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ECONOMICS 303Y1

The Economic History of Modern Europe to 1914

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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>

See lectures nos. 11, 17, 20, 23, and 24 (as given in 2007 - 2008).

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.

ECONOMICS 303Y1

The Economic History of Modern Europe to 1914

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. The Dutch and the Macro-Economic Trends of the 16th, 17th, and 18th Centuries:

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 by-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 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

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).

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:

(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

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.

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

iii) **The Salt problem:** Similarly, around this same time, there was a shift in the primary supply of salt from

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 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'.

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.

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. **The Revolt of the Netherlands and Rise of Amsterdam, 1568 - 1609**

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

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. **The Baltic in the 17th and 18th Centuries: Keystone of Dutch Power**

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 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

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.

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 be 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.

**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]	Zacatecas (Mexico)	Sombrerete (Mexico)	TOTAL SILVER OUTPUT	INDEX of Mined Silver Outputs in America	INDEX of Silver Imports at Seville
	Silver Kg.	Silver Kg.	Silver Kg.	Silver Kg.		
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	2,619	1671 - 80	1,954
1574 - 79	456	1681 - 90	2,959
1580 - 89	852	1691 - 00	1,879
1590 - 99	5,044	1701 - 10	329
1600 - 09	8,495	1711 - 20	1,114
1610 - 19	8,658	1721 - 30	1,748
1620 - 29	7,593	1731 - 40	1,764
1630 - 39	7,512	1741 - 50	585
1640 - 49	8,089	1751 - 60	663
1650 - 57	3,383	1761 - 70	610
1661 - 70	2,607	1771 - 80	1,389

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	2,587	4,921	52.5%
1590-99	3,275	5,623	58.2%
1600-09	2,691	4,525	59.4%
1610-19	3,290	4,779	68.8%
1620-29	2,405	3,726	64.5%
1630-39	1,990	3,383	58.8%
1640-49	2,010	3,499	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	647,375	6,959.7	71.9
1610-19	965,800	10,382.9	107.3
1620-29	1,247,900	12,610.8	130.3
1630-39	890,000	8,994.0	92.9
1640-49	880,000	8,892.9	91.9
1650-59	840,000	8,488.7	87.7
1660-69	1,190,000	11,563.1	119.5
1670-79	1,220,000	11,854.6	122.5
1680-89	1,972,000	18,847.0	194.8
1690-99	2,900,500	27,720.9	286.5
1700-09	3,912,500	37,392.9	386.4
1710-19	3,882,700	37,108.1	383.5
1720-29	6,602,700	63,104.0	652.1
1730-39	4,254,000	40,656.8	420.1
1740-49	3,994,000	38,171.9	394.5
1750-59	5,502,000	52,584.3	543.4
1760-69	5,458,800	52,171.4	539.1
1770-79	4,772,600	45,613.2	471.4
1780-89	4,804,200	45,915.2	474.5
1790-99	3,233,600	30,904.5	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	11,563.1	5,729.6	17,292.7
1670 - 79	11,854.6	11,364.0	23,218.6
1680 - 89	18,847.0	29,276.0	48,123.0
1690 - 99	27,720.9	18,179.0	45,899.9
1700 - 99	37,392.9	36,294.3	73,687.2
1710 - 19	37,108.1	41,133.6	78,241.7

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	4.000	21.6%	Baltic grains	3.000	16.2%
English Woolens	3.240	17.5%	Portuguese Spices	2.000	10.8%
Spanish Wools*	1.250	6.8%	French wines	1.150	6.2%
English wools	0.500	2.7%	Rhenish wines	0.720	3.9%
French woad	0.400	2.2%	Italian/Spanish/Portuguese wines	0.500	2.7%
German fustians	0.240	1.3%	Portuguese salt	0.250	1.4%
Italian/Spanish alum	0.240	1.3%	French salt	0.250	1.4%
Spanish-American cochineal	0.225	1.2%	Spanish olive oils	0.200	1.1%
			Spanish salt	0.175	0.9%
			German copper	0.160	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'appréciation 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	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, 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	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