, a credit contraction, and wave of bankruptcies.

b) **The Crisis of 1773**:

i) **caused mainly by speculation on the Amsterdam Bourse,** mainly in East India Co. shares.

ii) **There followed a stock market crash,** again producing a severe credit crisis and more bankruptcies.

c) **The Crisis of 1783**:

i) **again caused by warfare,** the general European war and continental coalition against Britain.

ii) **Though Britain lost its colonial war (with the new Republic of the U.S.),** it won the European war, which the Dutch had so unwisely joined.

iii) **Dutch shipping and commerce were shattered;** and even the Wisselbank was forced to close its doors in crisis of 1781-83.

d) **1793**: French Revolutionary armies invaded the Netherlands and set up the puppet Republic of Batavia.

e) **Significance of these Financial Crises (before 1793)**:

i) **was to reveal the impotence of the Wisselbank,** the Amsterdam Exchange Bank, which had no way of regulating credit or even of assisting the private banks, its chief clients.

ii) **But in London, the Bank of England could extend credit,** and it decisively intervened in all three crises to assist its clients (both Dutch and English banks), especially by rediscounting their commercial paper (i.e., buying their bills for cash, to shore up cash reserves).

iii) **Those banks assisted by the Bank of England survived the storms;** and those who were not, in Amsterdam, either collapsed or suffered very heavy losses and runs on their reserves.

(1) That demonstrated London's superior financial and economic power in general;

(2) and helped to produce a general and rapid shift of banking and finance from Amsterdam to London during the later 18th century.

iv) **With the outbreak of the French Revolutionary Wars,** and the French occupation of Holland in the 1790s, that shift was complete.

2. **The Economic Decline of the Netherlands in the 18th Century**

a) **Traditional views and Revisionist views on the Dutch decline:**

i) **Historians, especially English historians,** used to contend that the Dutch began their economic decline in the mid-17th century: as a result, they conceitedly thought, of the English Navigation Laws [to be discussed

later, under the topic of 'Mercantilism',

ii) **and also the result of a series of three wars with the Dutch,** all of which supposedly injured Dutch shipping irreparably.

b) **All this rather surprised the Dutch,** who thought all along that they had won the wars.

i) **In any event, the Dutch have now set the record straight,** and have shown that:

(1) French and English mercantilist policies and wars had little substantial effect on their economy in the 17th or early 18th centuries;

(2) that the Dutch continued until at least the mid-18th century or so, to be the leading shippers of Europe, on whom most countries remained dependent for their trade; that Amsterdam remained the commodity-exchange centre and banking capital of Europe.

ii) **In short, that the Dutch did maintain their commercial supremacy,** with increasing prosperity to about the 1730s or 1750s.

iii) **By that time all admit that Dutch economic power was beginning to wane;**

(1) but it would seem that it was only a *relative* decline;

(2) the volume of Dutch trade remained more or less static in volume, while the aggregate volume of European trade had greatly expanded, largely independently of the Dutch.

(3) And essentially the Dutch declined relatively because the English overtook them.

Values of Anglo-Dutch Trade (in millions of pounds sterling)

Year	**English Imports:**				**English Exports:**		
	From Holland	**Per-centage of Total**	**Total**		**To Holland**	**Per-centage of**	**Total**
1697	£0.507	14.6%	£ 3.483		£1.462	41.5%	£3..526
1773	£0.412	3.6%	£11.407		£1.874	12.7%	£14.763

source: Charles Wilson, *Anglo-Dutch Trade and Finance*

(4) As these figures might suggest, even if Dutch became a second-rate power, it did not necessarily become significantly poorer by it. But still hurt!

3. **Main aspects and causes of waning of Dutch economic power (four aspects)**

a) **Loss of supremacy in the carrying (shipping) trades:**

i) primarily because other nations, above all England and France, also Sweden, Denmark, German states,

finally developed their own shipping systems and port facilities under protective umbrella of mercantilist legislation, especially Navigation Laws -- despite the Revisionist claims;

ii) **thus these nations were able to establish their own direct trading routes,** bypassing the Dutch.

iii) **At the same time, as volume of European trade markedly expanded in the 18th century,** the Dutch were simply unable to expand rapidly enough to service it -- impossible to expand shipping that rapidly.

iv) **Charles Boxer and De Vries: have provided evidence that:**

(1) population failed to grow; and declined especially in port towns.

(2) Shipbuilding volume declined.

v) **Boxer: Views this situation more as an absolute decline:**

(1) partly because population failed to grow as elsewhere in Europe;

(2) but more especially because the Dutch, after having been so long victorious and ineffectively challenged, had grown complacent, conservative and resistant to change;

(3) that the Dutch, during the 18th century, did not demonstrate, especially in shipbuilding and trade, same innovative drive as 17th, nor indeed match the English or even the French.

(4) But all this is very hard to document.

b) **Aspects of Dutch Industrial Decline:**

i) **With decline in the carrying trade, and thus of Amsterdam's role as an entrepot and commodity exchange centre,** there was consequent decline of many of those various finishing and refining industries based upon that entrepot trade.

ii) **Also the fisheries suffered decline, if to a lesser extent:** but still, the Dutch remained dominant in herring fisheries until 19th century.

iii) **Even more serious was the development of competing industries in other countries,** again thanks to protective umbrella of mercantilist legislation, and thanks often to monopoly supplies of colonial materials.

iv) **Britain provided most serious blow:**

(1) The Dutch lost their market there for finished linens with growth of Irish and Scottish linen industries under government protection and subsidies;

(2) also, English were dyeing and finishing more and more of their own woollen cloths, which had once been done almost entirely in Holland;

(3) and English embargoes on wool exports helped kill off small Dutch woollen industry.

(4) More serious still: the new British cotton industry of the Industrial Revolution injured Dutch markets everywhere else for their linens and their trade in Asian cotton goods.

(5) Finally, British pottery industry of the Industrial Revolution ousted famous Delft potteries of Holland.

v) **Other national examples:**

(1) The German development of their own saw-mills and ore refineries and cloth dyeing mills, woollens and linens industries;

(2) The French displaced Dutch as chief sugar refiners.

c) **Costs of Warfare and Taxation: Demonstrably did contribute to Decline.**

i) **We have already seen that the Dutch initially built up their commercial empire through concerted application of naval power:** in acquiring the Baltic from the Germans, Revolt against Spain, seizing East Indies from Ports.

ii) **But ultimately they lost that commercial empire through an unhappy combination of striving to maintain it and failing to do so;**

(1) and, as already noted, in the end, the Dutch were finally crushed by series of European wars in late 18th century.

(2) But even before that, they had drained their energies and economy through very high taxes and extensive borrowing to maintain defences.

iii) **Population, Resources and Taxation:**

(1) The Dutch were just too small and loosely organized to afford the costs of holding onto such an empire in an entirely new military age.

(2) To quote Charles Wilson, they had developed 'an economy that offered, in a world continuously at war, a thousand hostages to fortune.'

iv) **Level of Taxation:** by far the highest in Europe. For 1695

	Population (millions)	**Per Capita Income in £ sterling**	**Public Revenue in millions of £ sterling**	**Per capita Taxes in £ sterling**	**Per Capita Con sumption in £ sterling**
Holland	2.24	8.1	6.9	3.08	4.69
England	5.45	7.80	6.50	1.20	7.15
France	13.50	5.90	17.50	1.25	4.19

v) **Thus Holland, with a population only half that of England,** had to secure a larger public revenue for defense than England;

vi) **the consequent high level of taxation:** had a very significant effect in reducing per capita disposable income – i.e., market demand.

vii) **Most of this taxation was in the form of indirect excise or sales taxes on consumption:**

(1) very regressive; and that especially on foodstuffs.

(2) High excise taxes, especially in the form of high food prices, was admittedly or probably a factor in making Dutch wages so high;

(3) estimated that Dutch labour costs from 20% to 100% higher than elsewhere, thus making Dutch industrial exports that much more uncompetitive.

(4) Nevertheless, this standard arguments seems a bit dubious: since the wage level should have been

determined by the productivity and more particularly the marginal revenue product of labour.

d) **The Netherlands and Warfare in 18th Century Europe:**

i) **In the 17th Century:** Dutch managed to survive three hard-fought naval wars with England and a landed invasion as well from France.

ii) **Thereafter, Dutch adopted foreign policy of semi-armed neutrality,** which proved to be quite expensive enough.

iii) **That worked for almost a century;**

(1) but, as already noted, in the 1780s the Dutch got drawn into war again, joining a European coalition against England – and joined the wrong side.

(2) Finally, they were crushed by the French revolutionary armies in 1790s.

e) **The 18th Century Financial Crises:** are again, in relative perspective, undoubtedly the most serious and ruinous of the final blows that beset the Dutch economy in the late 18th century.

4. **The Dutch Failure to Industrialize in the 18th Century:**

Thus the central question is: Why did Dutch, when shipping began to decline, shift from commerce into direct industrialization on English model, in order to develop a new trade based own industrial exports?

a) **Dominance of Commerce in Dutch economic Outlook:** Long traditions.

i) **That Dutch economy was so predominately based on exchange or entrepot trade,** providing a mercantile mentality not at all related to industry, domestic industry, since dependent on other countries' product for trade.

ii) **As noted earlier, the Dutch industrial structure,** apart from woollen cloth manufacturing, had become essentially just finishing and refining industries based on this entrepot trade.

iii) **Similarly, that shift from entrepot trade to commercial banking and finance:**

(1) had been much more direct and natural than to industrialization.

(2) Especially since the rate of return was still higher in commerce than in industry.

iv) **Non-Mercantilist Commercial Policies:** more important argument.

(1) That the Dutch government, dominated by shipping merchants, refused to adopt protective tariffs and other mercantilist measures to spur growth of domestic manufacturing industries –

(2) to give them that necessary breathing space to develop by domestic market, as many others did. Refused to permit such tariffs for fear of injuring their entrepot trade.

(3) Certainly the evidence does show that small Dutch industrial class did make such tariff demands, and that they were almost always rejected.

b) **Lack of Raw Materials for an Industrial Base:**

i) **A nation does not necessarily have to have a raw material base in order to industrialize,** since it can import them.

(1) Japan is a very good example for today;

(2) and Britain of course imported the cotton necessary for the industrial revolution in manufacturing.

(3) Certainly the Dutch had abundant and cheap shipping to import raw materials.

ii) **But having raw materials available at home always helps greatly:**

(1) above all in having coal, the essential fuel, the chief ingredient of the modern industrial revolution.

(2) And coal is relatively expensive to ship as a bulk commodity, especially since some considerable land transport is generally involved before coal reaches a port.

c) **High level of wages in the Netherlands:**

i) **arguably, as a result of high taxation, from:**

(1) rising costs of imported foodstuffs (most were imported), and

(2) a government policy that restricted manufacturing and industrial labour supplies to cities (i.e.,, wishing to preserve Dutch agriculture).

ii) **True, in the 17th century,** labour scarcity had led to some sophisticated mechanization in industry; but failed to advance that in the 18th century.

iii) **Thus once more the standard argument:** the effects of high taxation in depressing demand in domestic market, while raising production costs for exported goods.

iv) **However, you must evaluate these arguments in the light of microeconomic theory:** that equates the effective prevailing wage in the market with the marginal revenue product of labour.

d) **The question of interest rates:**

i) another quasi or fully fallacious argument about the Dutch decline concerns interest rates: for some historians have argued that higher interest rates abroad, up to double those prevailing in Holland, encouraged Dutch merchants and financiers to invest abroad rather than at home.

ii) But the low interests, of 3.5% - 4.0%, indicate a relative abundance of capital funds available for investment within Holland

iii) **Futhermore, we shall see, in examining British banking and finance,** that British interest rates had fallen to this level by about the 1760s, without discouraging domestic investment

iv) **The real point remains this:** that within the Netherlands for historic cultural and sociol-economic reasons, the Dutch collectively had a greater investor preference for commerce, banking and finance rather than for industrial enterprises.

5. <u>The Dutch Commercial-Financial Hegemony: Costs and Benefits for Great Britain in the 18th Century</u>

a) **Did the Dutch economic hegemony delay the coming of the Industrial Revolution in Great Britain**: what were the supposed costs?

i) **Thus one might argue that Dutch commercial supremacy delayed the coming of the British Industrial Revolution,** particularly by denying the British those markets and capital (from commercial profits) necessary

for industrialization; but the Dutch had limited monopoly powers and they controlled few markets vital for the British Industrial Revolution.

ii) **Instead, Dutch dominance of some markets forced British to obey law of comparative advantage,** and thus to seek out other markets where they could compete much more effectively: especially in Mediterranean, N. America

b) **Chief contribution of the Dutch was to provide the British with that national challenge to develop their economy:** in an essentially mercantilist age that equated wealth with power -- to develop their own trade and industry to compete more effectively with the Dutch, and to do so in ways that proved to be much more conducive to industrialization.

c) **Question of Dutch capital investments in England**:

i) **The Dutch did invest heavily in England:** as a result of enormous capitals accumulated from commerce and result of their highly developed banking system, Dutch had reduced their domestic interest rate to 3% - 4% by the late 17th century; and sought better investments abroad.

ii) **in England, yields on commercial-industrial investments were about 8%-10%;** and higher on government debt. So Dutch invested heavily in English land reclamation, canals, transport and trade.

iii) **But the largest share of investments went into English government securities,** most of which was liquidated during warfare of late 18th century. Still that was indirectly very beneficial to the English economy: for Dutch purchases of government bonds help to lower the general rate of interest and in effect liberated English funds for industrial and commercial investments.

Table 1. **The Populations of Europe, by Regions, 1500 - 1800**
in millions

Region	**1500**	**1550**	**1600**	**1650**	**1700**	**1750**	**1800**
North West	7.6	9.5	11	14.25	15.1	17.4	25.3
NW %	**12.5%**	**13.6%**	**14.1%**	**19.2%**	**18.1%**	**17.9%**	**20.7%**
Central	29	33.75	36.9	33.5	38.2	43.8	53.5
Cent %	**47.6%**	**48.3%**	**47.4%**	**45.0%**	**45.7%**	**45.1%**	**43.8%**
Mediterranean	18.3	20	22.3	19.6	22.8	26.5	31.2
Med %	**30.0%**	**28.6%**	**28.6%**	**26.3%**	**27.3%**	**27.3%**	**25.5%**
Eastern	6	6.6	7.7	7.1	7.4	9.4	12.2
East %	**9.9%**	**9.5%**	**9.9%**	**9.5%**	**8.9%**	**9.7%**	**10.0%**
TOTAL	**60.9**	**69.85**	**77.9**	**74.45**	**83.5**	**97.1**	**122.2**

Source: Jan De Vries, 'Population', in T.A. Brady, H.A. Oberman, and J.D. Tracy, eds., *Handbook of European History, 1400-1600*, Vol. I: *Structures and Assertions* (Leiden, 1994), p. 13

Table 2.

Price Levels and Price Trends in England, 1450-1749 Mean Price Indices* and Mean Annual Rates of Price Changes, for 25-Year Periods.

Mean of Price Indices for 1451-1475 = 100 (Base)*

Quarter Century	Mean Price Index:* 1451-75=100	Mean Annual Percentage Change in Price Index	Standard Deviation (s.d.)	Coefficient of Variation (s.d./Mean)
1450-74	101.4	+0.08%	7.68	7.6
1475-99	104.6	+0.06%	18.52	17.7
1500-24	115.5	+1.47%	19.21	16.6
1525-49	168.8	+1.56%	29.57	17.5
1550-74	287.2	+0.20%	41.45	14.4
1575-99	401.6	+2.26%	94.71	23.6
1600-24	505.3	+0.69%	47.94	9.5
1625-49	595.6	+0.95%	81.48	13.7
1650-74	631.6	-0.42%	72.26	11.4
1675-99	616.7	+0.48%	74.01	12.0
1700-24	617.8	-0.09%	81.03	13.1
1725-49	587.6	-0.17%	51.00	8.7

* The Phelps Brown and Hopkins Price Index. See Sources for Table 2.

Table 3.

Price-Relatives of Charcoal, Timber, Industrial Products, Grains, and the Phelps-Brown & Hopkins 'Basket of Consumables' Index in Decennial Averages, 1530-9 to 1640-9

Average of 1530-9 = base 100

Decade	Charcoal (Cambridge)	Timber (National)	Industrial Products	Grains: Rye, Wheat, Oats, Barley	Basket of Cons-umables
1530-9	100	100	100	100	100
1540-9	122	115	115	116	124
1550-9	203	174	169	216	186
1560-9	217	178	198	196	180
1570-9	230	206	203	230	203
1580-9	270	247	209	282	230
1590-9	287	289	216	366	305
1600-9	320	335	233	348	306
1610-9	359	397	249	407	341
1620-9	345	450	240	399	333
1630-9	378	475	255	491	397
1640-9	535	524	278	488	398

Table 3, continued:

Weighting of the Phelps Brown and Hopkins Price Index:

Farinaceous Foods (Grains)		20.0%	
Meat and Fish		25.0%	
Butter and Cheese	12.5%		
Drink (Malt, Hops, etc.)		22.5%	
Subtotal: Food			**80.0%**
Fuel and Light		7.5%	
Textiles		12.5%	
Subtotal: Industrial Goods			**20.0%**
Total			**100.0%**

Sources:

(a) Charcoal: J.E. Thorold Rogers, *History of Agriculture and Prices in England*, IV: (*1401-1582*), 383-7; V (*1583-1702*), 398-402.

(b) Timber, industrial products, grains:

Peter Bowden, 'Agricultural Prices: Statistical Appendix,' in Joan Thirsk, ed., *Agrarian History of England and Wales*, IV: *1500-1640* (1967), Table XIII, 862.

(c) 'Basket of Consumables':

E.H. Phelps Brown and Sheila Hopkins, 'Seven Centuries of the Prices of Consumables,' in E.M. Carus-Wilson, ed., *Essays in Economic History*, Vol. II (1962), pp. 194-95; and E.H. Phelps Brown and Sheila Hopkins, *A Perspective of Wages and Prices* (London, 1981).

Table 4. **Mined Outputs of Silver in the Spanish Americas Average Annual Outputs of Silver per Decade: in Kilograms of Pure Silver Mined at Potosi (Peru), Zacatecas and Sombrerete (Mexico), 1561-70 - 1741-50.**

Index: 1591-1600 = 100

Decade	Potosi ('Peru') [Bolivia] Silver Kg.	Zacatecas (Mexico) Silver Kg.	Sombrerete (Mexico) Silver Kg.	TOTAL SILVER OUTPUT Silver Kg.	INDEX of Mined Silver Outputs in America	INDEX of Silver Imports at Seville
1561-70	53,761	28,696		82,457	39.4	36.4
1571-80	74,293	32,653		106,946	51.1	41.9
1581-90	175,517	27,090		202,607	96.9	76.4
1591-1600	184,830	24,297		209,127	100.00	100.0
1601-10	174,586	30,994		205,580	98.3	80.2
1611-20	153,700	45,436		199,136	95.2	78.5
1621-30	135,481	50,105		185,586	88.7	74.6
1631-40	138,965	38,096		177,061	84.7	48.0
1641-50	120,064	27,217		147,281	70.4	36.7
1651-60	104,459	28,536		132,995	63.6	15.3
1661-70	81,230	29,620		110,850	53.0	
1671-80	71,223	56,005		127,228	60.8	
1681-90	85,008	27,961	28,168*	141,137*	67.5	
1691-1700	63,164	31,483	13,871	108,518	51.9	
1701-10	44,237	33,590	6,331	84,158	40.2	
1711-20	33,973	49,541	4,107	87,621	41.9	
1721-30	34,046					
1731-40	39,260					
1741-50	45,531					

.....

* estimated.

Sources: Calculated or extrapolated from:

Harry E. Cross, 'South American Bullion Production and Export, 1550-1750,' in John Richards, ed., *Precious Metals in the Later Medieval and Early Modern Worlds* (Durham, 1983), Appendix II, p. 422 (from statistics in pesos; those in kilograms are evidently miscalculated).

P.J. Bakewell, *Silver Mining and Society in Colonial Mexico: Zacatecas, 1546-1700* (Cambridge, 1971), Tables 4 and 7, pp. 241-45, 249-50.

Earl J. Hamilton, *American Treasure and the Price Revolution in Spain, 1501-1650* (Cambridge, Mass. 1934), p. 34.

Table 5. **Imports of Spanish American Treasure into Seville: Annual Averages per Decade (Decennial Means) in Kilograms of Pure Metal and in Pesos, 1511-20 to 1691-1700**

Decade	Treasure Imports into SEVILLE (SPAIN)			INDEX= 1591-1600= 100
	in Gold kg.	in Silver kg.	in Pesos	
1511-20	915		362,109	3.1
1521-30	489	15	193,997	1.7
1531-40	1,447	8,619	924,506	8.0
1541-50	2,496	17,757	1,730,964	15.0
1551-60	4,262	30,312	2,955,529	25.7
1561-70	1,153	94,286	4,193,727	36.4
1571-80	943	111,859	4,824,025	41.9
1581-90	1,210	210,303	8,802,669	76.4
1591-1600	1,945	270,763	11,516,917	100.0
1601-10	1,176	221,363	9,233,030	80.2
1611-20	886	219,226	9,039,802	78.5
1621-30	389	214,534	8,597,185	74.6
1631-40	124	139,676	5,529,947	48.0
1641-50	155	105,643	4,224,433	36.7
1651-60	47	44,326	1,762,756	15.3
1661-70			[10,140,000]*	
1671-80			[13,760,000]*	
1681-90			[10,260,000]*	
1691-1700			[13,400,000]*	

* Estimated by Morineau, these figures should be treated with suspicion.

1 peso = 8 reales = 272 maravedis = 1 ounce = 29.5 grams (silver at 0.931 fine)

Sources:

(a) 1511-1660: Earl J. Hamilton, *American Treasure and the Price Revolution in Spain, 1501-1650* (Cambridge, Mass. 1934) pp. 34, 42. Converted from decennial totals to decennial means; and pesos converted from those of 450 maravedis to those of 272 maravedis.

(b) 1661-1700: Michel Morineau, 'D'Amsterdam à Seville: de quelle réalité l`histoire des prix est-elle le miroir?,' *Annales: Economies, sociétés, civilisations*, 23 (1968), 196.

Table 6. **Lasts of Herrings Shipped from the Netherlands through the Danish Sund into the Baltic, 1562 - 1780, in annual averages:**

Years	Lasts of Herring	Years	Lasts of Herring
1562 - 69	2619	1671 - 80	1954
1574 - 79	456	1681 - 90	2959
1580 - 89	852	1691 - 00	1879
1590 - 99	5044	1701 - 10	329
1600 - 09	8495	1711 - 20	1114
1610 - 19	8658	1721 - 30	1748
1620 - 29	7593	1731 - 40	1764
1630 - 39	7512	1741 - 50	585
1640 - 49	8089	1751 - 60	663
1650 - 57	3383	1761 - 70	610
1661 - 70	2607	1771 - 80	1389

Source: Jan De Vries and Ad Van der Woude, *The First Modern Economy: Growth, Decline, and Perseverance of the Dutch Economy, 1500 - 1815* (Cambridge and New York: Cambridge University Press, 1996), p. 249.

Table 7. **Shipping Traffic Through the Danish Sund: Percentage Shares Held by Dutch Ships In Decennial Means, 1580-9 to 1640-9**

Decade	Dutch Ships	Total Ships	Dutch Ships as Percentage of Total Shipping
1580-89	2587	4921	52.5%
1590-99	3275	5623	58.2%
1600-09	2691	4525	59.4%
1610-19	3290	4779	68.8%
1620-29	2405	3726	64.5%
1630-39	1990	3383	58.8%
1640-49	2010	3499	57.4%

Table 8. Exports of Silver to Asia by the Dutch East India Company [Vereenigde Oostindische Compagnie], decennial means: in Dutch Gulden (guilders or florins) and Kilograms of Fine Silver, 1602 - 1795

Decade	Gulden (guilders)	Kilograms Fine Silver	Index: 1600-49 = 100
1600-09	647375	6959.7	71.9
1610-19	965800	10382.9	107.3
1620-29	1247900	12610.8	130.3
1630-39	890000	8994	92.9
1640-49	880000	8892.9	91.9
1650-59	840000	8488.7	87.7
1660-69	1190000	11563.1	119.5
1670-79	1220000	11854.6	122.5
1680-89	1972000	18847	194.8
1690-99	2900500	27720.9	286.5
1700-09	3912500	37392.9	386.4
1710-19	3882700	37108.1	383.5
1720-29	6602700	63104	652.1
1730-39	4254000	40656.8	420.1
1740-49	3994000	38171.9	394.5
1750-59	5502000	52584.3	543.4
1760-69	5458800	52171.4	539.1
1770-79	4772600	45613.2	471.4
1780-89	4804200	45915.2	474.5
1790-99	3233600	30904.5	319.4

1 gulden (guilder, florin): in 1606-20 = 10.751 g. fine silver; in 1621-59 = 10.106 g. fine silver; in 1659-81 = 9.717 g. fine silver; in 1681-1795 = 9.557 g. fine silver

Source:

F.S. Gaastra, ‘The Exports of Precious Metal from Europe to Asia by the Dutch East India Company, 1602-1795 A.D.,’ in John F. Richards, ed., *Precious Metals in the Medieval and Early Modern Worlds* (Durham, N.C., 1983), pp. 447-76.

Table 9. **Exports of Silver to India and East Asia by the Dutch and English East India Companies, in Kilograms of Fine Metal**

Decennial Means, 1660-69 to 1710-19

Decade	Dutch East India Company exports: in kilograms	English East India Company Exports: in kilograms	Total Silver Shipments in kilograms of silver
1660 - 69	11563.1	5729.6	17292.7
1670 - 79	11854.6	11364	23218.6
1680 - 89	18847	29276	48123
1690 - 99	27720.9	18179	45899.9
1700 - 99	37392.9	36294.3	73687.2
1710 - 19	37108.1	41133.6	78241.7

Sources:

F.S. Gaastra, 'The Exports of Precious Metal from Europe to Asia by the Dutch East India Company, 1602-1795 A.D.,' in John F. Richards, ed., *Precious Metals in the Medieval and Early Modern Worlds* (Durham, N.C., 1983), pp. 447-76.

K. N. Chaudhuri, 'Treasure and Trade Balances: the East India Company's Export Trade, 1660-1720,' *Economic History Review*, 2nd ser. 21 (Dec. 1968), Table 1, pp. 497-98.

Table 10: **Exports of Gold and Silver 'Treasure' (Bullion) and Merchandise to India By the British East India Company, in Pounds Sterling Values, Decennial Means, 1660-69 to 1710-19**

Decade	Treasure	%	Merchandise	%	Total in £
1660-69	74,022.4	64.3%	41,085.2	35.7%	115,107.6
1670-79	234,091.4	72.2%	89,990.8	27.8%	324,082.2
1680-89	383,707.7	87.2%	56,170.2	12.8%	439,877.9
1690-99	166,561.4	69.8%	72,065.2	30.2%	238,626.6
1700-09	337,008.9	84.7%	60,876.5	15.3%	397,885.4
1710-19	371,418.1	79.2%	97,771.3	20.8%	469,189.4

Table 11: Values of Imports into the Southern Netherlands c. 1560 in Million of Gulden (Carolus Florins of 40d gros Flemish)

Textile Product Imports	Value in Millions of Gulden	Per Cent of Total Import Values	Other Imports	Value in Millions of Gulden	Per Cent of Total Import Values
Raw Silk and Italian Silks	4	21.6%	Baltic grains	3	16.2%
English Woolens	3.24	17.5%	Portuguese Spices	2	10.8%
Spanish Wools*	1.25	6.8%	French wines	1.15	6.2%
English wools	0.5	2.7%	Rhenish wines	0.72	3.9%
French woad	0.4	2.2%	Italian/Spanish/Portuguese wines	0.5	2.7%
German fustians	0.24	1.3%	Portuguese salt	0.25	1.4%
Italian/Spanish alum	0.24	1.3%	French salt	0.25	1.4%
Spanish-American cochineal	0.225	1.2%	Spanish olive oils	0.2	1.1%
			Spanish salt	0.175	0.9%
			German copper	0.16	0.9%
Totals	10.095	54.6%	**Totals**	8.405	45.4%

* Spanish *merino* wools imported chiefly via Bruges

Source: Wilfrid Brulez, 'Le commerce international des Pays-Bas au XVIe siècle: essai d'appreciation quantitative,' *Revue belge de philologie et d'histoire*, 46 (1968), 1205-21, based upon Ludovico Guicciardini, *Description de la cité d'Anvers, 1560*, trans. François de Belleforest, 1582; published in Antwerp, 1920).

Table 12: **The Baltic and English Grain Export Trades**
Average Annual Exports in Quarters (of 8 bushels)*

1600-49 to 1700-49

PERIOD	BALTIC**	ENGLAND	TOTAL
1600-59	719250	?	?
1650-99	585900	26250	612150
1700-49	325500	453600	779100

* 1 Quarter = 8 bushels = 64 gallons of grain = 480 lb. (1 bu. = 60 lb.; 6 x 80 = 480 lb.)

** about 80% on the seaborne Baltic grain exports, on average, was carried in Dutch ships (a higher proportion in the earlier than in the later periods).

Table 13: **Average Annual English Grain Exports in Quarters (of 8 bushels), 1700-09 to 1760-64**

DECADE	GRAIN EXPORTS IN QUARTERS
1700-09	283000
1710-19	369000
1720-29	426000
1730-39	531000
1740-49	661000
1750-59	655000
1760-64	746000

D. **The Industrial Link: Dutch Shipbuilding and Commercial Supremacy**

The Dutch supremacy in commerce and finance to a considerable extent was sustained by an equally impressive supremacy in ship-building, which in turn was partly based upon Dutch shipping and commercial supremacy.

1. **Technological Innovations in Dutch Shipbuilding: The Fluitschip**

a) **The Dutch Fluitschip**: This was a superior cargo boat representing optimum trade-off between cargo space and speed. It was not a radical innovation, but the end product of evolving ship design during 15th and 16th centuries.

i) **Origins lay in creation of the northern *carrack***: combining features of:

(1) the old northern round cargo boat, called the cog (*kogge)* with square sails, and

(2) the Portuguese *caravel* with Arabic-style lateen sails.

ii) **Evolved through various stages**: from the *hulk* to *buyscaraveel* to *boyer* to *vlieboot* to full-formed *fluitschip,* which was first documented, at Hoorn, around 1595.

b) **Ship-Rigging**: **three-masts of the carrack type**:

i) **Actually had fewer sails and was somewhat slower than other carracks**:

(1) with two sets of square sails for speed, and a lateen sail on rear mizzen mast, for manoeuvrability;

(2) also had a strikeable top mast for speed in good weather (removable in bad weather).

(3) but with this rigging, the carrack had enough speed to get the ship from Amsterdam to Lisbon to eastern Baltic and back to Amsterdam before winter freeze set in.

(4) Beyond that speed threshold, however, extra speed was not so advantageous for the bulk goods trades.

ii) **Cost Savings:** fewer sails, simpler rigging, and extensive use of pulleys, etc. meant a much smaller crew and thus greater cost savings.

c) **Construction Design to provide optimum speed and cargo space**:

i) **very long craft**: with a length from 4 to 6 times the beam (vs. standard 3 times), to give extra speed without sacrificing cargo space (vs. round northern cargo), with 300 - 500 tons displacement.

ii) **Hull** was designed with low centre of gravity to ride out storms.

iii) **Flat-bottomed** to provide shallow draft in coastal waters, and to travel fairly far up-river.

iv) **Pine Construction:** Fluitschips were built extensively of pine, except where hull stress required the stronger oak: that made these ships much lighter and hence speedier, and also far cheaper to build.

d) **Special design feature**: **no cannon**:

The lack of cannon offered the fluitschip several advantages:

i) **another factor permitting pine-construction**: weight of cannons and munitions, recoil stress, and defence would all have required oak wood.

ii) **no cannons again also meant much greater speed**: with smaller crews.

iii) **More space:** Absence of cannons, munitions, and special crews thus also meant that much more space for revenue-earning cargoes.

iv) **All other countries armed their merchant ships**: with many cannon and so designed their ships accordingly: armed their ships to protect their luxury and semi-luxury cargoes.

v) **But the Dutch had a volume of trade that permitted specialization (and savings on transaction costs)**: i.e., this was a ship specialized for the bulk-cargo trades only, on the assumption that cargoes of grain, lumber, metals, etc. were much less subject to piracy.

vi) **When piracy or war a threat**: when protection needed for silver shipments, the Dutch used the convoy system, with extra warships to protect their flutes.

2. **Low-Cost Shipbuilding (Fluits): Summary of Factors**

a) **mass production with extensive mechanization**: in a large-scale, capital intensive shipbuilding industry: made possible by

i) **large volume of Baltic trade:** which thus permitted specialized ship design.

ii) **simple design, with simple rigging,** which permitted standardization of parts (vs. individual ship design).

b) **Dutch engineering**: devising wind-powered sawmills and cranes, etc.

c) **Use of pine**: instead of oak in construction (see reason above)

d) **cheap capital for capital intensive industry**: low interest rates of about 4%, compared to 10% for their rivals. Made possible by large volume of commercial profits and highly developed financial structure.

e) **Cheap Baltic Timber and Naval Stores**:

i) **Chiefly because of the Dutch dominance of the Baltic trades,** and thus very large volumes of cargo that

they handled.
ii) **ability of Dutch to buy in bulk for cash:** obtain much lower prices.
iii) **Much lower freight charges:** i.e., lower shipping costs.
f) **Results**: the Dutch were able to build their cargo-boats, especially fluits for only 2/3 costs of their chief rivals: Thus in 1676 Dutch shipbuilding costs were only £4.50 a ton compared to English shipbuilding costs of £7.15 a ton.

3. **Low-Cost Shipping: The Economics of Low Freight Rates**
a) **Low Construction Costs**: for reasons just outlined
b) **Cheaper Capital Costs**: as noted, 4% on average, vs. 10% for their rivals.
c) **Higher labour productivity and thus lower labour costs**:
i) **because far fewer men were required to man Dutch fluitschips,** for reasons just given (simpler design, rigging, defence; no cannons to man): Dutch used 10 men vs. 30 sailors on English and French ships of comparable size (300 tons).
ii) **That should nullify or at least counter the common argument about labour:** that 'high wages' were a factor in the Dutch 'decline' of the 18th century: high wages reflect high productivity.
d) **More Cargo Space per 300 ton vessels**: for reasons already outlined: i.e.,:
(1) no cannons or munitions; (2) simpler rigging; (3) fewer men.
e) **Greater Speed and Shorter Round Trips**: Time Savings
i) **partly because of the cargo boats were speedier than rival ships;** but more because Dutch ships were tied up in port for much shorter length of time.
ii) **That savings on transaction costs**:
(1) was a function not only of large volume of Dutch cargoes, but also of commercial organization and mechanization in the Amsterdam market.
(2) Cargoes were quickly loaded and unloaded with large dock and warehouse facilities and mechanized cranes.
iii) **Rapid turnovers of cargoes**: meant very large savings on working-capital costs and thus on interest charges.
f) **Superior commercial and financial organization**:
i) with specialized brokerage houses that quickly supplied buyers and sellers for cargoes;
ii) and the also arranged for immediate financing of their transactions.
g) **Nothing succeeds like success**: having full cargoes for much of two-way trade (and fuller cargoes even for Baltic import trade) than their rivals meant far smaller unit costs: could cut freight rates to half of rivals.

4. **Dutch and Foreign (English) Shipping Compared**
a) **Why Didn't English and French (and other rivals) copy the Dutch?**
i) **In the long run they did, of course,** so that by the mid-18th century they were building ships as cheaply as the Dutch; and may even have been more advanced then in their techniques.
ii) **in meantime,** they also bought, borrowed, and stole Dutch ships; but in short run the English could hardly build up fleets quickly in this fashion, to challenge the Dutch.
b) **Problem was that Dutch, by commanding such a large volume of Baltic trade, presented a vicious circle to their rivals**:
i) **English could not initially build nor operate ships as cheaply as the Dutch;** and thus could not afford to import Baltic naval stores as cheaply.
ii) **With much smaller trading volume,** the English could not afford to specialize their shipping, and thus not operate low cost cargo boats.
iii) **Smaller trading volumes and small profits:** meant English could not achieve capital accumulation and financial structure to produce low interest rates that the Dutch enjoyed; and higher costs all around made it difficult to build up trading volumes, and produce profits.
c) **For international trade**:
i) **the only way out for the English:** was to develop those areas where the Dutch did not enjoy a comparative advantage, particularly in the Asian, Mediterranean, and Caribbean trades where the Dutch could not use the fluitschips, and had to use standard, fully armed ships.
ii) **For these higher-valued semi-luxury or luxury trades,** low-cost shipping not so important; but fire power and defence (which meant lower insurance costs) was more important. In both the Mediterranean and the Caribbean trades, the English gained the edge.

d) **Short-term advantages vs. Long-term Costs**:
If Dutch Fluitschips were initially a great advantage, these unarmed ships became a disadvantage in extensive warfare of 18th century.
i) **Heavy Military Costs:** Dutch had to go to the great added expense of building and supplying armed warships for both a regular navy and for convoy duty in guarding their far flung fleets of fluits, while the English and the French could easily convert armed merchantmen into attack ships. The English navy was thus far more flexible, elastic in supply, and much cheaper.
ii) **Warfare and the Dutch**:
(1) note how the Dutch skilfully used naval power and warfare to build up their vast commercial Empire, so successfully at least in the Baltic and in Asia;
(2) but ultimately they lost that commercial empire by failing to secure the physical and financial means of protecting it.
(3) In an age of warfare, in a mercantilist age of warfare indeed, the British proved to be the decisive victors by using their military power so effectively to ensure ultimate economic dominance.
e) **For English economic growth**:
The answer also lay in the following:
i) **developing overseas colonies both as markets and sources of raw materials,** especially the North American colonies;
ii) **in developing other sectors of their economy:**
(1) in particular to build up an industrial structure to supply goods for international trade;
(2) and also to build up a banking-financial structure, competitive with the Dutch, to finance both industrial and commercial expansion.
iii) **Thus,** these were the chief tasks of the 18th century Industrial Revolution in Great Britain.

E. Dutch Banking and Finance in the 17th and 18th Centuries

1. Dutch Banking and Financial Hegemony in 17th and 18th Centuries

a) **the interaction of commerce and banking:**
i) **As I stressed earlier,** Holland's commercial structure and her commercial supremacy in the early-modern European economy almost automatically led to a similar supremacy in banking and finance during the 17th and 18th centuries.
ii) **Amsterdam became not only the commercial capital,** but also the financial capital of Europe with the world's leading bullion and capital markets.
b) **Main Features of Dutch Financial Economy:**
i) **The Bourse (Beurs:** modelled on the Antwerp Beurs, founded in 1531): founded in 1608 as a commodity exchange, which soon developed into a full-fledged stock exchange, for shares in both Dutch and foreign companies (English)
ii) **The Wisselbank, or Exchange Bank of Amsterdam (1609)**: separate topic
iii) **The Lombard Bank or Lending Bank (Bank van Leening)**: founded in 1614, to make short-term commercial loans, not permitted by Exchange Bank.
iv) **Merchant-Banking**: merchant financial houses (family firms, partnerships, etc) that engaged in bills of exchange banking; or what later came to be called ‘acceptance banking’: to be explained later.
c) **Dutch Financial Innovations?**: In fact, the Dutch made no real innovations in banking and financial institutions; but instead they perfected and developed the banking institutions that they had inherited from the Italians, the South Germans, and the Flemish (i.e., from Antwerp) before them.

2. The Wisselbank van Amsterdam: the Exchange Bank

a) **Established by the city of Amsterdam itself in 1609:** modelled on Venice's Bank of Rialto (1587):
i) **As such,** it was the first and certainly the greatest public bank established in northern Europe.
ii) **It directly spawned several other similar civic banks in the Netherlands:** in Middelburg (1616), Delft (1621), Rotterdam (1635); and abroad, in Hamburg (1619) and Stockholm (1656).
b) **Giro or Exchange Bank**:
i) **it was set up specifically and uniquely as an exchange bank or giro bank,** to regulate both money-changing and the money supply.
ii) **Indeed it was given a full monopoly on money-changing (1609),** by a decree that had also outlawed private

deposit-banking as well.
iii) **but that monopoly was modified in 1621:** by a decree that restored private deposit banking.
c) **Its Exchange Functions**:
i) **prime function was to prevent the use of any foreign coins in domestic trade**: to deal with the very considerable problem of fraud that resulted from the circulation of debased, clipped, counterfeit or otherwise fraudulent foreign coin brought back by Dutch merchants from all over Europe; or imported by various foreign merchants trading in Holland.
ii) **Furthermore,** many private money-changers themselves had been cheating in exchanging foreign coins for domestic coins.
iii) **So with a full monopoly on money-changing,** the Wisselbank required all merchants to bring all foreign coins to the bank.
(1) The bank officials then weighed the coins, tested their fineness,
(2) and then credited the value of the bullion contents (precious metal) to their deposit accounts: recorded in a bank money called florins (or guilders).
iv) **The bank florin represented a fixed,** unvarying amount of pure silver, from the bank's foundation until it was dissolved in 1822: it was reckoned from the silver standard of the largest Dutch coins (*rijksdaalder*, 1606-1700; silver *rijder*, 1659-1798; and silver *gulden*, 1681-1806): 1 gulden = 9.6 grams of pure silver.
d) **Mercantile Payments via the Wisselbank**:
i) **All merchants were in effect required to keep deposit accounts with the Wisselbank,** and merchants thus normally made payments to each other by written transfers:
(1) instructions to debit a sum to merchant A's account and credit that sum to merchant B's account.
(2) Thus written transfers much like modern cheques.
ii) **Merchants were also permitted to withdraw cash in the form of silver or gold coin from their accounts:**
(1) but only very large denomination coins.
(2) Those coins were usually reserved to meet the needs of foreign trade, especially the Baltic and East Indian trades (which continually drained silver, for reasons already mentioned under Dutch trade).
iii) **Payment by bank account transfers -- in effect, by cheques or drafts -- was by far the most common means of making transactions in Holland**:
(1) far more convenient and trustworthy than using coins, because even good Dutch coins could get clipped and worn, losing their silver.
(2) Thus since bank florins (bank account credits) always represented a fixed amount of pure silver, because written transfer payments (i.e.,cheques) were so convenient, bank florins normally commanded a premium over current silver coins, or an agio, of about 5%.
e) **Bills of Exchange and the Wisselbank**:
i) **Under Dutch law, all merchants,** domestic or foreign, were required to make all bills-of-exchange transactions over 600 florins through the Wisselbank, i.e., to have all redemption payments paid into deposit accounts at the bank. [Bills of exchange or letters of payment will be explained in more detail when we come to banking as a separate topic, during the Industrial Revolution era.]
ii) **One purpose was to prevent unregulated use of bills-of-exchange,** which could mean an inflationary expansion of the money supply; to prevent fraudulent bills.
iii) **but real reason:** may have been to force all merchants to maintain accounts with the Wisselbank (since all merchants used bills of exchange).
f) **the Wisselbank as a Bullion Dealer**:
i) **the Wisselbank became Europe's largest dealer in bullion and precious metals;** and in that role, it supplied the Dutch mints with bullion for silver and gold coinage, principally silver coinage.
ii) **Technically and legally the Wisselbank had a monopoly on all bullion transactions;**
(1) and private merchants were not allowed to sell bullion to each other or to export it (to keep mints furnished with bullion).
(2) But from about the time that the English Parliament made bullion exports legal (1661), the Dutch were similarly ignoring this restriction.
g) **A Credit Role for the Wisselbank**:? I have repeatedly stressed that the Wisselbank, as a giro or exchange bank, was by its structure not a credit or lending bank; but were the circumstances under which it extended some credit?
i) **Credit from Bullion Deposits**: from about 1683, the Wisselbank inaugurated the policy of extending credit on the security of bullion deposits held at the Wisselbank, credit at the rate of ½%.

(1) The bullion would be held in the bank's vaults as security for the bank loan, which would be credited in bank florins to the merchant's account: i.e., as a written entry
(2) If the merchant failed to repay, the bank would simply claim the bullion put up as security. But in the meantime, the bank could also use that bullion: sell it, trade it, or exchange it at the mint for coin, so long as the bank was able to replace and supply the bullion when the merchant required it.
(3) Allowed the Wisselbank to permit some credit expansion in Dutch trade.
ii) **Extension of Government Credit**: the Wisselbank also extended some credit to major governmental institutions:
(1) to the city of Amsterdam itself (which owned the bank), the States General (Dutch Parliament), the Lending Bank, and the Dutch East India Company, the latter being government-supported institutions.
(2) the interest rates were 3.5% - 4.0%. Technically these were not interest charges, but rather fines for overdrafts, since the Wisselbank was not permitted by its charter to make true loans: i.e., fines for using funds not covered by the deposits.
iii) **Apart from these occasional overdrafts, we can still say that the Wisselbank was not a credit bank:**
(1) it did not otherwise lend money to the public, nor did it discount bills of exchange or other credit instruments.
(2) All such credit and lending operations were left to the Lending Bank and to private Dutch merchant banks.
h) **The Economic Importance of the Wisselbank**: its contributions to Dutch and European Economic Development -- in terms especially of monetary stability:
i) **stable coinage and stable money**: the Wisselbank created and maintained almost perfect monetary stability within the Netherlands:
(1) by eliminating fraudulent coinage from circulation, by using its power with the government to prevent any coinage debasements, by ensuring that only sound Dutch coinage was issued and circulated, by regulating bills of exchange, and by providing the economy with a sound, stable and invariable bank currency in the form of bank florins (guldens).
(2) that greatly increased mercantile confidence in the monetary system and in the economy.
(3) greatly reduced transaction costs in the economy -- especially in making most payments by bank money (book-account transfers or cheques).
ii) **Bills of Exchange Transactions**: by establishing a perfectly stable coinage and monetary system, the Wisselbank thus maintained a perfectly stable and reliable exchange rate on Dutch currency.
(1) that therefore encouraged foreign merchants across Europe to have their bills-of-exchange drawn on Amsterdam banks: i.e., to have bills redeemed and collected in Amsterdam, eliminating risk of loss through adverse fluctuations of the exchange rate.
(2) Consequently, the Wisselbank provided an international clearing house for banking transactions: for settlements of debits and credits.
iii) **Economized on scarce silver**:
(1) By encouraging or forcing merchants to use only bank money, bank account transfers, and bills of exchanges for most domestic trade and much international trade as well, the Wisselbank could therefore reserve silver for where it was most needed: namely, the Baltic and East Indian trades, which for reasons already seen were continuous trading-deficit areas into which growing amounts of silver were being poured.
(2) The Wisselbank thus allowed the Dutch and West European economy to economize on the use of silver coinage, whose supply was becoming increasingly scarce in the 17th and 18th centuries, at very time when the demand for precious metals in international was also rising.
iv) **All these factors together attracted great deal of liquid capital to Amsterdam,** making Amsterdam the world's leading money market, the international banking capital.
v) **The immense confidence that the Wisselbank inspired:**
(1) was certainly partly due to its primary role as an exchange or giro bank rather than a credit bank.
(2) But its inability to extend credit, particularly to do so by discounting, ultimately proved to be its fatal weakness.

3. **<u>Dutch International Banking in the 18th Century: Acceptance Banking</u>**
a) **The Shift to Banking and Finance in the 18th century:**
With the gradual decline of Dutch shipping and of the active carrying trades by the early 18th century, Dutch commercial activities shifted more and more to banking and finance: banking of all kinds, to insurance, brokerage trades, stock trades, etc., and especially acceptance-banking.

b) **Acceptance-banking**: had developed directly out of the shipping and commodity trades that Amsterdam had built up over the 17th and 18th centuries, in the following fashion:
i) **As Europe's commodity exchange market,** Amsterdam developed a large community of brokerage and commission merchants, whose occupation was to buy and sell ship-cargoes in Amsterdam and other ports for various Dutch and foreign merchants and shippers: i.e., to bring together buyers and sellers.
ii) **In so doing,** it had become commonplace for these brokerage merchants to advance funds to buyers, or advance credit to sellers.
iii) **With the decline in the active carrying, shipping trades,** as foreign countries established their own shipping services, and dealt directly with each other, many of these brokers and commission merchants shifted from the shipping business into finance, especially into financing international trade; and thus Amsterdam banking houses continued to finance European trade, even though the goods traded no longer passed through the port of Amsterdam.
c) **How Acceptance Banking (Accept-Krediet) Worked**:
i) **an acceptance bill is simply the more modern form of the bill of exchange:** in financing international trade, with a few differences. The following is an explanation.
(1) The acceptance bill is one that in effect involves the loan of commodities (i.e., grain, lumber, wine) rather than money, with a contract that specifies future payment for these goods, at some bank in a different country, and in a different currency
(2) Thus, for example you agree to buy Polish grain at the port of Danzig for a price specified in Prussian (German) marks and agree to make payment at an Amsterdam bank, in 60 days time, in Dutch florins (aka guilders)
(3) the acceptance bill is, therefore, a form of straight sales credit.
(4) There are four parties in the acceptance bill: the seller and buyer of the commodities in city A (transaction city) and their two banking agents abroad, who arrange payment or redemption of the bill in city B (payment city): the acceptor or payer of the bill, and the payee.
ii) **Example**: **a Bordeaux merchant instructs his commercial agent in Danzig to buy a shipload of grain and to arrange payment for that grain by drawing an acceptance bill upon a designated Amsterdam bank:**
(1) The buyer is thus borrowing the grain from the grain seller, who is selling it on credit. So the buyer's agent in Danzig gives the Danzig grain merchant a formal bill that requires the specified Amsterdam bank to pay the specified amount, usually in three months time.
(2) The Bordeaux merchant sends a copy of his instructions to his Amsterdam bank (bank A); meanwhile, the Danzig grain merchant mails the bill he has received to his own bank in Amsterdam (bank B). That bank B, acting for the Danzig grain-seller, takes the bill to bank A, as the agent for the Bordeaux merchant; and that bank A receives the bill and writes on the back: 'we accept,' meaning that it promises to honour bill and make full payment on the date of maturity (redemption date).
(3) Hence the term 'acceptance banking;' and that bank is called an 'acceptance bank'. That bank might agree to make payment, cash the bill, ahead of time; but obviously, as indicated earlier, at discount.
(4) The Amsterdam acceptance-bank (A) has thus agreed to extend financial credit to the Bordeaux merchant.
(5) If that Bordeaux merchant maintains an account there, a credit balance in that bank, he can simply instruct that bank to recover both its credit advance and its banking costs (which might also include shipping insurance premiums) and its profit, by a simple account-transfer, debiting the Bordeaux merchant's account.
(6) If the Bordeaux merchant does not have an Amsterdam bank account, then the Amsterdam acceptance bank would draw a second bill upon a Bordeaux bank (acting for the Bordeaux merchant) for the sum advanced plus all costs and bank profit.
iii) **Such acceptance-banking,** along with other forms of banking and maritime insurance, trading in stocks, commodity futures, etc., all marked the culmination of Amsterdam's role as the banking capital of Europe, as the chief financier of international trade, as the chief capital investor in the European economy.
iv) **These banking and financial activities were good for both the Dutch and European economies,** and certainly helped to sustain a high level of prosperity in the Netherlands, despite a decline in the carrying trade.
d) **Dangers Involved in Acceptance Banking**:
i) **the immediate danger lay in the fact that it was quite risky:**
(1) for, as you will have noted, the acceptance-banker has obligated himself to redeem the bill on maturity, whether or not his client will have the funds to cover the bill plus expenses.
(2) Obviously, in the example cited, the Bordeaux merchant hopes to cover the bill and repay the bank from the

proceeds of the grain sale. But suppose grain prices fall; or worse, suppose that ship sinks?
ii) **Insurance could protect both the merchants and the banks,** unless there were too many claims because of piracy or warfare; and warfare in the 18th century, particularly the second half magnified those dangers.
iii) **Furthermore, a grave danger also lay in the abuse of these banking activities through commercial speculation,** through an over-issue of bank credit on false expectations of economic growth: but sudden adverse fluctuations in international trade, overexpanded booms producing slumps, often resulted from poor communications of this era (as well as from economic dislocations produced by warfare).
iv) **Further problem lay in the over-issue of unsecured paper credit,** fuelling commercial boom, turning into speculative fevers, producing financial bubbles that were bound to burst, particularly as bankers lent money to merchants speculating on both the commodity and stock exchanges.
v) **in the longer run,** the chief danger to the Dutch economy lay in financing the increased economic growth and power of the Netherlands' chief economic rivals, the French and the English. But let us look now at the financial crises of the late 18th century.

vi)<u>The Economic Decline of the Netherlands and the Origins of the British Industrial Revolution:</u>

1. **<u>The 18th Century Financial Crises</u>**

a) **The Crisis of 1763**: following the end of the Seven Years' War, between England and France.
i) **The Dutch had been the chief bankers of this war,** financing both sides; and in so doing they had issued a flood of unsecured financial paper, part of which became worthless with the French defeat.
ii) **Thus that defeat burst the expanded bubble of financial credit,** producing severe panic, a credit contraction, and wave of bankruptcies.
b) **The Crisis of 1773**:
i) **caused mainly by speculation on the Amsterdam Bourse,** mainly in East India Co. shares.
ii) **There followed a stock market crash,** again producing a severe credit crisis and more bankruptcies.
c) **The Crisis of 1783**:
i) **again caused by warfare,** the general European war and continental coalition against Britain.
ii) **Though Britain lost its colonial war (with the new Republic of the U.S.),** it won the European war, which the Dutch had so unwisely joined.
iii) **Dutch shipping and commerce were shattered;** and even the Wisselbank was forced to close its doors in crisis of 1781-83.
d) **1793**: French Revolutionary armies invaded the Netherlands and set up the puppet Republic of Batavia.
e) **<u>Significance of these Financial Crises (before 1793)</u>**:
i) **was to reveal the impotence of the Wisselbank,** the Amsterdam Exchange Bank, which had no way of regulating credit or even of assisting the private banks, its chief clients.
ii) **But in London, the Bank of England could extend credit,** and it decisively intervened in all three crises to assist its clients (both Dutch and English banks), especially by rediscounting their commercial paper (i.e., buying their bills for cash, to shore up cash reserves).
iii) **Those banks assisted by the Bank of England survived the storms;** and those who were not, in Amsterdam, either collapsed or suffered very heavy losses and runs on their reserves.
(1) That demonstrated London's superior financial and economic power in general;
(2) and helped to produce a general and rapid shift of banking and finance from Amsterdam to London during the later 18th century.
iv) **With the outbreak of the French Revolutionary Wars,** and the French occupation of Holland in the 1790s, that shift was complete.

2. **<u>The Economic Decline of the Netherlands in the 18th Century</u>**

a) **Traditional views and Revisionist views on the Dutch decline:**
i) **Historians, especially English historians,** used to contend that the Dutch began their economic decline in the mid-17th century: as a result, they conceitedly thought, of the English Navigation Laws [to be discussed later, under the topic of 'Mercantilism',
ii) **and also the result of a series of three wars with the Dutch,** all of which supposedly injured Dutch shipping irreparably.
b) **All this rather surprised the Dutch,** who thought all along that they had won the wars.
i) **In any event, the Dutch have now set the record straight,** and have shown that:

(1) French and English mercantilist policies and wars had little substantial effect on their economy in the 17th or early 18th centuries;
(2) that the Dutch continued until at least the mid-18th century or so, to be the leading shippers of Europe, on whom most countries remained dependent for their trade; that Amsterdam remained the commodity-exchange centre and banking capital of Europe.
ii) **In short, that the Dutch did maintain their commercial supremacy,** with increasing prosperity to about the 1730s or 1750s.
iii) **By that time all admit that Dutch economic power was beginning to wane;**
(1) but it would seem that it was only a *relative* decline;
(2) the volume of Dutch trade remained more or less static in volume, while the aggregate volume of European trade had greatly expanded, largely independently of the Dutch.
(3) And essentially the Dutch declined relatively because the English overtook them.

Values of Anglo-Dutch Trade (in millions of pounds sterling)

Year	**English Imports:**				**English Exports:**		
	From Holland	**Per-centage of Total**	**Total**		**To Holland**	**Per-centage of**	**Total**
1697	£0.507	14.6%	£ 3.483		£1.462	41.5%	£3..526
1773	£0.412	3.6%	£11.407		£1.874	12.7%	£14.763

source: Charles Wilson, *Anglo-Dutch Trade and Finance*

(4) As these figures might suggest, even if Dutch became a second-rate power, it did not necessarily become significantly poorer by it. But still hurt!

3. **Main aspects and causes of waning of Dutch economic power (four aspects)**a) **Loss of supremacy in the carrying (shipping) trades:**
i) primarily because other nations, above all England and France, also Sweden, Denmark, German states, finally developed their own shipping systems and port facilities under protective umbrella of mercantilist legislation, especially Navigation Laws -- despite the Revisionist claims;
ii) **thus these nations were able to establish their own direct trading routes,** bypassing the Dutch.
iii) **At the same time, as volume of European trade markedly expanded in the 18th century,** the Dutch were simply unable to expand rapidly enough to service it -- impossible to expand shipping that rapidly.
iv) **Charles Boxer and De Vries: have provided evidence that:**
(1) population failed to grow; and declined especially in port towns.
(2) Shipbuilding volume declined.
v) **Boxer: Views this situation more as an absolute decline:**
(1) partly because population failed to grow as elsewhere in Europe;
(2) but more especially because the Dutch, after having been so long victorious and ineffectively challenged, had grown complacent, conservative and resistant to change;

(3) that the Dutch, during the 18th century, did not demonstrate, especially in shipbuilding and trade, same innovative drive as 17th, nor indeed match the English or even the French.

(4) But all this is very hard to document.

b) **Aspects of Dutch Industrial Decline:**

i) **With decline in the carrying trade, and thus of Amsterdam's role as an entrepot and commodity exchange centre,** there was consequent decline of many of those various finishing and refining industries based upon that entrepot trade.

ii) **Also the fisheries suffered decline, if to a lesser extent:** but still, the Dutch remained dominant in herring fisheries until 19th century.

iii) **Even more serious was the development of competing industries in other countries,** again thanks to protective umbrella of mercantilist legislation, and thanks often to monopoly supplies of colonial materials.

iv) **Britain provided most serious blow:**

(1) The Dutch lost their market there for finished linens with growth of Irish and Scottish linen industries under government protection and subsidies;

(2) also, English were dyeing and finishing more and more of their own woollen cloths, which had once been done almost entirely in Holland;

(3) and English embargoes on wool exports helped kill off small Dutch woollen industry.

(4) More serious still: the new British cotton industry of the Industrial Revolution injured Dutch markets everywhere else for their linens and their trade in Asian cotton goods.

(5) Finally, British pottery industry of the Industrial Revolution ousted famous Delft potteries of Holland.

v) **Other national examples:**

(1) The German development of their own saw-mills and ore refineries and cloth dyeing mills, woollens and linens industries;

(2) The French displaced Dutch as chief sugar refiners.

c) **Costs of Warfare and Taxation: Demonstrably did contribute to Decline.**

i) **We have already seen that the Dutch initially built up their commercial empire through concerted application of naval power:** in acquiring the Baltic from the Germans, Revolt against Spain, seizing East Indies from Ports.

ii) **But ultimately they lost that commercial empire through an unhappy combination of striving to maintain it and failing to do so;**

(1) and, as already noted, in the end, the Dutch were finally crushed by series of European wars in late 18th century.

(2) But even before that, they had drained their energies and economy through very high taxes and extensive borrowing to maintain defences.

iii) **Population, Resources and Taxation:**

(1) The Dutch were just too small and loosely organized to afford the costs of holding onto such an empire in an entirely new military age.

(2) To quote Charles Wilson, they had developed 'an economy that offered, in a world continuously at war, a thousand hostages to fortune.'

iv) **Level of Taxation:** by far the highest in Europe. For 1695

	Population (millions)	**Per Capita Income in £ sterling**	**Public Revenue in millions of £ sterling**	**Per capita Taxes in £ sterling**	**Per Capita Con sumption in £ sterling**
Holland	2.24	8.1	6.9	3.08	4.69
England	5.45	7.80	6.50	1.20	7.15
France	13.50	5.90	17.50	1.25	4.19

v) **Thus Holland, with a population only half that of England,** had to secure a larger public revenue for defense than England;

vi) **the consequent high level of taxation:** had a very significant effect in reducing per capita disposable income – i.e., market demand.

vii) **Most of this taxation was in the form of indirect excise or sales taxes on consumption:**

(1) very regressive; and that especially on foodstuffs.

(2) High excise taxes, especially in the form of high food prices, was admittedly or probably a factor in making Dutch wages so high;

(3) estimated that Dutch labour costs from 20% to 100% higher than elsewhere, thus making Dutch industrial exports that much more uncompetitive.

(4) Nevertheless, this standard arguments seems a bit dubious: since the wage level should have been determined by the productivity and more particularly the marginal revenue product of labour.

d) **The Netherlands and Warfare in 18th Century Europe:**

i) **In the 17th Century:** Dutch managed to survive three hard-fought naval wars with England and a landed invasion as well from France.

ii) **Thereafter, Dutch adopted foreign policy of semi-armed neutrality,** which proved to be quite expensive enough.

iii) **That worked for almost a century;**

(1) but, as already noted, in the 1780s the Dutch got drawn into war again, joining a European coalition against England – and joined the wrong side.

(2) Finally, they were crushed by the French revolutionary armies in 1790s.

e) **The 18th Century Financial Crises:** are again, in relative perspective, undoubtedly the most serious and ruinous of the final blows that beset the Dutch economy in the late 18th century.

4. **<u>The Dutch Failure to Industrialize in the 18th Century:</u>**

Thus the central question is: Why did Dutch, when shipping began to decline, shift from commerce into direct industrialization on English model, in order to develop a new trade based own industrial exports?

a) **Dominance of Commerce in Dutch economic Outlook:** Long traditions.

i) **That Dutch economy was so predominately based on exchange or entrepot trade,** providing a mercantile mentality not at all related to industry, domestic industry, since dependent on other countries' product for trade.

ii) **As noted earlier, the Dutch industrial structure,** apart from woollen cloth manufacturing, had become essentially just finishing and refining industries based on this entrepot trade.

iii) **Similarly, that shift from entrepot trade to commercial banking and finance:**

(1) had been much more direct and natural than to industrialization.

(2) Especially since the rate of return was still higher in commerce than in industry.

iv) **Non-Mercantilist Commercial Policies:** more important argument.

(1) That the Dutch government, dominated by shipping merchants, refused to adopt protective tariffs and other mercantilist measures to spur growth of domestic manufacturing industries –

(2) to give them that necessary breathing space to develop by domestic market, as many others did. Refused to permit such tariffs for fear of injuring their entrepot trade.

(3) Certainly the evidence does show that small Dutch industrial class did make such tariff demands, and that they were almost always rejected.

b) **Lack of Raw Materials for an Industrial Base:**

i) **A nation does not necessarily have to have a raw material base in order to industrialize,** since it can import them.

(1) Japan is a very good example for today;

(2) and Britain of course imported the cotton necessary for the industrial revolution in manufacturing.

(3) Certainly the Dutch had abundant and cheap shipping to import raw materials.

ii) **But having raw materials available at home always helps greatly:**

(1) above all in having coal, the essential fuel, the chief ingredient of the modern industrial revolution.

(2) And coal is relatively expensive to ship as a bulk commodity, especially since some considerable land transport is generally involved before coal reaches a port.

c) **High level of wages in the Netherlands:**

i) **arguably, as a result of high taxation, from:**

(1) rising costs of imported foodstuffs (most were imported), and

(2) a government policy that restricted manufacturing and industrial labour supplies to cities (i.e.,, wishing to preserve Dutch agriculture).

ii) **True, in the 17th century,** labour scarcity had led to some sophisticated mechanization in industry; but failed to advance that in the 18th century.

iii) **Thus once more the standard argument:** the effects of high taxation in depressing demand in domestic market, while raising production costs for exported goods.

iv) **However, you must evaluate these arguments in the light of microeconomic theory:** that equates the effective prevailing wage in the market with the marginal revenue product of labour.

d) **The question of interest rates:**

i) another quasi or fully fallacious argument about the Dutch decline concerns interest rates: for some historians have argued that higher interest rates abroad, up to double those prevailing in Holland, encouraged Dutch merchants and financiers to invest abroad rather than at home.

ii) But the low interests, of 3.5% - 4.0%, indicate a relative abundance of capital funds available for investment within Holland

iii) **Futhermore, we shall see, in examining British banking and finance,** that British interest rates had fallen to this level by about the 1760s, without discouraging domestic investment

iv) **The real point remains this:** that within the Netherlands for historic cultural and sociol-economic reasons, the Dutch collectively had a greater investor preference for commerce, banking and finance rather than for industrial enterprises.

5. The Dutch Commercial-Financial Hegemony: Costs and Benefits for Great Britain in the 18th Century

a) **Did the Dutch economic hegemony delay the coming of the Industrial Revolution in Great Britain**: what were the supposed costs?

i) **Thus one might argue that Dutch commercial supremacy delayed the coming of the British Industrial Revolution,** particularly by denying the British those markets and capital (from commercial profits) necessary for industrialization; but the Dutch had limited monopoly powers and they controlled few markets vital for the British Industrial Revolution.

ii) **Instead, Dutch dominance of some markets forced British to obey law of comparative advantage,** and thus to seek out other markets where they could compete much more effectively: especially in Mediterranean, N. America

b) **Chief contribution of the Dutch was to provide the British with that national challenge to develop their economy:** in an essentially mercantilist age that equated wealth with power -- to develop their own trade and industry to compete more effectively with the Dutch, and to do so in ways that proved to be much more conducive to industrialization.

c) **Question of Dutch capital investments in England**:

i) **The Dutch did invest heavily in England:** as a result of enormous capitals accumulated from commerce and result of their highly developed banking system, Dutch had reduced their domestic interest rate to 3% - 4% by the late 17th century; and sought better investments abroad.

ii) **in England, yields on commercial-industrial investments were about 8%-10%;** and higher on government debt. So Dutch invested heavily in English land reclamation, canals, transport and trade.

iii) **But the largest share of investments went into English government securities,** most of which was liquidated during warfare of late 18th century. Still that was indirectly very beneficial to the English economy:

for Dutch purchases of government bonds help to lower the general rate of interest and in effect liberated English funds for industrial and commercial investments.

THE BILL OF EXCHANGE, DRAFT, or ACCEPTANCE BILL

cambium (Latin): **lettera di cambio** or **di pagamento** (Italian); **lettre de change** (French); **Wechselbrief** (German: modern, **der Wechsel, die Tratte**); **wisselbrief** (Dutch)

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A Simple Definition: The bill of exchange or *lettre de change* (later known as the 'acceptance bill' and the draft) was simply an informal letter by which one merchant ordered his agent-banker in some other city to make payment on his behalf to another merchant in that distant city.

Note that it is an informal command to pay, involving *principals* and *agents*; it is not a promise to make payment, by a formal contract, as was the bond, the letter obligatory, and the promissory note.

Basically unchanged from the fourteenth to the eighteenth centuries, the bill of exchange was a dual-functioning international banking instrument that involved:

(a) a loan of funds in one city, and
(b) the transfer or remittance of funds from that city to a city in some foreign country.

The funds lent through this bill were to be repaid at some specified later date, in that foreign city, in the foreign currency of that city. A loan made in country A's domestic currency and repaid in country B's currency thus *obviated the necessity of shipping specie and bullion between countries*, except when a country's trade was not in balance.

The bill of exchange, as a credit and transfer instrument, required **four** parties--two principals and two agents--in two cities, using two different currencies, as follows:

- The first principal in city A, the **deliverer** (1), lends money in A's domestic currency to the second principal, the **taker** (2), by buying from him a *cambium* or bill of exchange drawn upon the **taker's** agent in city B, the **payer** or **drawee** (3). The bill is made payable in the local currency of city B, at one to three month's *usance*, to the deliverer's agent there, the **payee** (4).

- After collecting the bill, the **payee** normally purchased a second bill or *recambium* in B drawn upon some merchant-banker in A, and made payable at usance to the **deliverer** or his agent there.

- The amount of money that the **deliverer** received from the *recambium* was normally larger than the original sum 'delivered' or lent. His profit was produced by a spread on the exchange rates between the two cities. In essence, the exchange rates on both bills were raised, above the mint-par, in favour of the lender.

This can be demonstrated in the two following examples of bills of exchange transactions, from the late 14th and 17th centuries.

EXAMPLE I: Bruges and Barcelona in 1399 - 1400

This first example involves a *cambium* drawn in Bruges (Flanders) upon a bank in Barcelona (Catalonia); and a *recambium* drawn in Barcelona upon a Bruges bank to remit the funds to the original lender.

(1) **The cambium**: drawn upon Barcelona, on 12 December 1399

Al nome di Dio, amen — di 12 di dicenbre 1399

Paghate per questa prima al usanza a Domenicho Sancio schudi seicento a s.10 d.5 per ▾ i quali ▾ 600 a s.10 d.5 per ▾ sono per la valuta da Jachopo Ghoscio, e ponente a nostro chonto chosti. Idio vi guardi.

Giovanni Orlandini e Piero
Benizi e chonpagni in Bruggia

Acettata a di 11 di gennaio 1399
[on the back]

Francescho da Prata e chonpagni
in Barzalona
Prima

Translation from the Italian

In the name of God, amen

12th of December 1399

Pay at usance by this first [letter of exchange] to Domenico Sancio six hundred *écus* at 10s 5d [Barcelonese] per écu, which 600 *écus* at 10s 5d per écu are for the value received [here] from Jacopo Goscio; and charge [this amount] to our account. God be with you.

Giovanni Orlandini and Piero
Benizi and Co. in Bruges.

Accepted, 11th of January 1399 [1400 n.s.]
[on the back]

Francesco da Prato and Co.
in Barcelona
First [letter of exchange]

Source: Raymond De Roover, *Money, Banking and Credit in Mediaeval Bruges* (Cambridge, Mass. 1948), pp. 56, 72; from the Datini Archives of Prato, pp. 1146.

(2) **The recambium**: drawn upon Bruges, on 12 February 1400

In the name of God, amen

12th of February 1399 [1400]

Pay at usance by this first letter of exchange to Jacopo Goscio [the sum of] 625 *écus* at 10s 0d Barcelonese per écu, which 625 *écus* at 10s 0d per écu are for the value received here from Domenico Sancio; and charge this amount to our account.

God be with you.

Francesco del Tovaglia and
Co. in Barcelona

Accepted, 11th of March 1399 [1400]

[on the back]

Giuliano Zaccheria and
Co. in Bruges
First [letter of exchange]

Explanations:

1) **at usance:** the period of time from the date the bill was drawn to its maturity, the date on which it was to be collected. From northern European cities to Italian cities, usance was customarily two months from date; from those northern cities to Barcelona, one month from 'sight' or date it was received and 'accepted'; from London to Bruges, Antwerp, or later Amsterdam, it was one month from the date of the bill. Bills could also be drawn for half, double, and triple usance.

2) **the *écu:*** [= shield], with the symbol ▾ . Here it was not the famous French gold coin, but rather a Flemish money-of-account or system of reckoning equal to 22 current Flemish silver pence = 22d = 1s 10d *gros* of Flanders.

3) **Moneys-of-account:** both Flanders and Barcelona then used the almost universal system of money-of-account, by which one pound of money (livre, lira, pond, Pfund) contained 20 shillings; and each shilling, 12 pence: so that £1 = 20s = 240d.

4) **first letter of exchange:** to insure the transaction against theft, loss, or fraud, several bills, each numbered consecutively, would be issued. This bill was thus the first to be issued; and if it arrived safely, it would be the one redeemed, thus cancelling the subsequent bills.

5) **n.s.** = new style calendar beginning 1 January. Before 1583, the New Year in the French calendar commenced on Easter day; in the Venetian calendar on 1 March; (in the English calendar, 25 March, until 1752.)

The Merchant-bankers transacting the bills:

A. The cambium: the initial bill of exchange

1. **The deliverer or remitter (datore or rimettente)**:

Jacopo Goscio in Bruges, who lends or 'delivers' 600 *écus*, worth 1s 10d or 22d *gros* Flemish each. The total value = 600 x 22/240 = £55 0s 0d *gros* Flemish; and this sum is lent to Giovanni Orlandini-Piero Benizi Co. in Bruges by 'buying' a bill of exchange from them drawn on Barcelona.

2. **The taker or drawer (prenditore or traente)**:

The Orlandini-Benizi Co. in Bruges, who thus borrow the 600 *écus* by `selling' the bill of exchange to Jacopo Goscio; they `draw' this bill upon Francesco da Prato and Co. in Barcelona. Presumably the Orlandini-Benizi Co. maintain funds on deposit with the Francesco da Prato Co. bank in Barcelona; and thus, in effect, the Orlandini-Benizi Company, by this bill of exchange, is selling a claim to this foreign bank balance -- a claim to its funds on deposit there. The Orlandini-Benizi Company would use these borrowed funds to purchase Flemish woollens, which they would ship for sale to Barcelona, depositing the proceeds from the sale in its bank account with Francesco da Prato and Co. there.

3. **The payer or drawee (pagatore or trattario)**:

Francesco da Prato in Barcelona, who 'accepts' the bill on 'sight' on 11 January 1400, thus agreeing to make the stipulated payment at usance, on the bill's maturity, to the designated payee in Barcelona, Domenico Sancio. This payment will be made in the currency of Barcelona at the stipulated rate; and the amount to be paid is: 600 *écus* x 10s 5d Barcelonese = 600 x 10.4167s = 6,250s = £312 10s 0d Barcelonese currency. Note that this payer is also extending credit to the drawer (taker), since he is guaranteeing payment, even if the drawer fails to deposit sufficient funds in his account with the payer in time to redeem the bill. Normally, however, the drawer would maintain a sufficient balance in his bank account; and, as noted above, the drawer was thus selling a claim to this foreign bank balance. Francesco da Prato might also act as the mercantile agent for the Orlandini-Benizi Co. by arranging for the sale of the imported Flemish woollens. From the proceeds of that sale, as also noted above, he would be able to redeem the bill of exchange, without endangering his bank balances.

4. **The payee (beneficiario)**:

Domenico Sancio in Barcelona, who received the bill in the mail from the deliverer, Jacopo Goscio, and he presents it for `acceptance' to the payer. On the bill's maturity, he 'collects' the bill, worth, as noted above, £312 10s 0d Barcelonese. The records indeed do show that on 11 January 1400, the date of acceptance, this sum of £312 10s 0d Barcelonese was charged to the account of Orlandini-Benizi and credited to the account of Domenico Sancio by Francesco da Prato. This sum was paid to Sancio on 11 February 1400, by 'assignment in bank' or bank-account transfer.

B. **<u>The recambium</u>: the second or return bill of exchange**

1. **<u>The deliverer</u>**:

   Domenico Sancio, who was the payee in the original cambium. He lends the proceeds of the cambium, £312 10s 0d Barcelonese to Francesco del Tovaglia in Barcelona by buying from him a bill of exchange drawn upon Bruges. He is thereby able to remit these funds to the original deliverer, Jacopo Goscio.

2. **<u>The taker</u>**:

   Francesco del Tovaglia in Barcelona, who thus borrows the said sum of £312 10s 0d Barcelonese by selling a bill of exchange drawn upon Giuliano Zaccheria in Bruges. Del Tovaglia might use these borrowed funds to buy Spanish wine and leather for export to Bruges.

3. **<u>The payer</u>**:

   Giuliano Zaccheria in Bruges, who accepts the bill on 11 March 1400, agreeing to redeem or pay the bill on its maturity, to Jacopo Goscio in Bruges. He might also act as the commercial agent for del Tovaglia, selling the imported wines and leather from Spain, and thus using some of the proceeds to redeem the bill. Again, he acts as a bank-creditor for the drawer.

4. **<u>The payee</u>**:

   Jacopo Goscio, the deliverer on the initial cambium, who presents the bill for acceptance and then 'collects' the bill on its maturity, 11 April 1400, for the sum of 625 *écus* = £57 5s 10d *gros* Flemish. That is, £312 10s 0d Barcelonese *divided* by 10s 0d = 312.5/0.5 = 625 *écus* x 22/240 = 625 x 0.09166 = £57.29166 = £57 5s 10d. *gros* Flemish.

<u>Calculation of the Rate of Interest or Profit on the Bill</u>.

The interest or profit was included within the exchange rates. In this example of *cambium* and *recambium*, the original deliverer Jacopo Goscio has made a profit of 25 *écus* (625 - 600), or £2.5s.10d. *gros* Flemish, for a period of four months. His **per annum** rate of return would thus be: 12/4 x 25/600 x 100 = 3 x 0.041666 x 100 = 12.5%.

Assume that the actual rate of exchange on the Flemish and Barcelonese currencies was mid-way between the two rates quoted in these bills: 10s 2 1/2d Barcelonese per Flemish *écu*, so that 600 *écus* = 600 x 122.5/240 = 600 x 0.510417 = £306 5s. 0d. Barcelonese.

(a) **<u>the profit on the first bill would be</u>:** £312.500 - £306.250 = £6.250 or £6 5s 0d Barcelonese = 12.245 *écus.*

(b) the profit on the second bill would be: 625 *écus* - 612.245 *écus* = 12.755 *écus* [= £57.292 - £56.123 = £1.169 = 12.755 *écus].*

(c) **the total profit on the two bills was thus:** 12.245 + 12.755 = 25.000 *écus*, as calculated above.

On both bills the exchange rate has been artificially raised in favour of the lender (who would otherwise not 'deliver' or lend money by buying bills). While such an increase in the exchange rate is quite clear on the first bill--from 10s. 2 1/2d. to 10s. 5d. per *écu* -- how is the second rate higher? How can 10s.0d. per *écu* be higher than 10s. 2 1/2d? Simply because in the second bill, the Barcelonese currency has been *divided* by the exchange rate to obtain the required number of Flemish *écus* to be repaid (while in the first bill, the écus were *multiplied* by the exchange rate to obtain the required number of Barcelonese pounds). Thus the exchange rate is higher than the mint-par in the second bill in the same sense that 1/3 is larger than 1/4.

In all bilateral international bills of exchange transactions, one country's currency is taken to be the 'head of the exchange': the fixed monetary unit by which the other currency is quoted, in variable amounts. In this case Flanders is the 'head of the exchange' and the Flemish *écu* is quoted as being worth so many shillings and pence of Barcelona. When the money market is in equilibrium, the exchange rate for 'bills at usance' will be higher in the city that serves as the 'head of the exchange' than in the other. The difference in the two rates represents the positive rate of interest for that period of usance. This return was not, however, predetermined and fixed in actual bills of exchange transactions; and thus, strictly speaking, it was profit and not interest. Hence bills of exchange escaped the Church's usury ban. The return was uncertain because, before the second bill or *recambium* was drawn, the exchange rates might change adversely, as the result of any combination of factors: a change in either country's mint-par by coinage debasement or *renforcement*, a change in the official or market evaluations of gold and silver, changes in either country's trade or overall balance of payments, speculative buying and selling of bills in the money markets--or indeed changes in the market rate of interest. Bankers did lose: but they gained more than they lost.

N.B. <u>The Bill of Exchange as a Transfer Instrument:</u>

The examples given above assume that the bill of exchange was utilized essentially as a credit instrument to finance international trade, and that its transfer functions were merely to facilitate payment; but the bill of exchange could also be used primarily as a transfer instrument, to effect a payment owing in a foreign city. In this instance, the original roles of **deliverer** and **taker**, as lender and borrower, respectively, would be reversed, so that the **deliverer** became the borrower and the **taker** became the lender or creditor. Let us reconstruct the first *cambium*, of 1399, using the same principals and agents, to see how this would work:

The deliverer (datore) in Bruges, Jacopo Goscio, who is now the **remitter** (*rimettente)*, owes the sum of £312 10s 0d Barcelonese to some creditor in Barcelona, whose banking agent there is Domenico Sancio (**payee**). Possibly company partners or family members of Jacopo Goscio in Barcelona have borrowed this sum from or via Domenico Sancio; or possibly Jacopo Goscio has imported goods from Barcelona into Bruges, and now must arrange payment for them. So, Jacopo Goscio now buys a bill of exchange from the **taker** (*prenditore* or *traente)*, Orlandini and Benizi Co. in Bruges, for the sum of 600 Flemish *écus* (22d *gros*) = £55 0s 0d *gros* Flemish, at the agreed upon exchange rate of 1 Flemish *écu* = 10s 5d. Barcelonese. The Orlandini-Benizi Co. draw their bill of exchange upon their banking agent in Barcelona, the **payer**, who is Francesco da Prato Co., which is ordered to make payment to the aforementioned and stipulated **payee**, Domenico Sancio in Barcelona. Thus, on the redemption or payment date stipulated in the bill, 11 January 1400, Francesco da Prato Co., as the designated **payer**, do redeem this bill, and make payment for the sum of £312 10s 0d Barcelonese, into the bank account of the **payee**, Domenico Sancio.

And so in this fashion, the **deliverer** Jacopo Goscio has honoured his debt to his Catalan creditor in Barcelona, Domenico Sancio. Obviously, in this case, there is no need for a *recambium*.

<u>EXAMPLE II</u>: <u>17th Century Bills: Leghorn and Amsterdam, 1684</u>

Livorno [Leghorn, Italy], the 2nd of October 1684.

At usance, pay this our first bill of exchange, our second and third not being paid, pay unto Mr. James Twyford or order the sum of dollars one hundred at 55 ½ d per dollar, for value received here of Captain William Fisher and place it to account as per advice, £23 2s 6d.

Brokinge Parker Holditch

Accepted, John Brokinge.

Source: Joan Thirsk and J. P. Cooper, eds., *Seventeenth-Century Economic Documents* (Oxford, 1972), no. V.42, p. 661.

Explanations

1) **or order:** payable to the holder, bearer, or possibly the agent or creditor of the payee. Bills of exchange had now become negotiable credit instruments, transferable by endorsement.

2) **doller:** the Dutch *rijksdaalder* or 'Rix doller', as it was known in England.

The Merchants and Merchant-Bankers:

1. **The deliverer**: Captain William Fisher, in Leghorn, who lent £23 2s. 6d. [£23.125] to Brokinge Parker Holditch, by buying from him a bill of exchange drawn on Amsterdam.

2. **The taker**: Brokinge Parker Holditch, in Leghorn, who thus borrows the said £23 2s. 6d. by selling a bill of exchange drawn on Amsterdam. He might thus have used the borrowed funds to purchase Italian textiles (or English goods received from the Turkey trade) for export to Amsterdam.

3. **The payer**: John Brokinge, in Amsterdam, who accepted the bill and thus agreed to pay it to the designated payee, James Twyford, 'at usance', on the date of maturity. Brokinge might also have acted as the commercial agent for the taker, Brokinge Parker Holditch, by arranging for the sale of the goods imported from Leghorn; and again he would have used some of the proceeds to redeem the bill.

4. **The payee**: James Twyford, in Amsterdam, who receives the bill in the mails from the deliverer, William Fisher; presents it to the payer for 'acceptance'; and then collects the sum of 100 Rix dollers on the date of maturity. [£23 2s. 6d. divided by 55.5d/240d. = 23.125/0.23125 = 100 Rix dollers.] Twyford, however, might have sold the bill at discount some time before its maturity; in that case the holder of the bill would collect it on maturity.

Construct a return bill or *recambium*, drawn on Leghorn, in order to remit the funds collected in Amsterdam to the original deliverer, William Fisher, in Leghorn. Assume that the rate of exchange quoted in Amsterdam is 58d. per Rix doller. Note that the *Rix doller* here serves as the 'head of the exchange'.

The amount to be redeemed on the *recambium* would thus have been: 100 x 58/240 = 100 x 0.24167 = £24.3s.4d. - £23.2s.6d. = 24.167 - 23.125 = 1.042 = £1.0s.10d. If the two bills took a total of four months to be transacted, the per annum rate of return would have been:

12/4 x 100 (1.0412/23.125) = 3 x 0.04504 x 100 = 13.51%

III. Modern Acceptance Banking (Accept-Krediet):

An acceptance bill is simply the more modern form of the bill of exchange in financing international trade, with a few differences.

(1) The acceptance bill is essentially the same as earlier forms of the bill of exchange in that a merchant, acting as a principal, orders or commands his agent-banker to make a payment on his behalf to another, specified merchant, in another city. Note once more that this bill is an order to pay and not a promise to pay (as in a letter obligatory or promissory note).

(2) The essential difference is that the bill involves the loan of commodities (i.e., grain, lumber, wine) rather than of money: the acceptance bill is, therefore, a form of straight sales credit.

(3) The four parties in the acceptance bill, therefore, are the seller and buyer of the commodities in city A (transaction city) and their two banking agents abroad, who arrange payment or redemption of the bill in city B (payment city): the accepter or payer of the bill, and the payee.

Example: a Bordeaux merchant instructs his commercial agent in Danzig to buy a shipload of grain and to arrange payment for that grain by drawing an acceptance bill for 500 Dutch florins upon a designated Amsterdam bank, ordering that bank to pay the designated merchant or bank in Amsterdam 500 florins on some future date, usually within three months.

(1) The agent-buyer in Danzig is thus borrowing the grain from the grain seller, who is selling it on credit. Having received the acceptance bill from the Bordeaux merchant, the buyer's shipping agent in Danzig gives the bill to the Danzig grain merchant.

(2) The Bordeaux merchant sends a copy of his instructions to his Amsterdam bank (bank A); meanwhile, the Danzig grain merchant sends the bill he has received to his own bank in Amsterdam (bank B), or to his merchant-agent there. That agent or bank B, acting for the Danzig grain-seller, takes the bill to bank A, as the agent for the Bordeaux merchant; and that bank A receives the bill and writes on the back: 'we accept', meaning that it promises to honour bill and make full payment on the date of maturity (redemption date).

(3) Hence the term 'acceptance banking'; and that bank is called an 'acceptance bank'. That bank might agree to make payment, cash the bill, ahead of time; but obviously, as indicated earlier, at discount. The Amsterdam acceptance-bank (A) has thus agreed to extend financial credit to the Bordeaux merchant.

(4) If that Bordeaux merchant maintains an account there, a credit balance in that bank, he can simply instruct that bank to recover both its credit advance and its banking costs (which might also include shipping insurance premiums) and its profit, by a simple account-transfer, debiting the Bordeaux merchant's account.

(5) If the Bordeaux merchant does not have an Amsterdam bank account, then the Amsterdam acceptance bank would draw a second bill upon a Bordeaux bank (acting for the Bordeaux merchant) for the sum advanced plus all costs and bank profit.

Examples of Bills-of-Exchange Transactions, in the form of a Cambium and a Recambium, involving Italian Merchant-Bankers in Bruges (Flanders) and Barcelona (Catalonia): 1399 - 1400

A. THE CAMBIUM: A Bill of Exchange drawn in Bruges upon a Bank in Barcelona

(1) The DELIVERER: in Bruges (Flanders) **(Datore or Rimettente)** 12 December 1399: Jacopo Goscio lends money in Flemish currency to the **taker** in Bruges, the Orlandini-Benizi Co.: the sum of 600 *écus* (22d per *écu)* = £55 0s. 0d. *gros* Flemish: → [Or, he remits these funds to a banker in Barcelona to redeem an obligation there.] He buys a bill for this sum of £ 55 0s 0d *gros* Flemish from the **taker** drawn upon a banker in Barcelona stipulating payment to his **payee** there, on 11 February 1400, in Barcelonese currency, at the exchange rate of 1 Flemish *écu* = 10s. 5d. of Barcelona = £312 10s. 0d. Jacopo Goscio mails a copy of the bill so purchased to his Barcelona banking agent, the **payee**, Domenico Sancio: ↓	**(2) The TAKER: in Bruges (Flanders)** **(Prenditore or Traente)** The Orlanini-Benizi Company receives funds in Flemish *gros* from the **deliverer** in Bruges, Jacopo Goscio: the sum of £55 0s. 0d. *gros* Flemish (= 600 *écus):* ← 12 December 1399: This bank sells the **deliverer** a bill of exchange for £55 0s. 0d. *gros* Flemish, drawn upon its corresponding bank in Barcelona, the Francesco da Prato Co. bank for the sum of £312 10s. 0d. Barcelonese: Orlandini-Benizi 'draws' upon Barcelona, ordering its **payer**, Francesco da Prato Co., to make payment there to the designated **payee** in Barcelonese currency, on 11 February 1400, for the sum of £312 10s. 0d. of Barcelona, at the exchange rate of 1 Flemish *écu* = 10s 5d of Barcelona: ↓ The original copy of the bill is given to the **deliverer** (←) and a copy is mailed to the **payer** in Barcelona (↓)
(4) The PAYEE (Beneficiario): in Barcelona (Catalonia) Domenico Sancio, on receiving from Jacopo Goscio, his principal in Bruges, his copy of the bill of exchange drawn on Barcelona, then presents this bill to the **payer** in Barcelona, Francesco da Prato and Co., for 'acceptance': on 11 January 1400 (n.s.) → On the redemption date, 11 February 1400, Sancio presents the accepted bill for redemption and collection to the **payer**, receiving from Francesco da Prato and Co. the stipulated sum in Barcelonese currency: £312 10s. 0d. of Barcelona.	**(3) The PAYER (Pagatore): in Barcelona** When the **payee**, Domenico Sancio, presents his copy of the bill drawn in Bruges upon Barcelona, to Francesco da Prato and Co., as the designated **payer**, on 11 January 1400, the latter 'accepts' the bill of exchange, agreeing to make the stipulated payment on the redemption date to that **payee**, Domenico Sancio: ← On the redemption date, 11 February 1400, the Francesco da Prato Co. bank pays the **payee**, Domenico Sancio, the stipulated payment in Barcelonese currency: the sum of £312 10s. 0d. of Barcelona; and debits this sum from its account with the Orlandini-Benizi Co. bank of Bruges.

B. **<u>THE RECAMBIUM: The Return Bill of Exchange drawn in Barcelona upon the corresponding bank in Bruges.</u>**

(1) The DELIVERER: in Barcelona (Catalonia) **(Datore or Rimettente)** 11 February 1400: Domenico Sancio (the **payee** in the original bill) lends the sum of money collected in the first bill, in Barcelonese currency, to the **taker** in Barcelona, Francesco del Tovaglia and Co.: the sum of £312 10s. 0d. Barcelonese → [Or, he remits these funds to a banker in Bruges to redeem an obligation there.] He buys a bill for this sum of £312 10s. 0d. Barcelonese from the **taker**, Francesco del Tovaglia and Co., drawn upon a banker in Bruges, stipulating payment to his **payee** there, Jacopo Goscio, on 11 April 1400, in Flemish currency, at the exchange rate of 1 Flemish *écu* = 10s. 0d. of Barcelona = 625 Flemish *écus* (= £57 5s. 10d. *gros* Flemish). Domenico Sancio mails a copy of the bill so purchased to his principal in Bruges, Jacopo Goscio, now acting as the **payee**: ↓	**(2) The TAKER: in Barcelona** **(Prenditore or Traente)** 11 February 1400: Francesco del Tovaglia and Company receives funds in Barcelonese currency from the **deliverer** in Barcelona, Domenico Sancio: the sum of £312 10s. 0d. of Barcelona: ← This bank sells the **deliverer** a bill of exchange for £312 10s. 0d. Barcelonese drawn upon its corresponding bank in Bruges, Giuliano Zaccheria and Co. bank, for the sum of 625 Flemish *écus* (= £57 5s. 10d. *gros* Flemish) Francesco del Tovaglia draws upon Bruges, ordering its **payer** there, Giuliano Zaccheria and Co., to make payment to the designated **payee**, Jacopo Goscio, on 11 April 1400, in Flemish currency, for the sum of 625 Flemish *écus* (= £57 5s. 10d. *gros*) at the exchange rate of 1 Flemish *écu* = 10s 0d of Barcelona: ↓ The original copy of the bill is given to the **deliverer** (←) and a copy is mailed to the **payer** in Bruges(↓)

(4) The PAYEE (Beneficiario) : **in Bruges (Flanders)**	**(3) The PAYER (Pagatore): in Bruges (Flanders)**
Jacopo Goscio, (the **deliverer** in the first bill and now the **payee** on the return bill), on receiving from Domencio Sancio, his agent in Barcelona, his copy of the bill of exchange drawn on Bruges, then presents this bill to the **payer** in Bruges, Giuliano Zaccheria and Co., for 'acceptance', on 11 March 1400: →	When the **payee**, Jacopo Goscio, presents his copy of the Barcelona bill, drawn in Bruges, to Giuliano Zaccheria and Co., as the designated **payer**, the latter 'accepts' the bill of exchange, on 11 March 1400: agreeing to make the stipulated payment on the redemption date to that **payee**, Jacopo Goscio: ←
On the redemption date, 11 April 1400, Jacopo Goscio presents the accepted bill for redemption and collection to the **payer**, receiving from Giuliano Zaccheria and Co. the stipulated sum in Flemish currency: 625 Flemish *écus* (= £57 5s. 10d. *gros* Flemish, at 22d per *écu*).	On the redemption date, 11 April 1400,the Francesco da Prato Co. bank pays the **payee**, Jacopo Goscio, the stipulated payment in Flemish currency: the sum of 625 Flemish *écus* = £57 5s. 10d. *gros* Flemish. [Goscio has earned a profit of 25 *écus* or £2 5s. 10d. *gros* Flemish on the two bills.]

An Acceptance Bill drawn on an Amsterdam Bank in 1785

DANZIG (Prussia)

(2) Danzig merchant X, acting as the agent for the Bordeaux merchant, buys grain from Danzig merchant Y, arranges for its delivery, and gives Merchant Y (the seller) the Bordeaux merchant's bill for 500 florins drawn on the Amsterdam acceptance-bank A. Danzig Merchant Y then sends this bill to his agent Merchant Z in Amsterdam (or to Amsterdam Bank B) for collection on the specified date.

AMSTERDAM (Holland)

(3) Merchant Z (or Bank B) receives the bill from Danzig and presents it to Amsterdam Bank A, which 'accepts' the bill, promising to make payment on the stipulated date. On that date Merchant Z collects the bill from Bank A and deposits the proceeds of 500 florins in the Danzig account in Bank B. Bank A debits the account of the Bordeaux merchant for the bill and the collection charges, including interest.

BORDEAUX (France) (1) The Bordeaux merchant instructs his agent in Danzig, Merchant X, to ship 1000 bushels of rye to Bordeaux. To pay for the grain he ‘draws’ a bill on Amsterdam acceptance bank A for 500 florins, made payable in three months to merchant Z, with an account at Amsterdam bank B, acting as the agent for Danzig merchant Y. He sends the bill to his agent Merchant X in Danzig with a copy of his shipping instructions.	

The Coinages of the United Provinces (the northern Netherlands), of the Spanish (southern) Netherlands, Spain, and England in the 17th Century

Coin	Years issued	Weight in grams	Fineness out of 1.000	Fine Silver Contents in grams	Value in 1606 in stuivers*	Value in 1659 in stuivers*	Value in 1681 in stuivers*
United Provinces:							
Stuiver (a)	1619-1681	1.31	0.333	0.4367	1	1	--
Stuiver (b)	1681-1791	0.81	0.583	0.4725	--	--	1
Rijksdaalder	1606-1700	28.873	0.875	25.2639	47	52	52
Leeuwendaalder	1606-1713	27.535	0.743	20.4585	38	42	42
Silver Rijder	1659-1798	32.397	0.938	30.3884	--	63	63
Silver Dukaat	1659-1798	27.927	0.868	24.2406	--	50	50
Silver Gulden	1681-1806	10.491	0.911	9.5573	--	--	20
Spanish Netherlands							
Patagon	1645	28.108	0.872	24.5102		50	50
Dukatoon	1645	32.458	0.939	30.4781		63	63
Spain							
Reals of Eight (a)	1643-1686	27.923	0.931	25.9963		53	53
Reals of Eight (b)	1686-1707	27.84	0.931	25.919		53	53
England							
Teston (Shilling)	1601-1816	6.01	0.925	5.559		12	12
Penny	1601-1816	0.502	0.925	0.464		1	1

* 20 stuivers = 1 gulden or florin (guilder), as the Dutch money-of-account. The *stuiver*, equivalent to the shilling in this Dutch money-of-account (bank florin) was originally a silver coin worth 2d (two-pence) in the old Flemish money-of-account, the *pond groot Vlaams* or *livre gros flamande*; and in the older Flemish monetary system, there was another money-of-account system known as the *livre d'Artois* or *livre de quarante gros* (40d); and thus 20

stuivers equalled one *livre d'Artois*, as the model for the Dutch florin money-of-account. In that Dutch money-of-account, the *stuiver* was subdivided into *8 duiten*.