

X. COMMERCE: Changing Patterns of International Trade in Early Modern Europe, 1520 - 1750

A. The Dutch Commercial Empire: Apogee, Hegemony, and Decline, ca. 1520 – 1750,

revised 15 February 2012

<p>18. 15 February 2012</p> <p>Brady, ch. 5 (Munro, pp. 176-81); Davis, ch. 11; 2, 5, 12</p> <p>Cipolla, ch. 10 (pp. 249-75)</p> <p>de Vries, chs. 4-5;</p> <p>Musgrave, chs. 3, 4, 6,7.</p> <p>ET 10</p>	<p>20</p>	<p>INTERNATIONAL COMMERCE:</p> <p>The Netherlands (Dutch Republic): ; the Revolt of the Netherlands against Spain (from 1568); the Dutch Overseas Commercial Empire, 1600 - 1740: Asia, the Caribbean, and North America: ‘The New Colonialism’ the Dutch hegemony in the Baltic trades;</p> <p>Shipbuilding: the Dutch Supremacy in Shipping and Shipbuilding;</p> <p>The Beginnings of Decline, 1680 - 1740</p>
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The Dutch Commercial Empire

- **Goals of today's lecture on the Dutch**
- (1) **To show how Dutch supremacy in the carrying (shipping) trades**, established in the 15th century, allowed the **Dutch to gain a powerful overseas colonial empire and commercial supremacy in early-modern Europe**
- (2) **To show that commercial supremacy led to European financial and industrial supremacy**
- (3) **To show that, nevertheless, Dutch commercial-financial supremacy did not lead** to modern industrialization – to the Industrial Revolution
- (4) **We shall next see that rival England established an overseas commercial-colonial Empire that proved to be far more conducive to modern Industrialization**

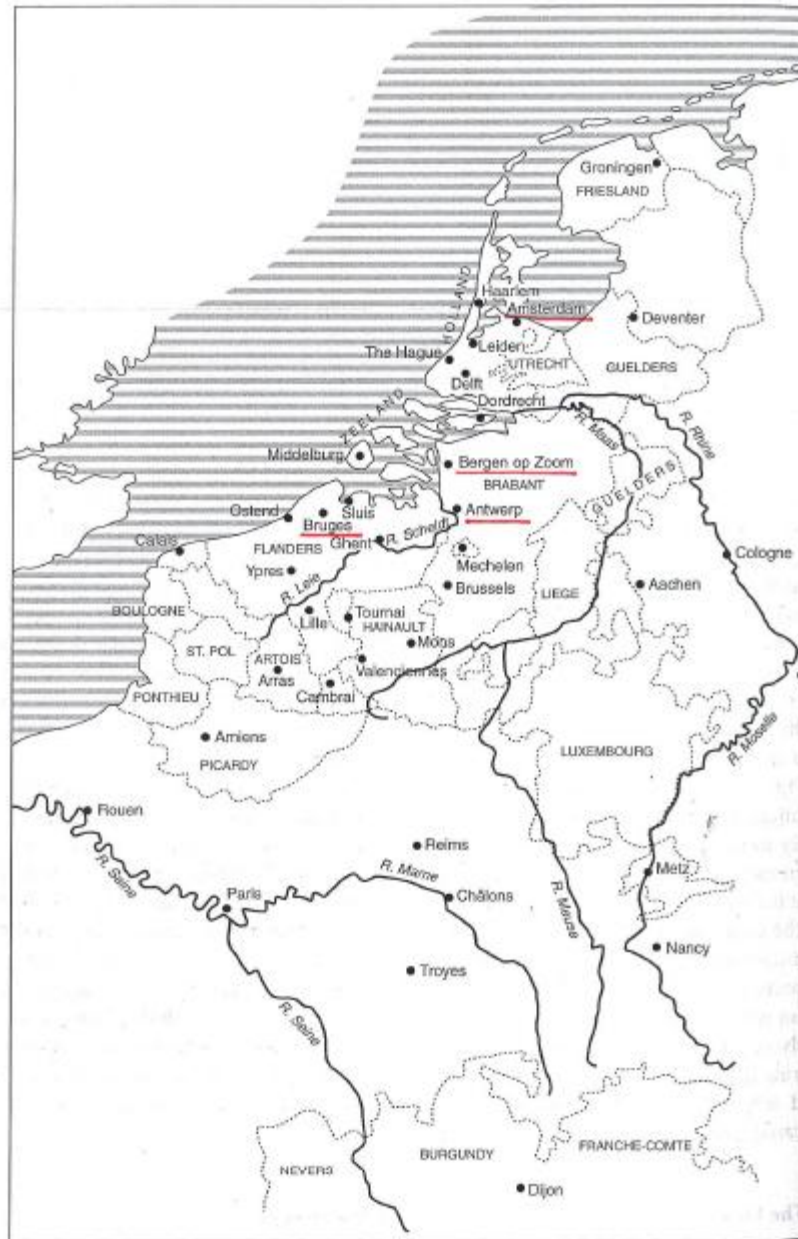
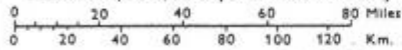





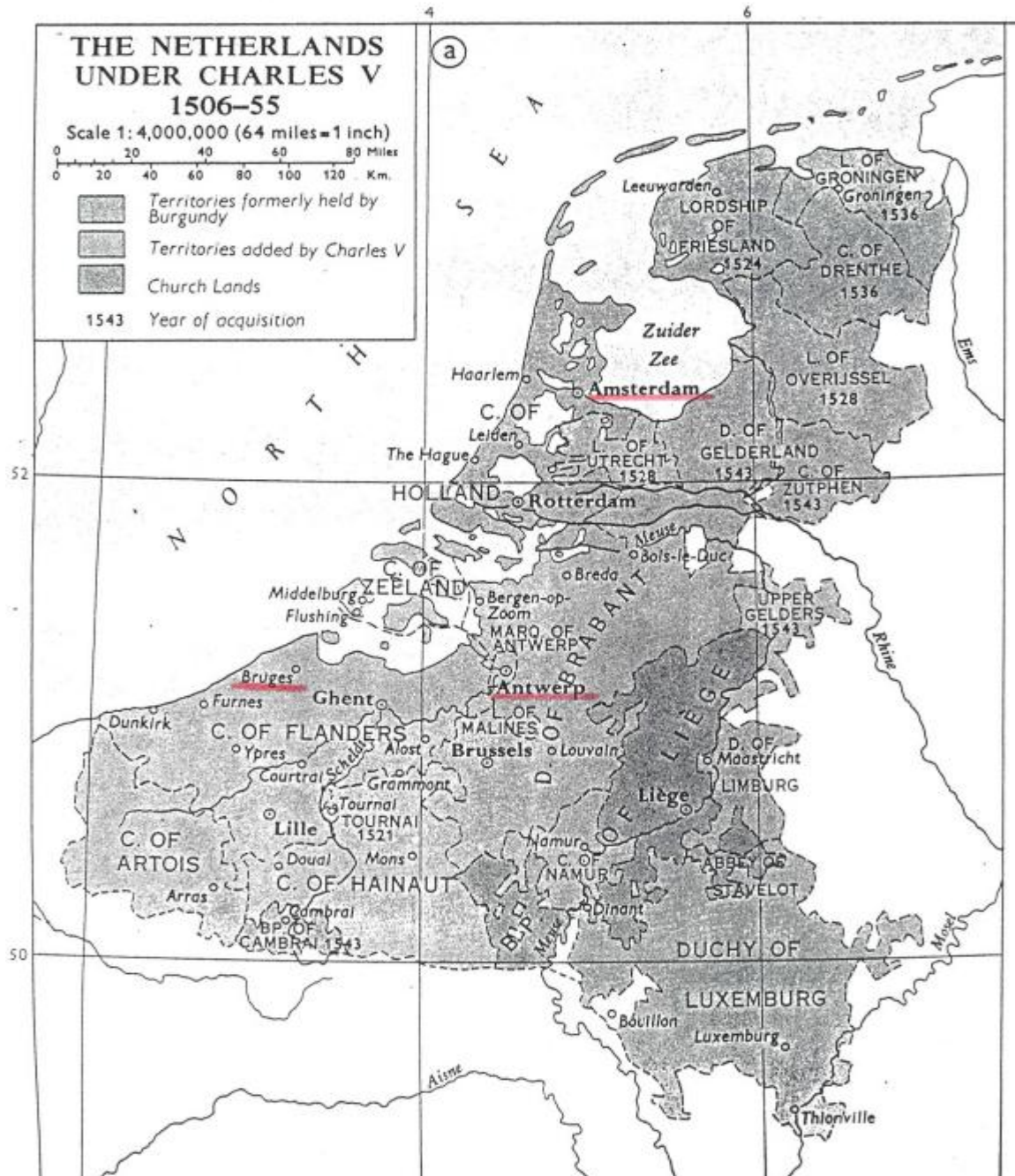
Fig 6.1 Map of the Low Countries and northern France, showing main trading areas of English merchants.

THE NETHERLANDS UNDER CHARLES V 1506-55

Scale 1: 4,000,000 (64 miles = 1 inch)

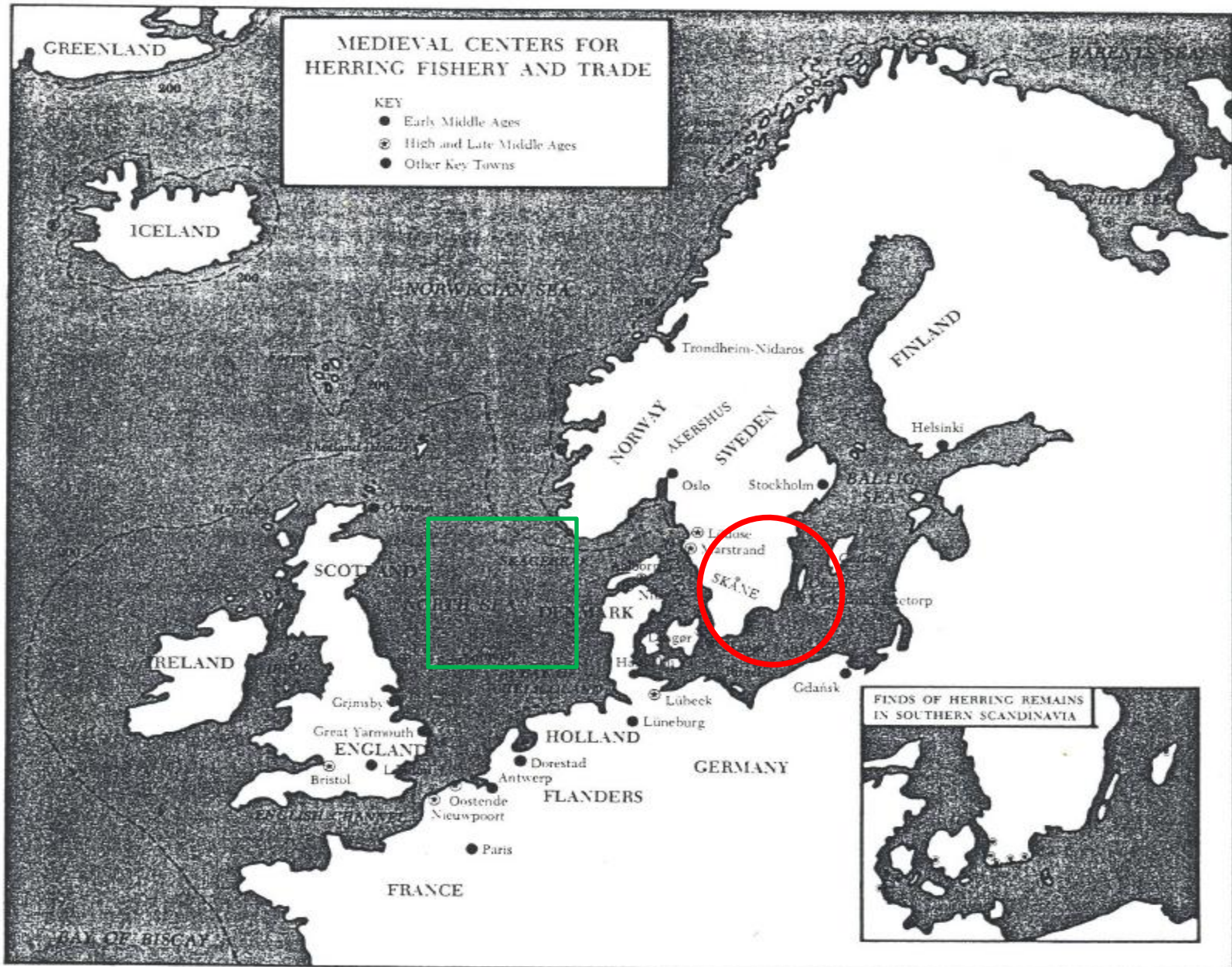


-  Territories formerly held by Burgundy
-  Territories added by Charles V
-  Church Lands
- 1543 Year of acquisition

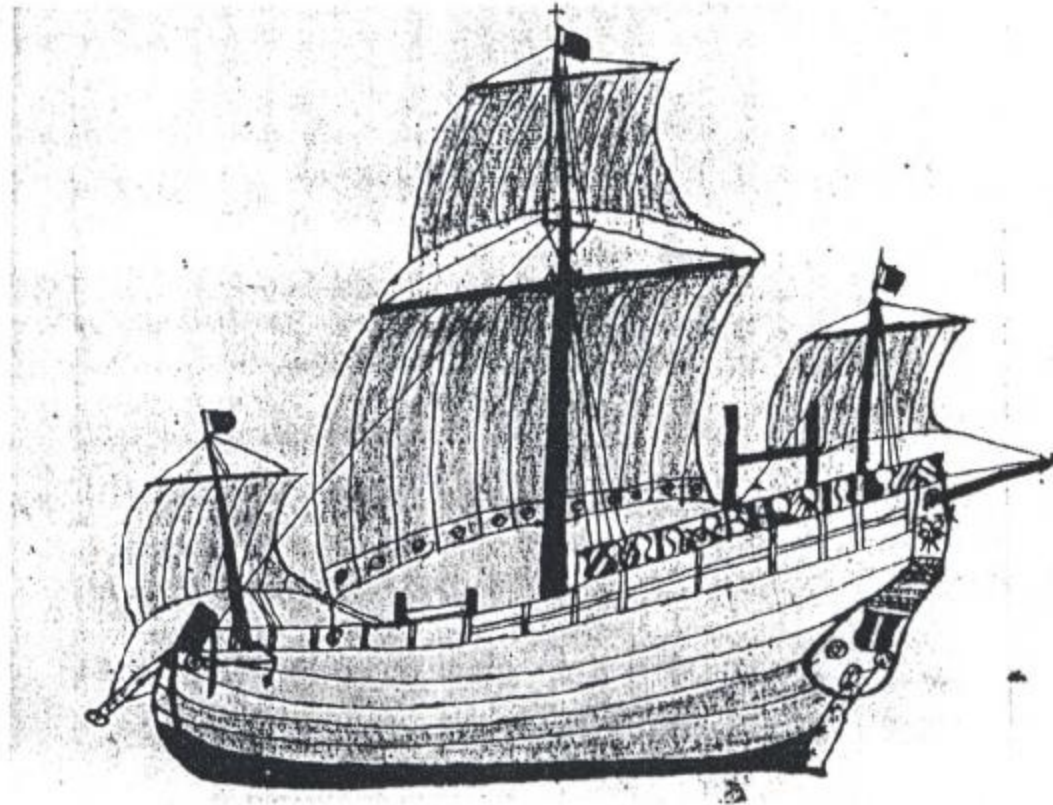


Rise of Dutch Commerce: summary 1

- 1) **Dutch (& Flemish) gain control over the herring fisheries, industry, and trade:**
- a) **Shift of the herring spawning grounds from Scania (Skåne: Baltic coast of Sweden) to the North Sea: by the 1420s**
- b) **Dutch fishing vessel: buis (buizen)**
- c) **On-board gutting & salt-curing (trypsin)**
- d) **control of Bay of Biscay salt flats: Bay of Bourgneuf (SW France, Spain)**



Dutch Herring Buss, Sixteenth Century





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

* last = 12 barrels of herrings. The Oxford English Dictionary states: that a last of 'red herrings and pilchards [contains] 10,000 to 13,200 fish'. If the Flemish barrel had contained 833 herrings (in the 15th century), a last would have amounted to about 10,000 herrings (9,996).

Rise of Dutch Commerce: summary 2

- 2) **Dutch Victory over the German Hanseatic League:**
- a) **by gaining control over sources of Hanseatic power:** herring fisheries and salt trade in 15th century
- b) **by invading the Baltic preserves of the Hanseatic League:**
- i) **greater control over key Baltic export trades:** grains, lumber, and naval stores
- ii) **greater control over key imports into Baltic:** herring, salt, woollens, wines, spices
- iii) **trading directly with the Hanse's traditional customers**

Rise of Dutch Commerce: summary 3

- 2) **Dutch Victory over the German Hanseatic League:**
- c) **Dutch naval victory over Lübeck's Wendish League: 1436-39**
- d) **Hanseatic Victory over the English (1464 treaty):** exclusion of English from the Baltic chiefly benefited the Dutch
- e) **Treaty of Speyer: 1544:** Lübeck + Wendish League finally conceded defeat to the Dutch

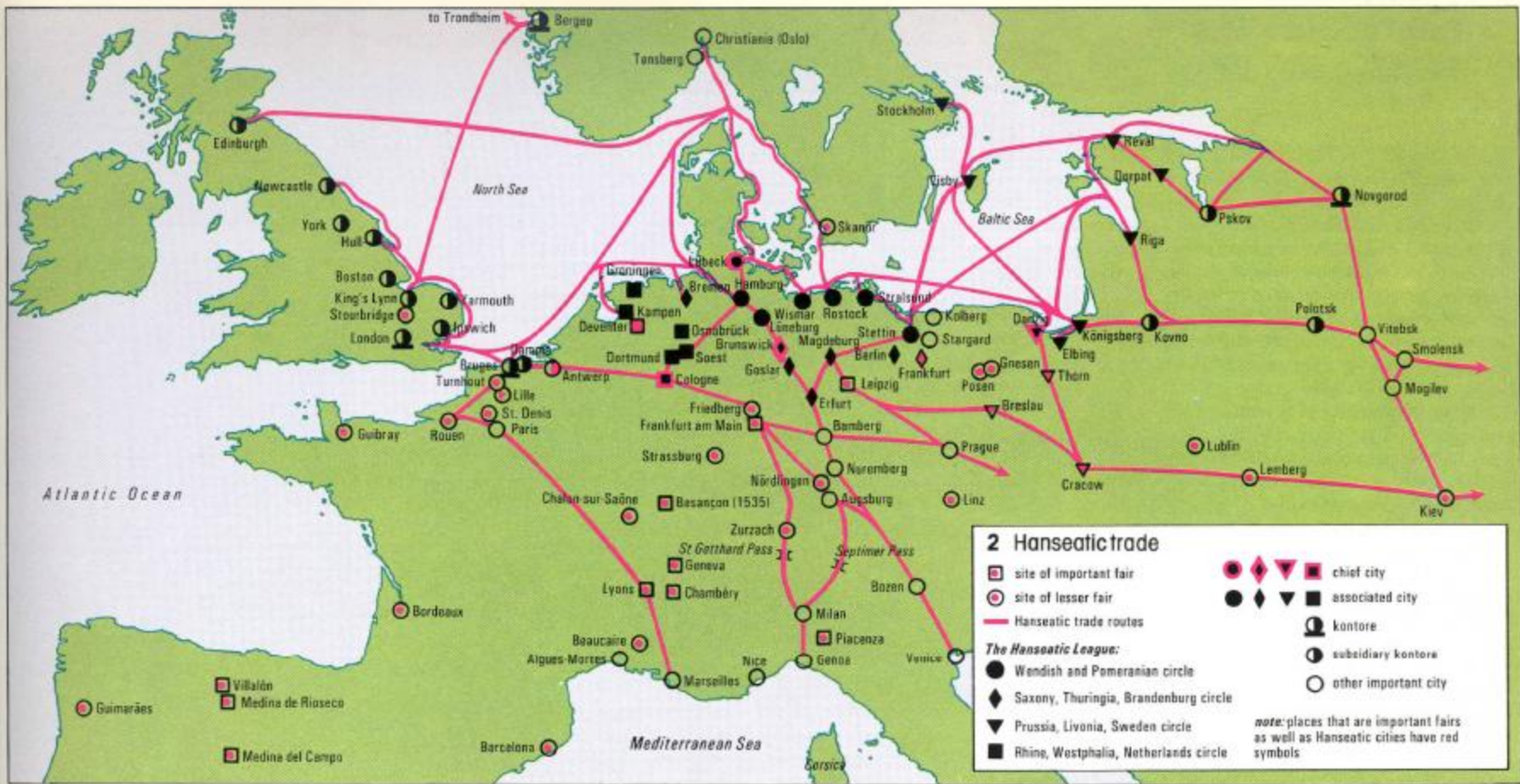
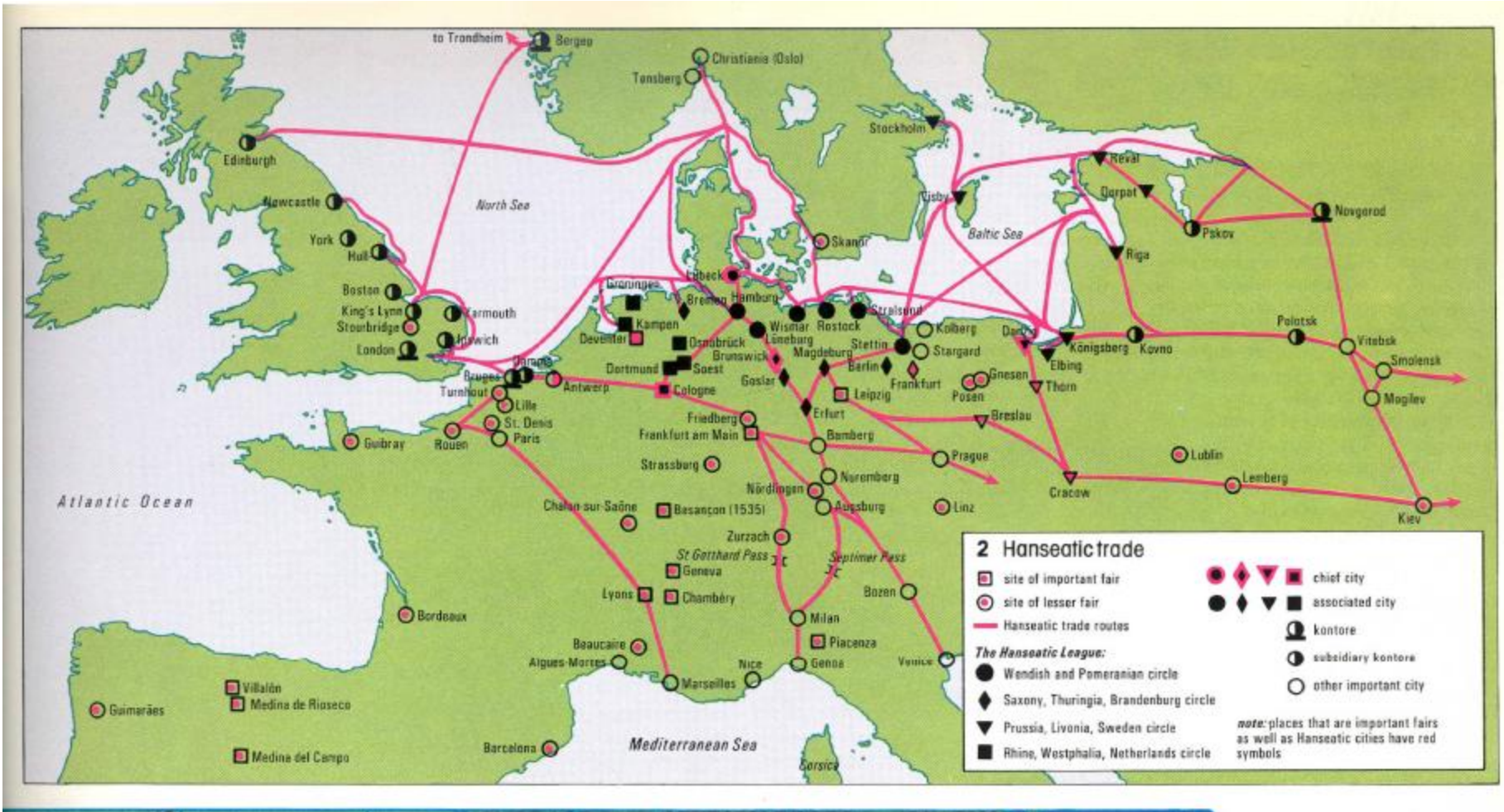
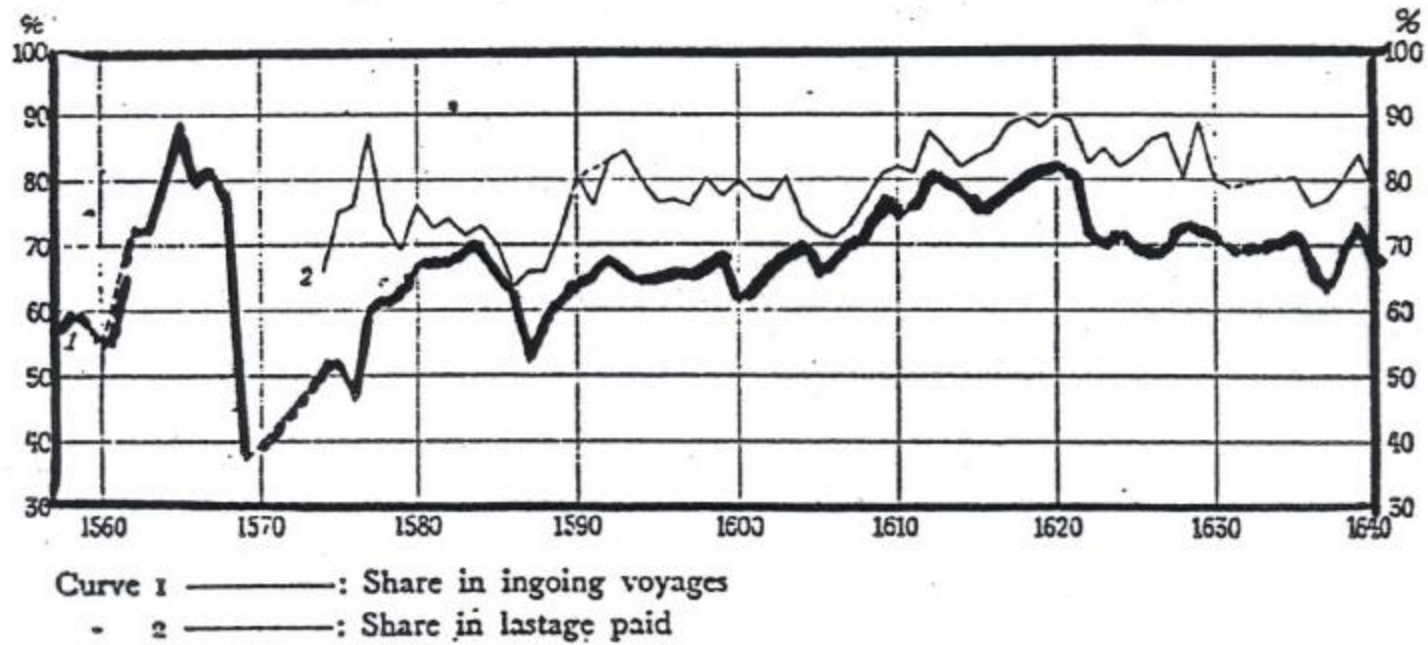


DIAGRAM II

Percentage Share of the Dutch in the Traffic through the Sound 1557-1640



Rise of Dutch Commerce: summary 3

- 3) Dutch supremacy in shipbuilding and oceanic shipping: with the Fluitschip
- - final topic of today's lecture
- - to be seen as both a product and reinforcing cause (factor) in Dutch commercial supremacy

Importance of the Dutch in Early- Modern Economic History - 1

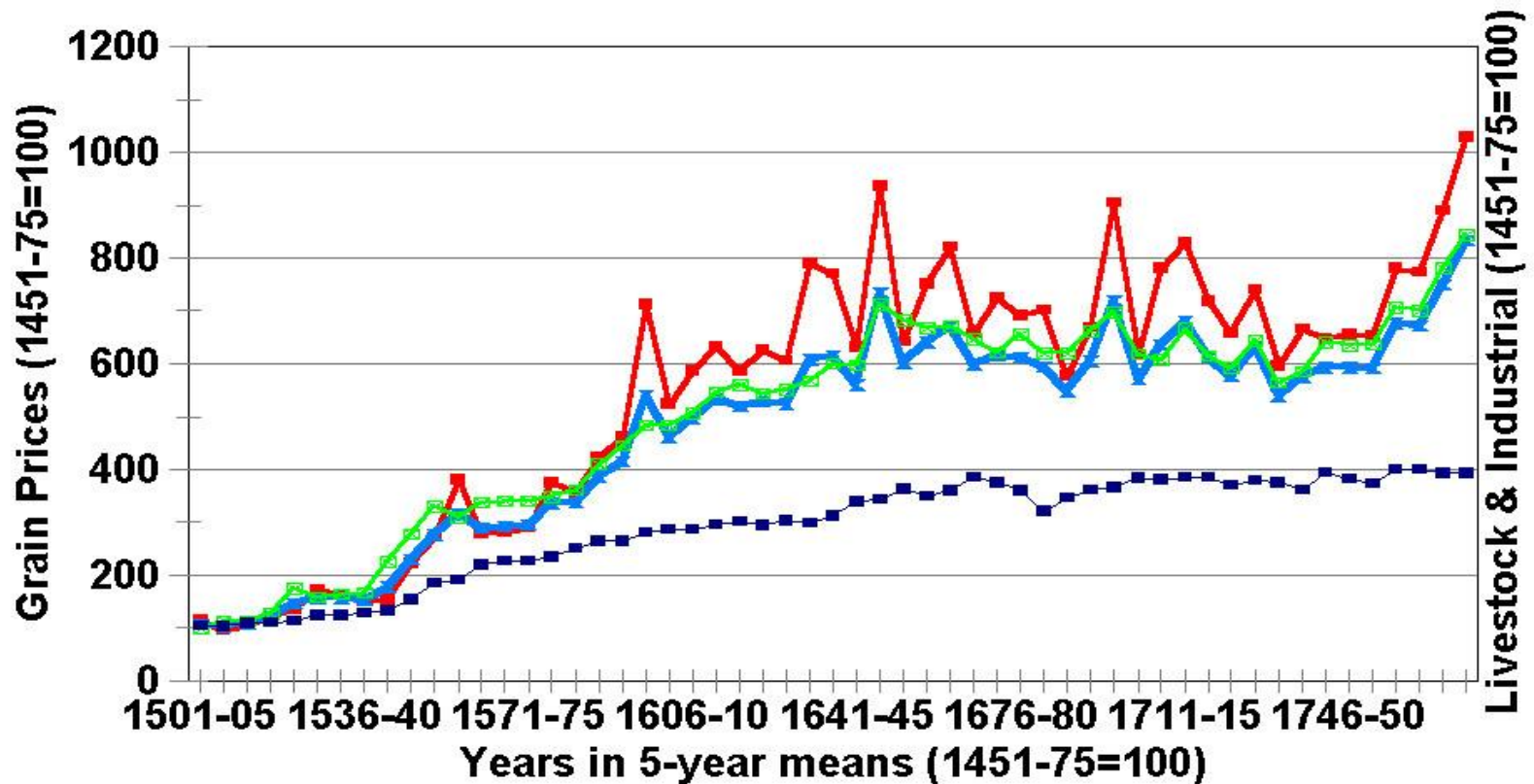
- 1) **Dutch commercial hegemony**: that the Dutch dominated European commerce & finance from the 16th to 18th centuries
- a) **contributed to Dutch industrial supremacy in certain fields**: shipbuilding, munitions, etc.
- b) **financial supremacy**: outcome of commercial supremacy: decline of commercial supremacy → greater shift to banking & finance
- c) **Amsterdam as the commercial, financial, and shipping capital of Europe**, 16th – 18th centuries

Importance of the Dutch in Early- Modern Economic History 2

- 2) **Dutch Supremacy & Macro-Economics of the Early Modern European Economy**
- a) **the Price Revolution era (1520 – 1650)**
- i) **The Dutch benefited from the demographic expansion of this era** → raised relative (real) prices for agricultural, forestry, & mining products → made the Baltic the key source of grains, lumber, naval stores for the European economy → reinforced Dutch supremacy
- ii) **The Dutch benefited from the monetary expansion of this era:** provided the precious metals necessary for their trade with the Baltic and Asia → permitted Dutch to dominate both the Baltic & Asian trades

English Prices 1501-1770 (1451-75=100)

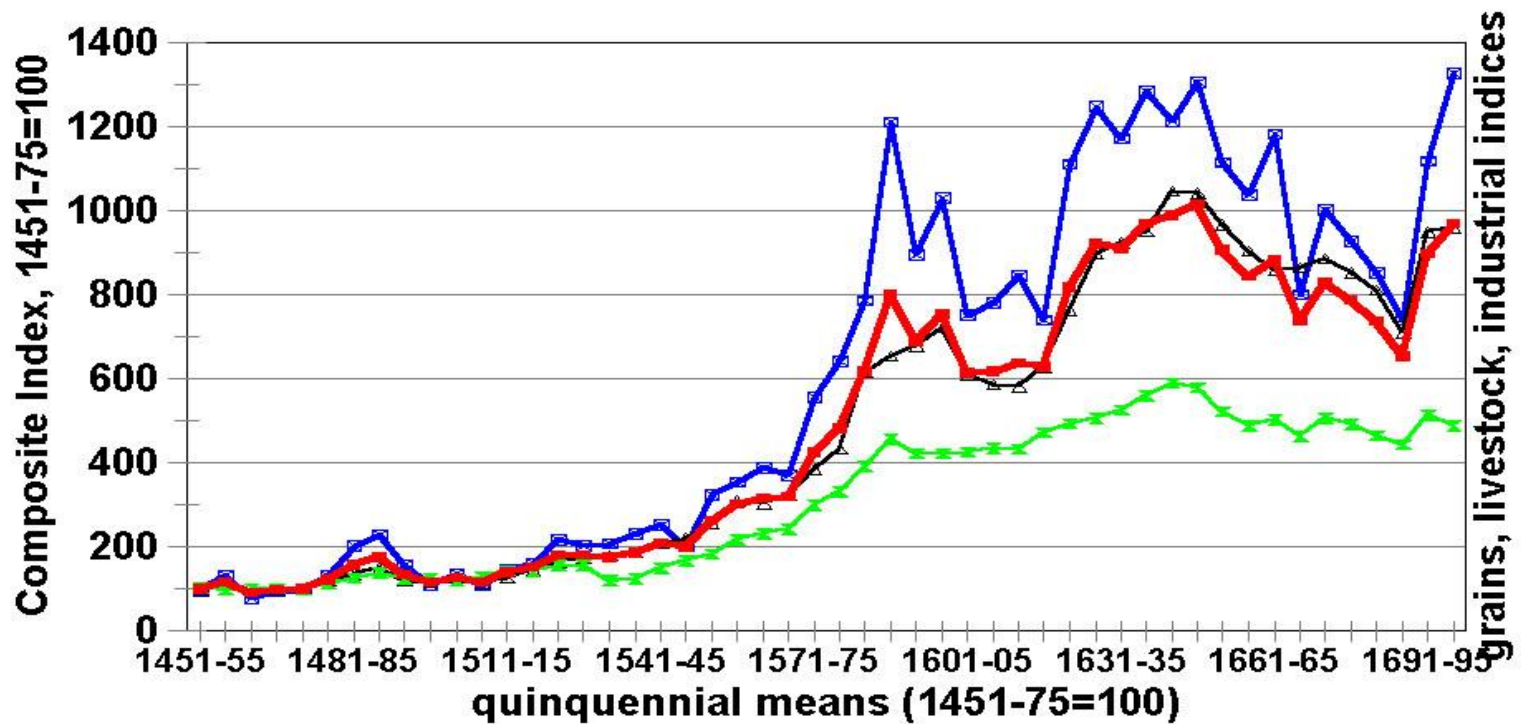
Grain, Livestock, Industrial Prices



- Grain Prices
- Livestock Prices
- ▲ Composite Price Index
- Industrial Prices

Brabant: Price Indexes, 1451-1700

grain, livestock, industrial, composite



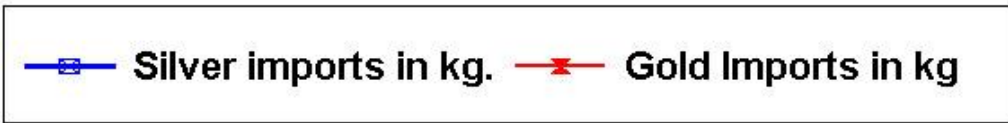
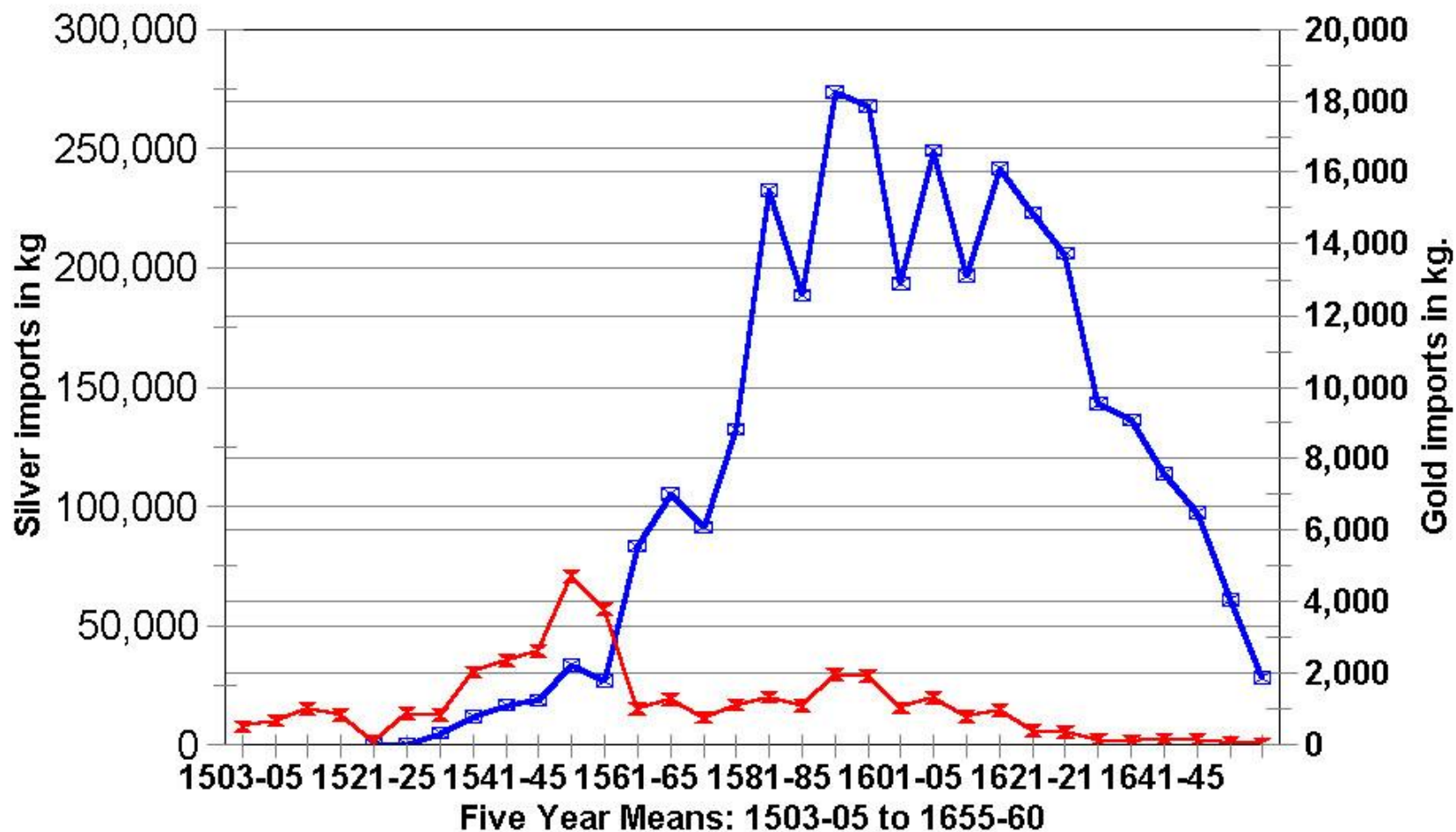
—□— Grain Price Index

—△— meat & fish price index

—◇— Industrial price index

—●— Composite Index 1451-75=100

American Bullion Imports into Seville Gold & Silver in kg: 1503-5 to 1655-60



Importance of the Dutch in Early- Modern Economic History 3

- b) **Era of the 17th-Century 'General Crisis', c. 1620 – 1740**
- i) era of demographic, monetary, economic stagnation, with intensified warfare:
 - - **30 Years' War (1619-48) & Anglo-French Wars (1689-1715)**
- ii) **Dutch came to be major producers and suppliers of munitions**, based on control of Baltic (Swedish) iron and copper (bronze)
- iii) **increased European demand for ship timbers + naval stores**, from two related phenomena that increased demand for ships

Importance of the Dutch in Early- Modern Economic History 4

- b) **17th-Century 'General Crisis' era**
- iv) **warfare (Van der Wee thesis) → shift from overland continental routes to pre-eminence of maritime routes**
- v) **overseas colonialism (European imperialism): Asia + Caribbean**
- vi) **monetary contraction: as outflow of silver to Baltic + Asia (for which Dutch played major role) came to exceed the influx of from the Americas → deflation**

Importance of the Dutch in Early- Modern Economic History - 5

- c) **The Age of Mercantilism, 16th – 18th centuries** [later lecture topic]
- i) **focus on importance of precious metals as chief form of ‘wealth’ and national power:**
era of monetary contraction
- ii) **focus on new role of national state governments** → warfare + international race of overseas colonial possessions → demand for ships and guns

Importance of the Dutch in Early- Modern Economic History - 6

- iii) **economic nationalism + protectionism** → reflection of adverse 'General Crisis' conditions
- iv) **Dutch significant in being essentially non-Mercantilist** → free flows of international trade
- v) **Anti-Dutch Mercantilist laws** from key rivals (England)

Importance of the Dutch in Early-Modern Economic History - 5

- 3) **The Dutch Provide an Important Case Study:**
- **Why Commercial-Financial supremacy did not lead to modern Industrialization**
- a) **most studies of British Industrial Revolution** argue that industrialization was the outcome of commercial expansion
- b) **In the Dutch Republic, commercial supremacy led to a financial supremacy that impeded industrialization:**
- -i) **not necessarily a false choice:** but one dictated by Dutch 'path dependency':
- - based on resource endowments (or lack of) and historical institutions
- ii) **Dutch commercial supremacy based on relatively free trade + international carrying trades** → impeded adoption of Mercantilist policies to protect and promote industrial growth (as in England)

Importance of the Dutch in Early- Modern Economic History - 6

- c) **Did the Dutch pave the road for their own decline?**
- i) **by promoting the commerce + economic growth of rivals**
- ii) **by providing the English with a nationalist challenge: to find their own comparative advantages → their own route to the Industrial Revolution –**
- **i.e., Toynbee's famous theme of 'Challenge and Response'**

The Revolt of the Netherlands, 1568 – 1609: Rise of Amsterdam - 1

- 1) **The Revolt of the Netherlands against Spain: 1568**
- a) **role of dynastic changes: marriages and offspring**
- i) **1477: death of last duke of Burgundy (Charles)**, whose daughter Marie married Maximilian, Habsburg Archduke of Austria (→ Emperor in 1508)
- ii) **their son Philip: married Joanna the Mad of Spain** (daughter of Ferdinand and Isabella): became King Philip I of Spain in 1506
- iii) **their son Charles (1500-1558) – born in Ghent:** became King Charles I of Spain in 1517, and then Holy Roman Emperor in 1519 (Charles V)

Revolt of the Netherlands, 1568 – 1609: Rise of Amsterdam - 2

- iv) **Emperor Charles V: abdicated in 1555-6**, dividing Empire into two:
- **his eldest son Philip II acquired Spain, the Americas, Low Countries** (Charles' younger brother Ferdinand became Emperor)
- b) **Revolt against Philip II's foreign government in Low Countries in 1568**
- - **against harsh centralization** → curbing urban powers
- - **heavy taxes** (to help Spanish fight their wars)
- - **austere form of Spanish Catholicism** → Protestant Reaction (Calvinists)

Revolt of the Netherlands, 1568 – 1609: Rise of Amsterdam - 3

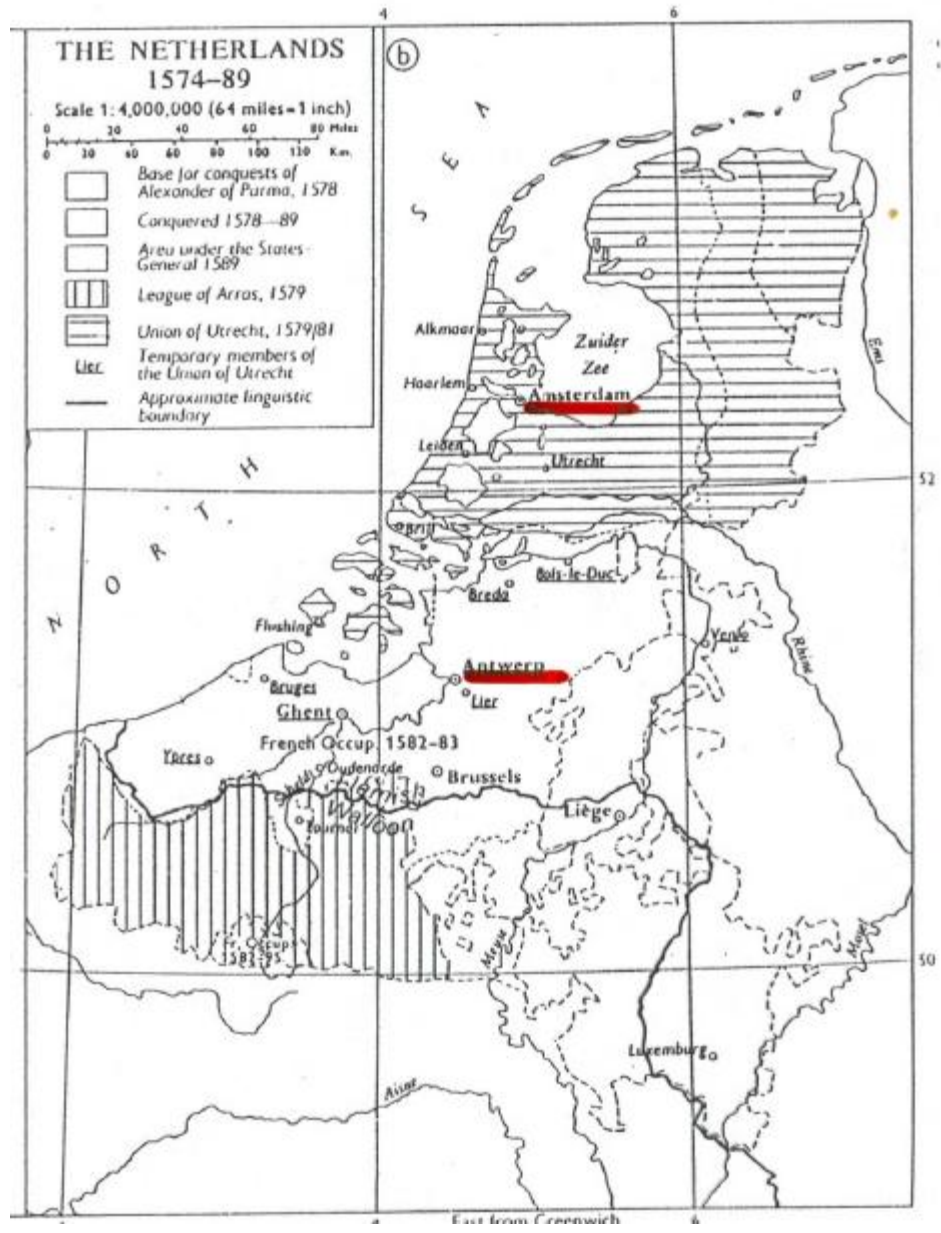
- c) **Union of Utrecht in 1579-81**: created Republic of the United Provinces ('Dutch Republic'): seven northern provinces
- d) **Revolt ended with Truce of 1609-21**
- **(1648: Peace of Westphalia)**
- i) **Spain held the 10 southern provinces** – now Belgium & Luxembourg
- ii) **Dutch-led United Provinces gained independence:**
- iii) **protected by river barriers (Rhine + Maas) & Dutch sea-power**

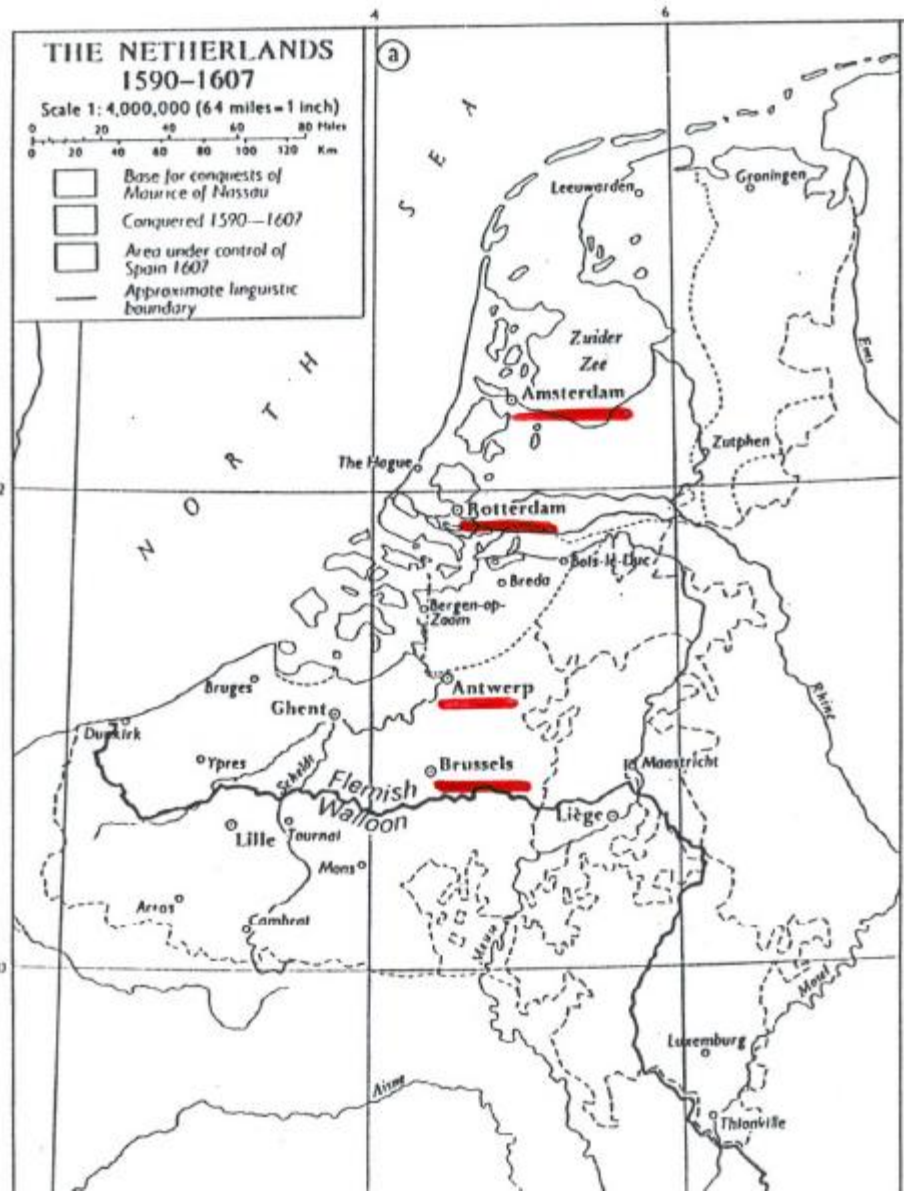
Revolt of the Netherlands, 1568 – 1609: Rise of Amsterdam - 4

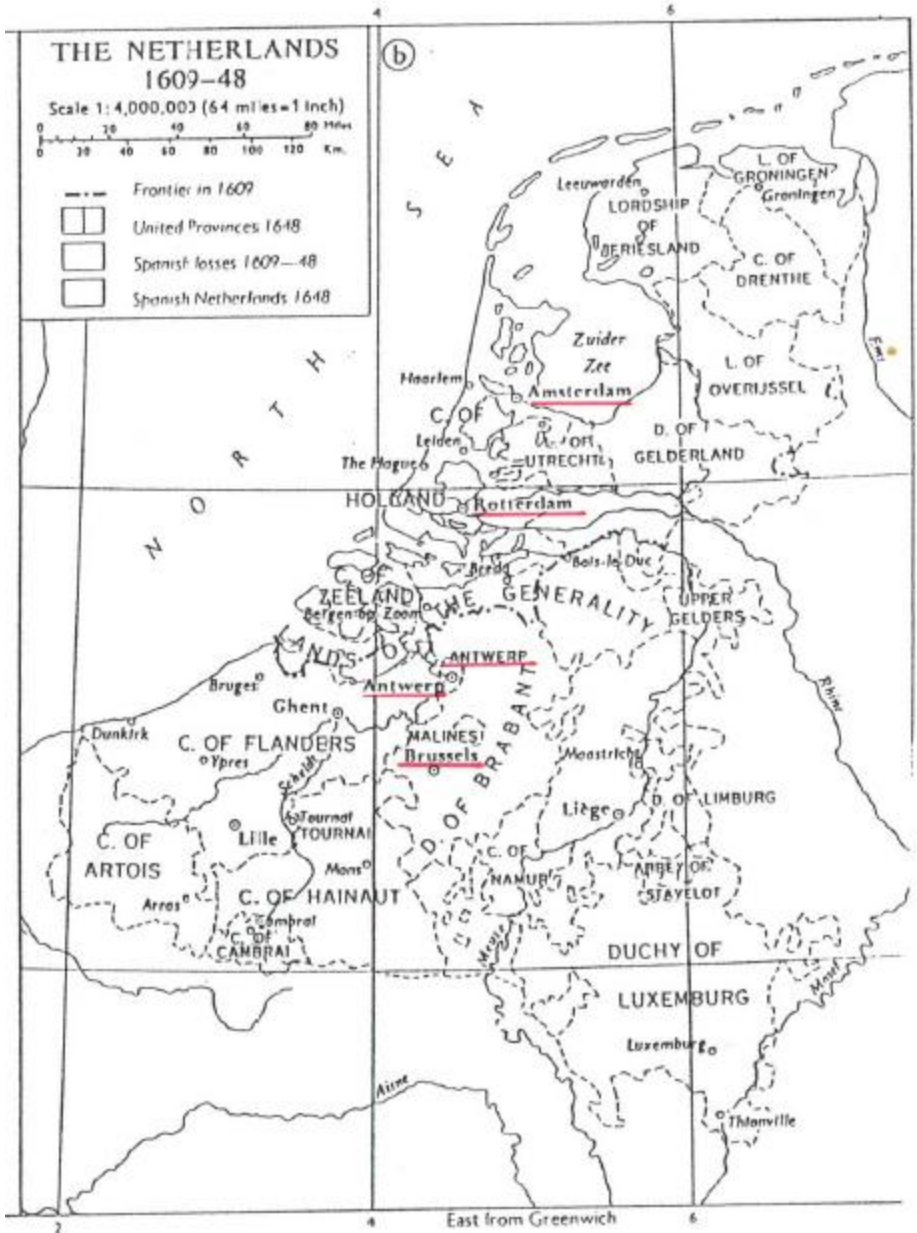
- e) **Economic Consequences of the Dutch Revolt:**
- i) **flood of refugees → made the Dutch Republic predominantly Protestant (chiefly Calvinist), with religious, political, economic freedom**
- ii) **Amsterdam displaced Antwerp as commercial & financial capital of northern Europe:**
 - - Antwerp sacked/burned in 1576 + 1585
 - - **Amsterdam protected by inland waterways: Zuider Zee**
 - - **Dutch captured south bank of Scheldt to blockade Antwerp**
- iii) **Dutch victory → volatile mix of nationalism + Calvinism → anti-Spanish aggression and overseas imperialism**



The Republic of the Seven United Provinces





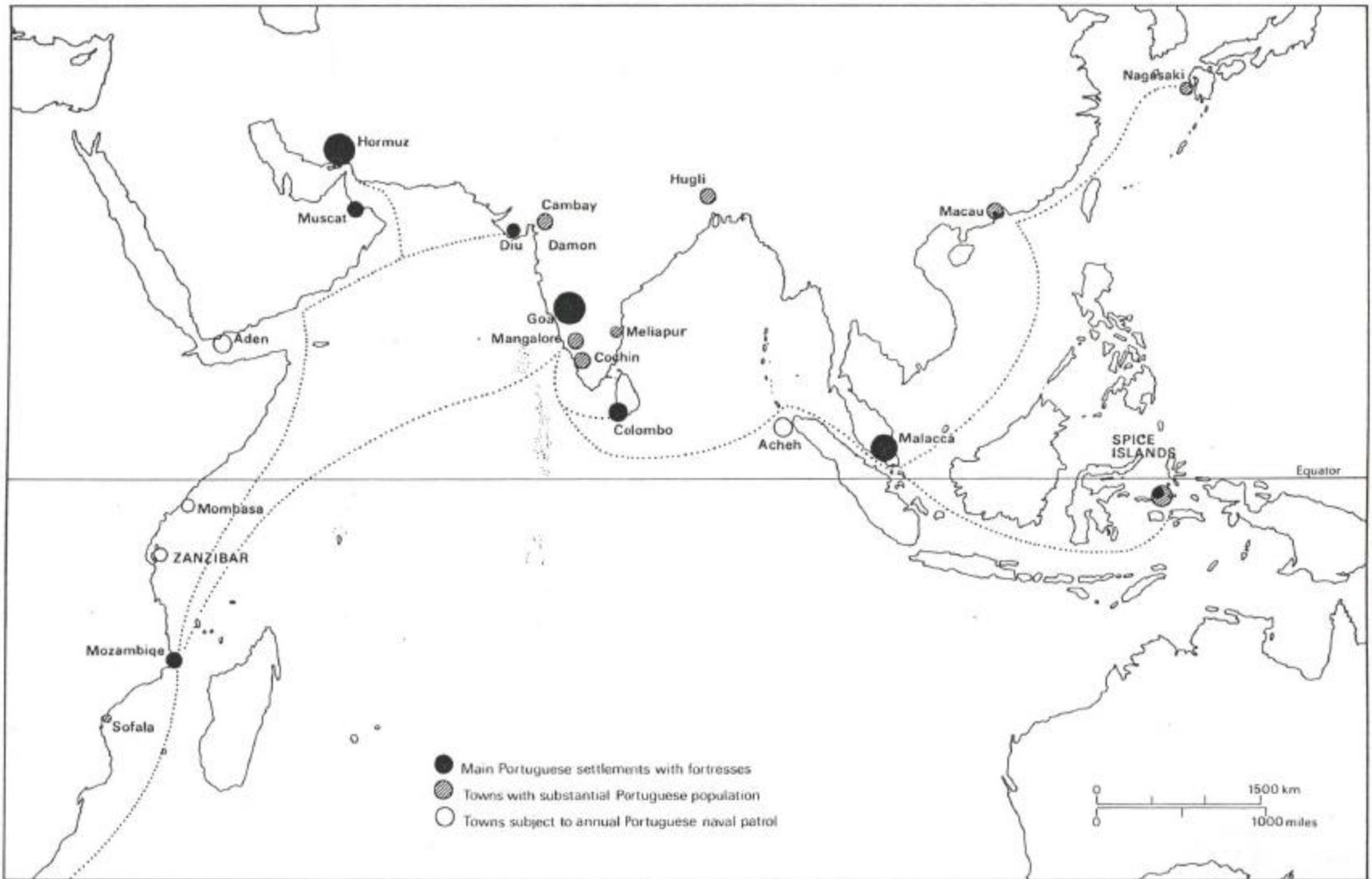


Dutch Overseas Commercial Empire of the 17th Century - 1

- 1) **Asia: Seizure of East Indies Spice Trade**
- a) **lust for bullion (Americas) and spices (Asia):**
- **key driving forces of European imperialism**
(Hobsbawm Thesis)
- b) **role of spices: see first-term lectures (Italy):**
- - **pepper, cinnamon, ginger, cloves** (not preservatives: salt was)
- - **extremely high-cost, high risk trade**, in view of the vast & insecure distances involved: with either large profits or large losses

Dutch Overseas Commercial Empire of the 17th Century - 1

- c) **Portuguese: lacked manpower, capital, and naval resources** to maintain a monopoly on the Asian spice trades
- -i) **1530s: Muslim alliance** of Ottoman Turks, Arabs in Aden & Persian Gulf, Gujerat (NW India) and Aceh (NE Sumatra) broke the Portuguese monopoly
- -ii) **Ottoman Turks restored trade links to Alexandria (Egypt)** → allowing Venice to resume partial control of spice trades → 'Golden Age'

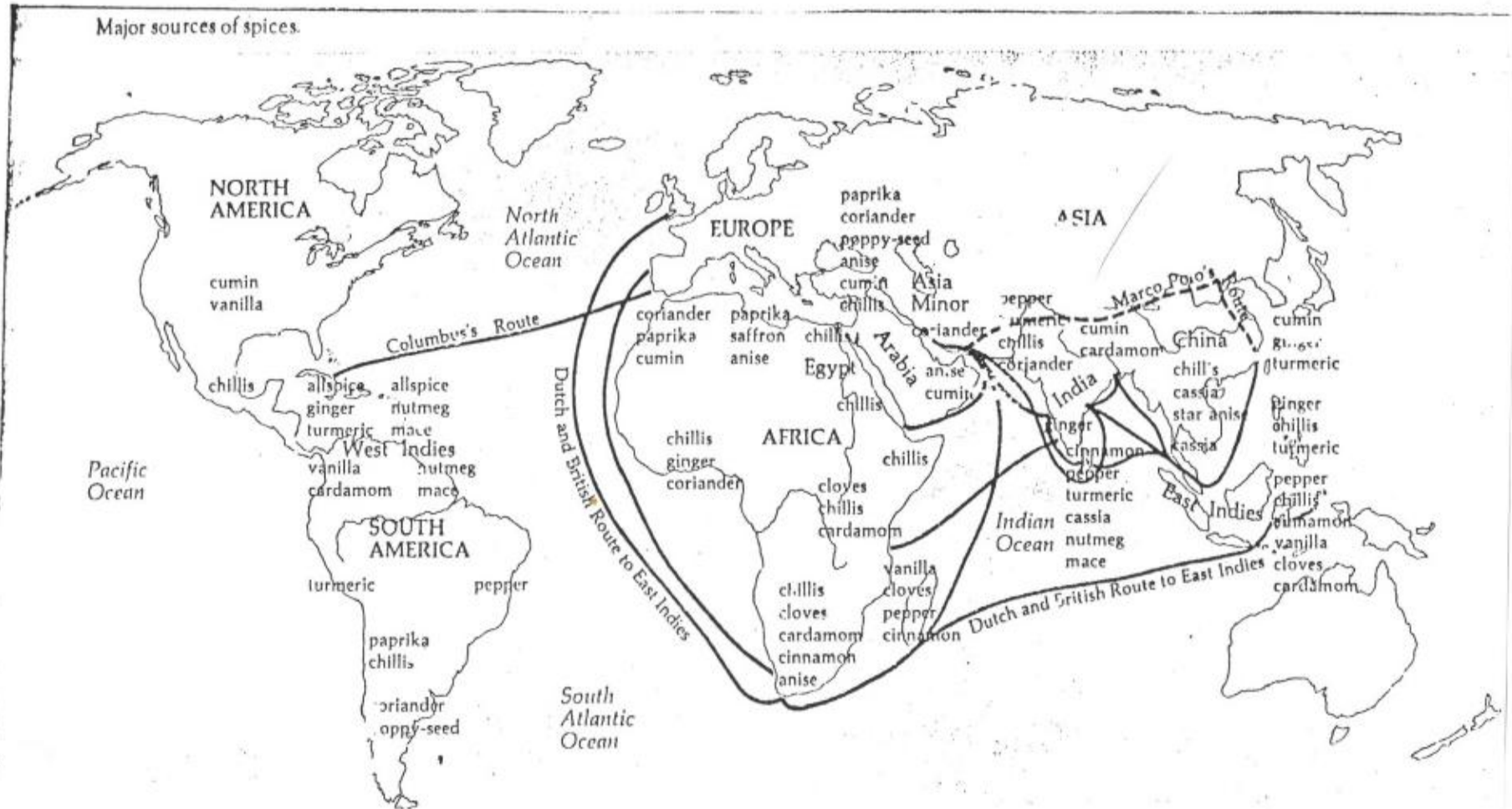


Map 10. Portuguese seaborne empire, c. 1580.

Dutch Overseas Commercial Empire of the 17th Century 2

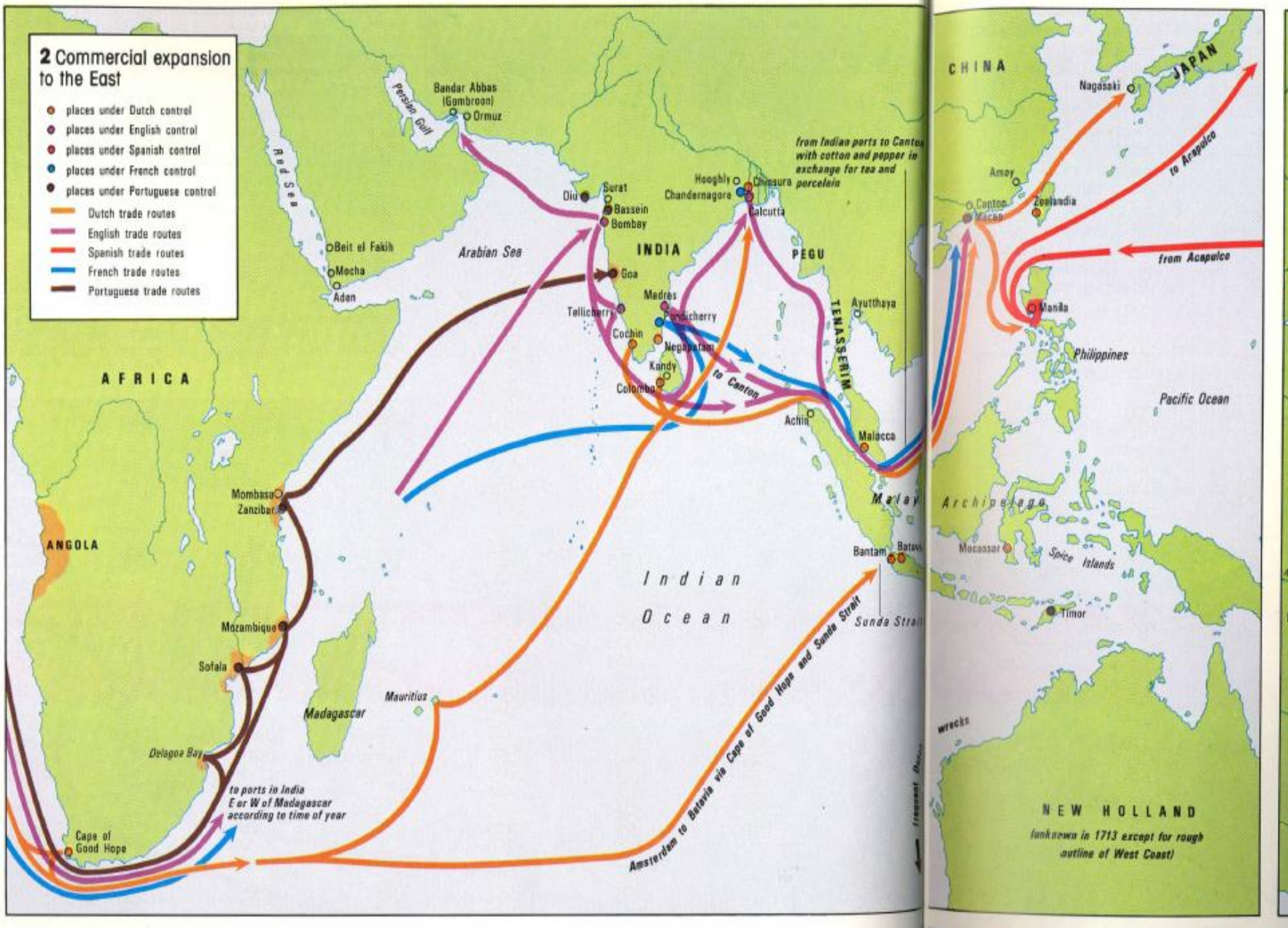
- 1) **Asia: Seizure of East Indies Spice Trade**
- d) **Lisbon Spice Staple and the Dutch**
- - **1549: Portuguese shifted the spice staple** from Antwerp to own capital of Lisbon: **to gain access to cheaper silver** from Americas (Seville)
- - **Dutch took over the spice trade from Lisbon** to northern Europe
- - **1580: Spain absorbed Portugal** (to 1640) and denied Dutch access to spice trade
- - **1580s – 1590s: Mediterranean warfare** also disrupted Venetian trade in Asian spices
- - **both England and Dutch now sought own direct sea route** to East Indies

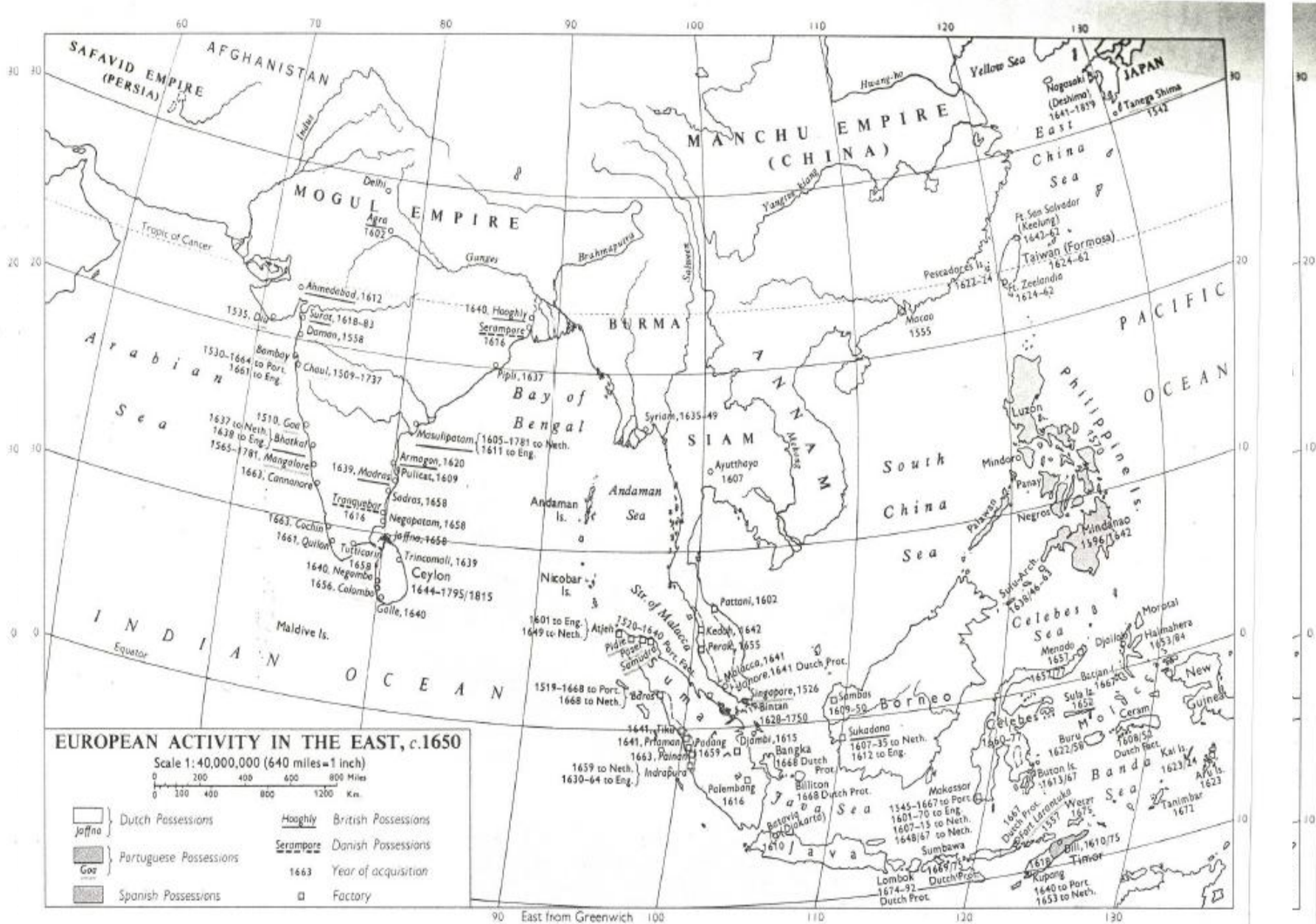
Major Sources of Spices in World Trade and the Routes of the Dutch and English East India Companies in the 17th Century



2 Commercial expansion to the East

- places under Dutch control
- places under English control
- places under Spanish control
- places under French control
- places under Portuguese control
- Dutch trade routes
- English trade routes
- Spanish trade routes
- French trade routes
- Portuguese trade routes





EUROPEAN ACTIVITY IN THE EAST, c.1650

Scale 1:40,000,000 (640 miles = 1 inch)
 0 200 400 600 800 Miles
 0 200 400 600 800 Km.

- | | | | | |
|--|------------------------|--|-----------|---------------------|
| | Dutch Possessions | | Hooghly | British Possessions |
| | Portuguese Possessions | | Serampore | Danish Possessions |
| | Spanish Possessions | | 1663 | Year of acquisition |
| | | | | Factory |

90 East from Greenwich 100 110 120 130

Dutch Overseas Commercial Empire of the 17th Century 2

- 1) **Asia: Seizure of East Indies Spice Trade, cont'd**
- e) **Dutch conquest of Portuguese East Indies**
- - Dutch reached the East Indies first, by 1599
- - **1601: Dutch inflicted crucial naval defeat on Portuguese fleets**
- - but took more years to dislodge Portuguese from many islands & other territories

Dutch Overseas Commercial Empire of the 17th Century - 3

- f) **Dutch East India Company (VOC): 1602**
- i) **private joint-stock company:** large capital raised through sales of shares of ownership
- ii) **enjoyed protection of Dutch gov't: with military power:**
- iii) **aim: to have monopsony buying power in Indies -- brutally eliminating East Indian, Chinese, & European competition**
- - **attempted to exercise monopoly selling power in Europe**
- iv) **1622: English threat: eliminated with 'Massacre of Amboyna' (Ambon): → English vacated East Indies to focus on India**

Dutch Overseas Commercial Empire of the 17th Century - 3

- g) **Character of Dutch Trade with Asia**
- i) **Phase I: 1600 – 1660: Spices & Old Colonialism**
- - **Hobsbawm Thesis:** to explain General Crisis of 17th Century: European imperialist expansion driven by lust for bullion + spices
- **→ crisis, as protection costs + transaction costs** exceeded commercial profits **→** transition to New Colonialism based on wider trading base
- - **Spices still remained dominant** – even after 1660s:
- - in 1715-20: spice trade produced 40% dividends
- - **but spices diminishing in relative importance**, from 1660s, reflecting changes in European cuisine + fashions

Dutch Overseas Commercial Empire of the 17th Century - 4

- g) **Character of Dutch Trade with Asia**
- ii) **Phase II: 1660s – 1760s: New Colonialism**
- - **role of new commodities to supplement and then displace spices** → expand trade with India, Ceylon (Sri Lanka), China, Japan
- - lower priced, but far more broadly based and with diversified markets
- iii) **The New Trading Commodities:**
- (1) **Luxury Textiles:** silks (Persia, China)
- (2) **Cotton Textiles:** far more important: fine muslins and cheaper calicoes: accounting for 40% of value of imported goods into Europe

Dutch Overseas Commercial Empire of the 17th Century - 5

- iii) **The New Trading Commodities:**
- (3) **Porcelain and 'Chinawares'**: clay-based, fire-glazed ceramics
- → large, growing European demand → import substitution crafts
- (4) **Beverages: tea and coffee** (China, India, Ceylon, Arabia):
- - note: required use of boiled water → safer beverages
- - also → increased demand for sugar (Africa + New World).
- (5) **Plant Fibres + Dyestuffs**: jute, hemp, indigo

Dutch Overseas Commercial Empire of the 17th Century - 5

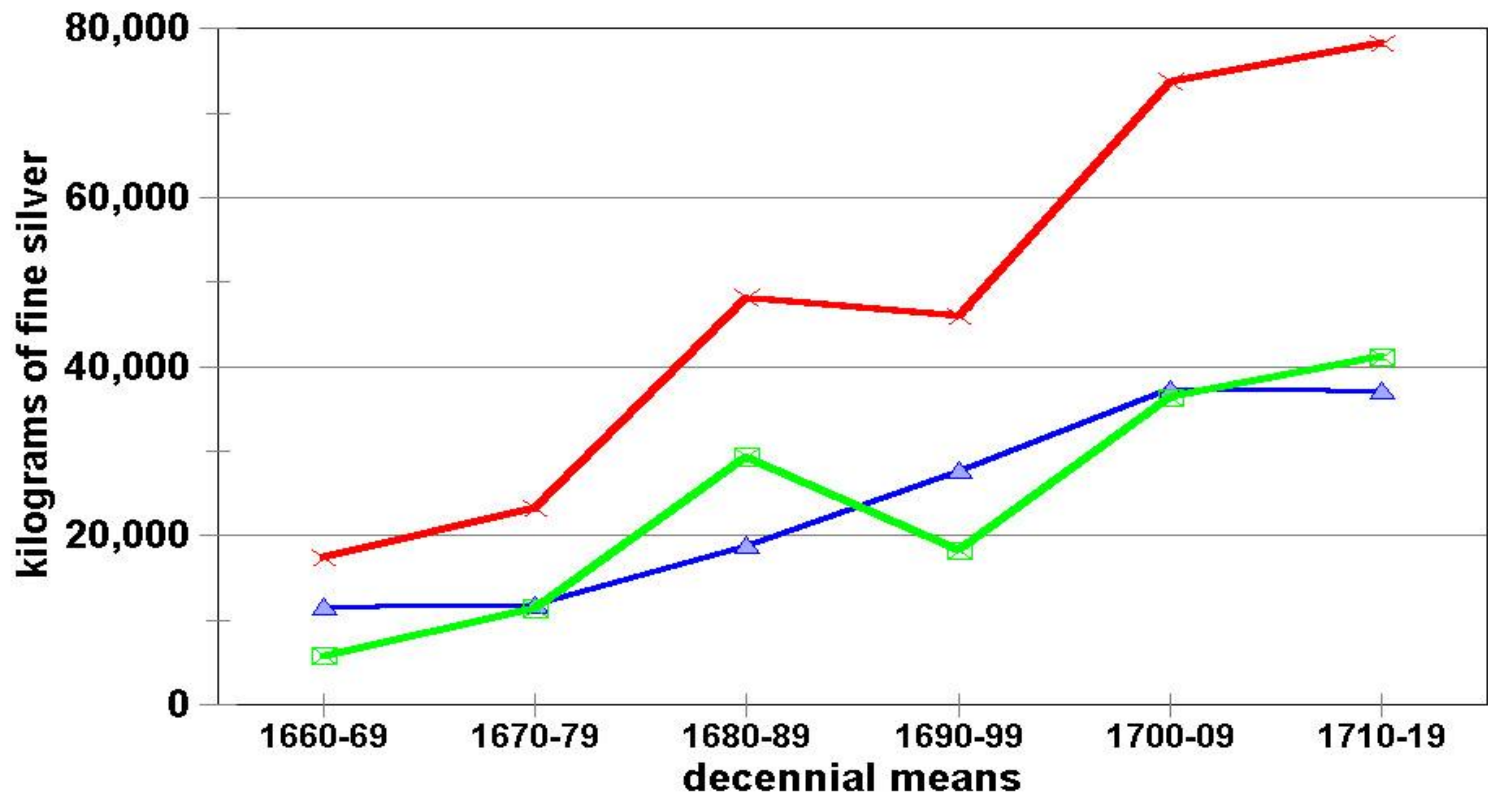
- h) **The silver problem in Asian trade:**
- - i) **European trade with Asia necessarily involved large 'deficits'**: financed by the growing outflow of silver
- ii) **European manufacturing but especially transportation + transaction costs** → European manufactures too costly
- - **sales of European manufactures**: accounted for only 25%
- 30% of value of Asian imports
- - **more favourable gold:silver ratios in Asia promoted export of silver** rather than gold to Asia
- - **hence again importance of Spanish American silver** → allowing Europe to expand Asian trade

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	Value in Gulden (guilders)	Kilograms Fine Silver	Index: 1600-49 = 100
1600-09	647,375.0	6,959.7	71.9
1610-19	965,800.0	10,382.9	107.3
1620-29	1,247,900.0	12,610.8	130.3
1630-39	890,000.0	8,994.0	92.9
1640-49	880,000.0	8,892.9	91.9
1650-59	840,000.0	8,488.7	87.7
1660-69	1,190,000.0	11,563.1	119.5
1670-79	1,220,000.0	11,854.6	122.5
1680-89	1,972,000.0	18,847.0	194.8
1690-99	2,900,500.0	27,720.9	286.5
1700-09	3,912,500.0	37,392.9	386.4
1710-19	3,882,700.0	37,108.1	383.5
1720-29	6,602,700.0	63,104.0	652.1
1730-39	4,254,000.0	40,656.8	420.1
1740-49	3,994,000.0	38,171.9	394.5
1750-59	5,502,000.0	52,584.3	543.4
1760-69	5,458,800.0	52,171.4	539.1
1770-79	4,772,600.0	45,613.2	471.4
1780-89	4,804,200.0	45,915.2	474.5
1790-99	3,233,600.0	30,904.5	319.4

Dutch & English Silver Exports to Asia 1660-9 to 1710-9 in kilograms



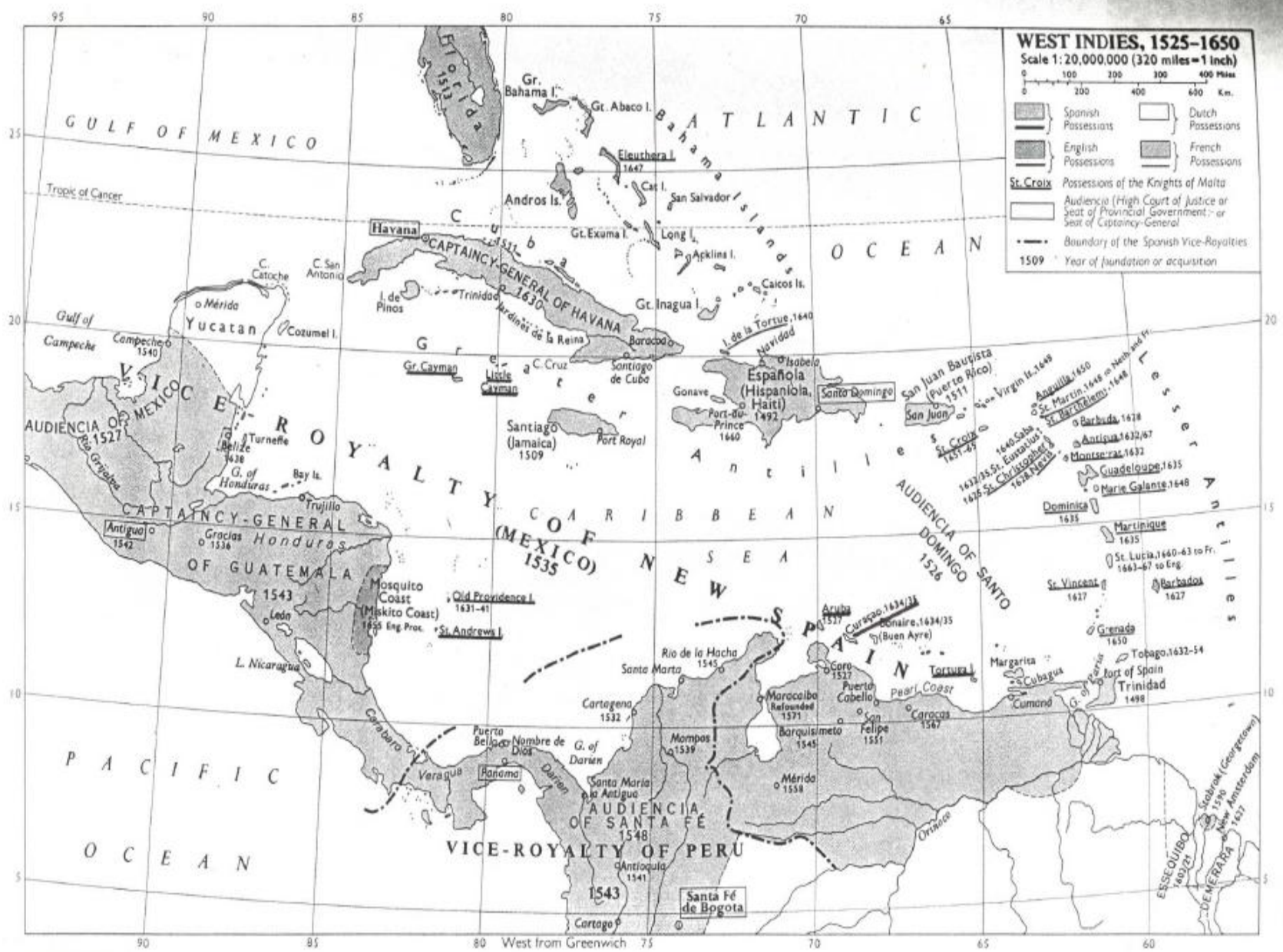
—▲— Dutch East India Co. —■— English East India Co. —×— Total Silver Exports

Dutch Overseas Commercial Empire of the 17th Century - 7

- (2) Dutch Trade in the New World: 17th century
- a) **Caribbean and Latin America:**
- -i) **far less successful than Asian trades**, because the Spanish, English, and French were too powerful for the Dutch
- -ii) **Dutch West India Company**: formed 1621
- - **modelled on East India Company**, but never had same successes as Dutch achieved in Asia

Dutch Overseas Commercial Empire of the 17th Century - 8

- ii) **Dutch West India Company**: formed 1621
- - **failed to compete** with English, French, Spanish, Portuguese (Brazil) in Caribbean trade
- - **turned from trade to piracy → costly failure:**
- - **Dutch West India company dissolved in 1680s:** failure of Old Colonialism
- iii) **Surinam (carved from Brazil) and islands of Aruba + Curaçao:**
- did prove more profitable for Dutch commerce (sugar)



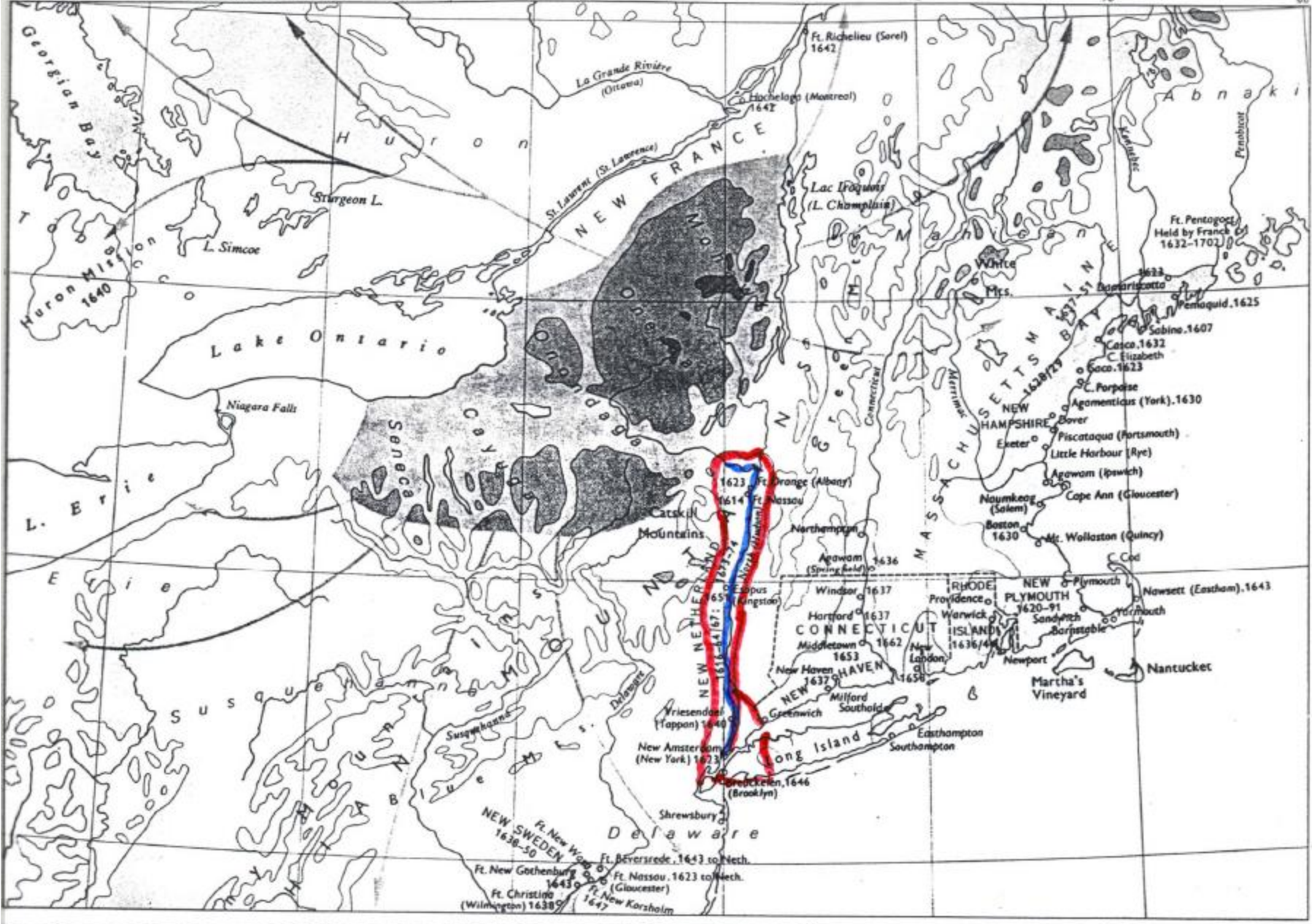
Dutch Overseas Commercial Empire of the 17th Century - 8

- b) **the Dutch in North America: failure of Old Colonialism**
- - i) **Dutch arrived before English: in early 17th century**
- - ii) **colony of Nieuw Amsterdam**: estuary (mouth) of Hudson River: now New York
- - **Dutch West India Co** took it over in 1621
- iii) **colony of New Netherland**: along banks of Hudson north to Fort Orange (now Albany)
- iv) **Economics of Old Colonialism**:
- - **focused on fur trade** (as did the French)
- - inhibited settlement: because beavers (etc) need forested lands

Dutch Overseas Commercial Empire of the 17th Century - 9

- v) **New Netherland remained sparsely settled:** in 1660, only 50% of population in England's Connecticut
- - **Dutch colony hemmed in** by rapidly expanding English colonies
- vi) **Second Anglo-Dutch War, 1664: English seized the colony** + Nieuw Amsterdam → renamed New York
- vii) **failure of the Dutch: in face of English New Colonialism:**
- viii) **failure to establish overseas colonial markets** + raw material sources



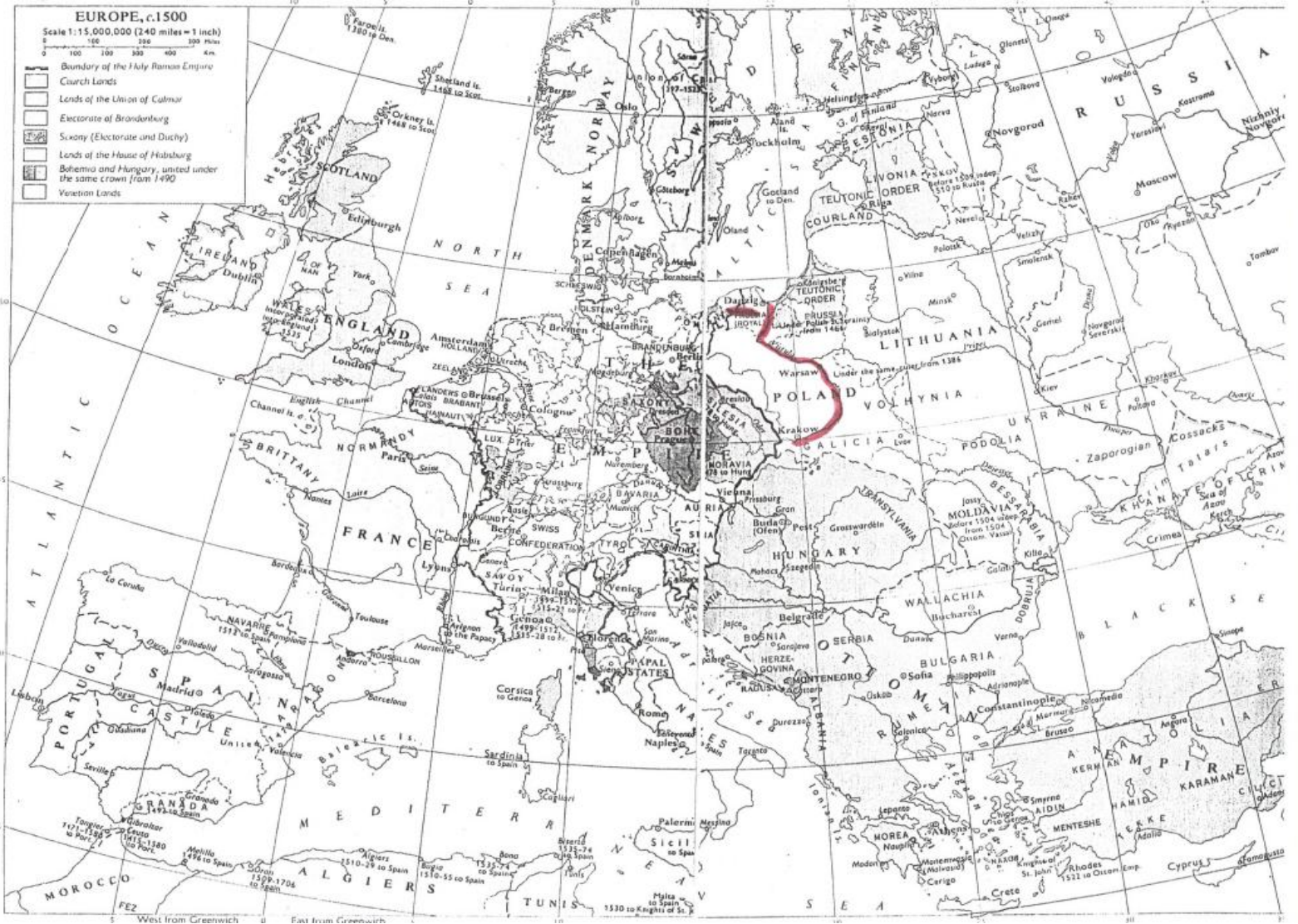


The Baltic, 16th – 18th centuries: keystone of Dutch commercial power

- 1) **The Dutch, the German Hanse, and the Baltic**
- a) **By 1500, the Dutch lead in Baltic commerce over the Germans** had become overwhelming,
- - **but Lübeck would not concede defeat, until Treaty of Speyer in 1544** (noted earlier)
- - **when Sund Tolls commence in 1557, Dutch accounted for 60% of inbound voyages**
- - **note plunge in statistics** during early phase of Dutch Revolt (when ships diverted)
- **but regained former level by 1590s**

The Baltic, 16th – 18th centuries - 2

- -b) **In 1700: Dutch still accounted for 75% of ships in Baltic trade**
- - outnumbered English ships by ratio of 13:1
- - c) **17th century: the Baltic trades accounted for 75% of Dutch commercial investments**
- - i) **Dutch accounted for 70% of the grain trade**
- - ii) **accounted for 80% of herring imports + 50% of salt imports**



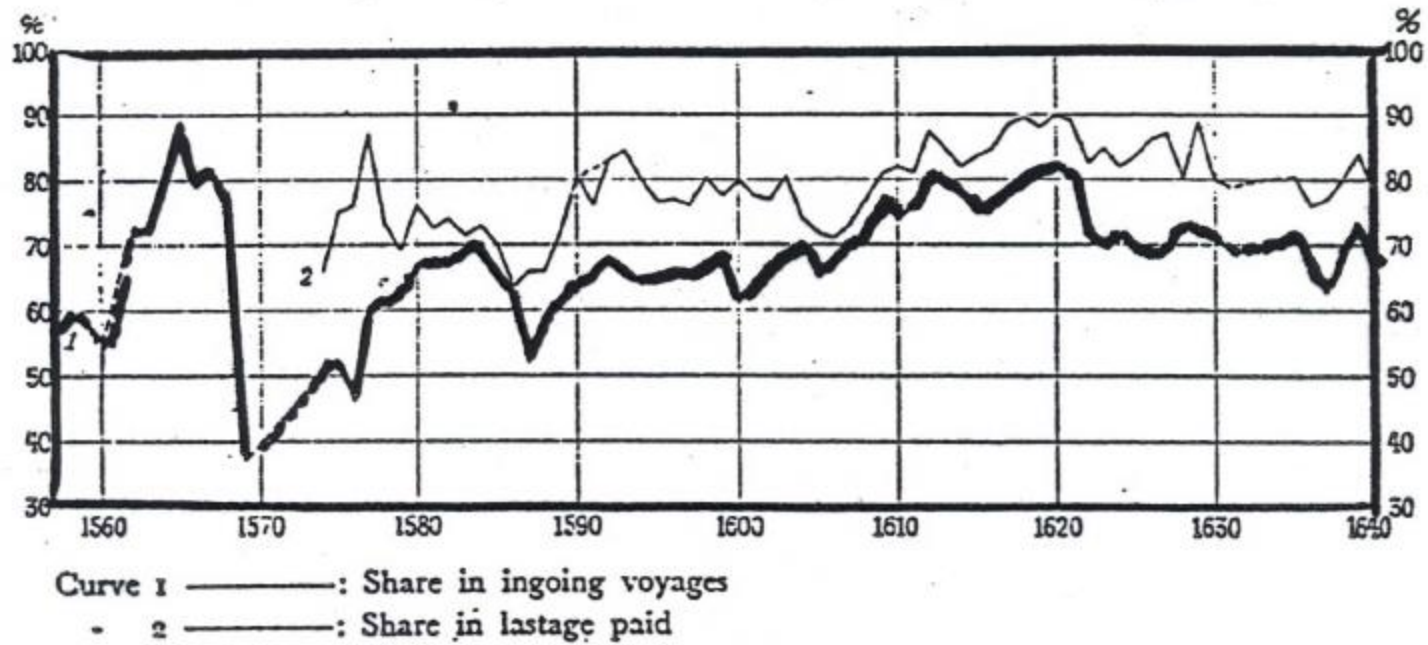
Shipping Traffic Through the Danish Sund: Subject to the Sund Tolls

**Percentage Shares of Taxable Shipping 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%

DIAGRAM II

Percentage Share of the Dutch in the Traffic through the Sound 1557-1640

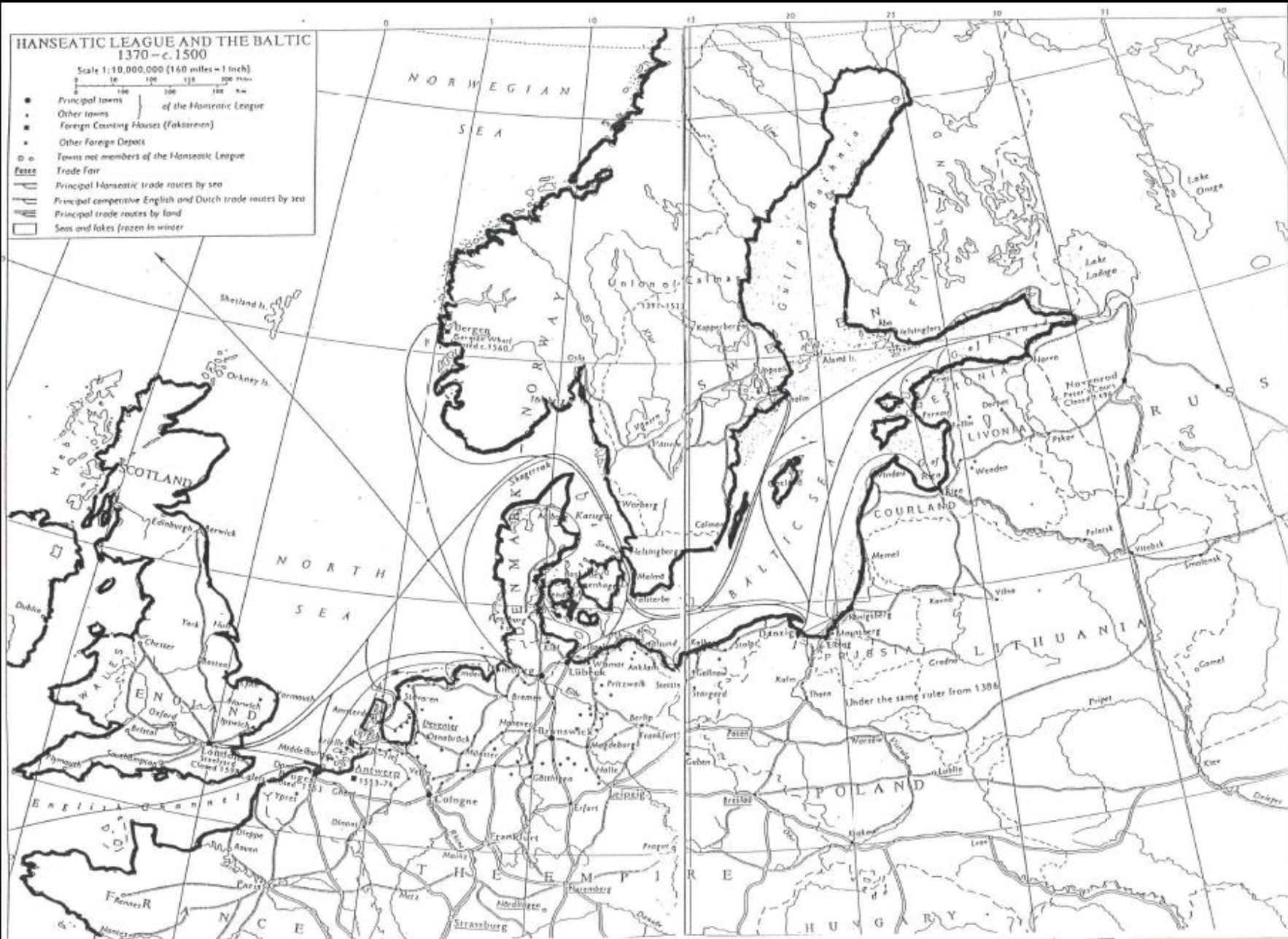


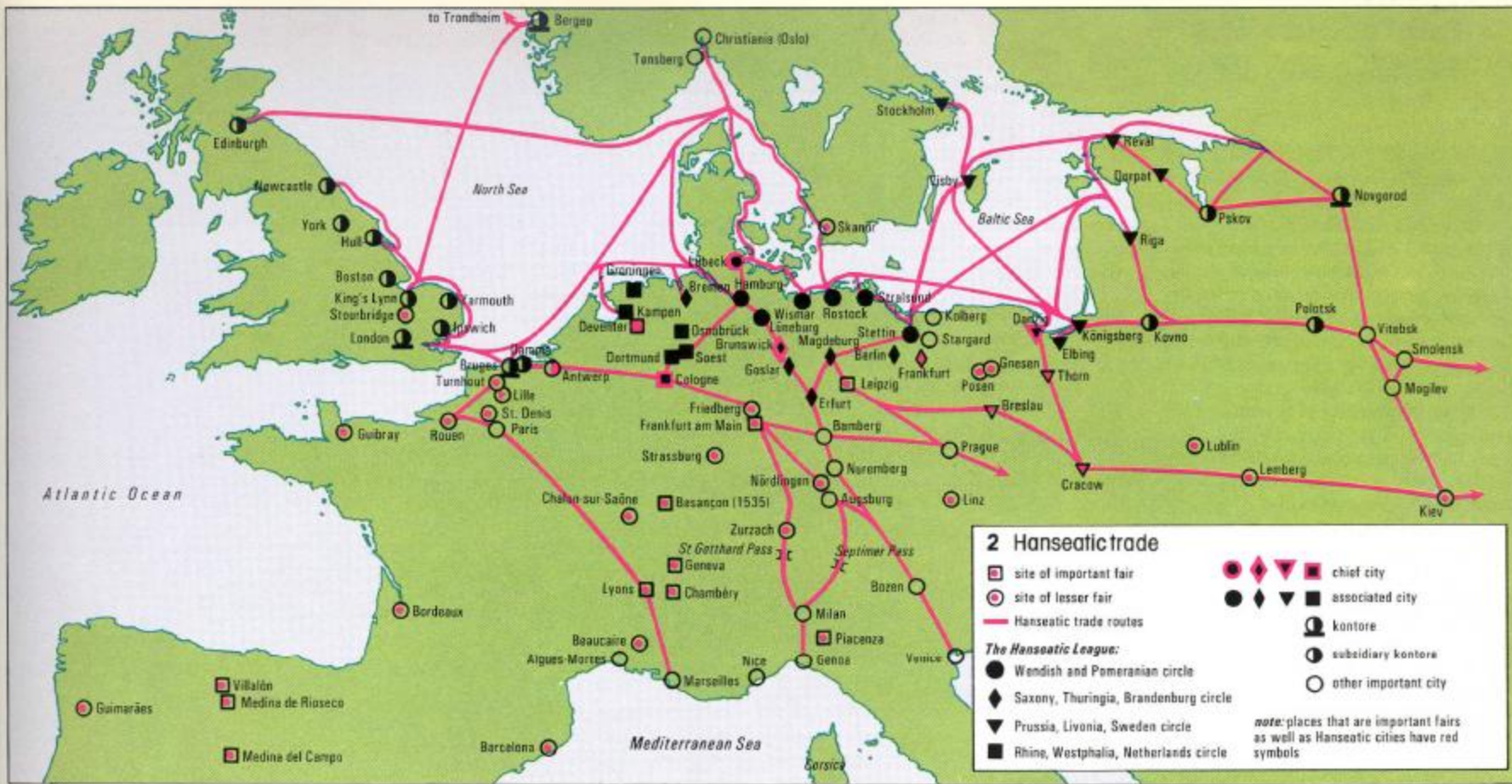
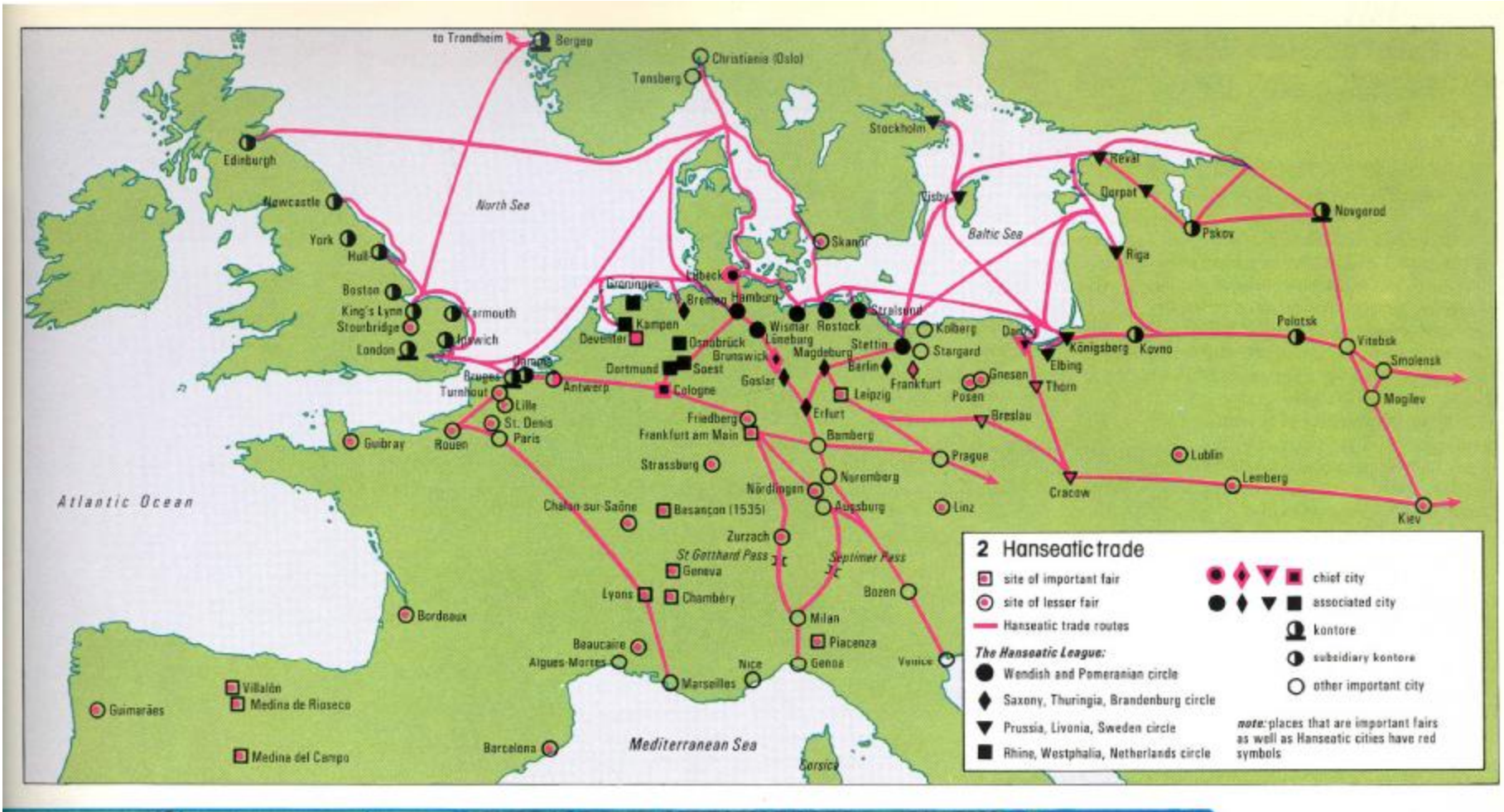
HANSEATIC LEAGUE AND THE BALTIC 1370 - c. 1500

Scale 1:10,000,000 (1 inch = 160 miles)

100 200 300 400 Miles

- Principal towns of the Hanseatic League
- Other towns
- Foreign Consular Houses (Faktoreien)
- Other Foreign Depots
- Towns not members of the Hanseatic League
- Trade Fair
- Principal Hanseatic trade routes by sea
- Principal competitive English and Dutch trade routes by sea
- Principal trade routes by land
- Seas and lakes frozen in winter





The Baltic, 16th – 18th centuries - 3

- 2) **Growing importance of Baltic trades for western Europe: 1500 to ca. 1750:**
- a) **European population growth + urbanization:**
 - ➔ Δ demand for products with inelastic supplies
 - ➔ rising prices for grain, lumber, metals
- b) **Van der Wee thesis:** warfare + shift from overland to maritime routes ➔
- c) **overseas expansion + warfare:** Δ demand for lumber, naval stores, iron, copper

The Baltic, 16th – 18th centuries - 4

- 3) **Geography of Dutch Trade in the Baltic:**
- a) **the grain trades: Prussia and Poland:**
- - i) **grain: *moeder handel* of Dutch trade:** rye, barley, wheat, oats
- - ii) **Vistula Valley (Poland):** Danzig chief port for grain trade
- - iii) **Dutch advantages in supplying grain**
- - low costs on vast Junker grain estates (Prussia & Poland)
- - low cost Dutch shipping and marketing

The Baltic, 16th – 18th centuries - 5

- - iv) **Decline in Baltic grain trade from 1650s:**
- - (1) **demographic contractions** in key markets
- - (2) **rival carbohydrate products:** rice, corn (maize), potatoes
- - (3) **growing English competition in grain exports** [see table]

**Values of Imports into the Southern Netherlands c. 1560: Antwerp Market
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	21.60%	Baltic grains	3.000	16.20%
English Woollens	3.240	17.50%	Portuguese Spices	2.000	10.80%
Spanish Wools*	1.250	6.80%	French wines	1.150	6.20%
English wools	0.500	2.70%	Rhenish wines	0.720	3.90%
French woad	0.400	2.20%	Italian/Spanish/Portuguese wines	0.500	2.70%
German fustians	0.240	1.30%	Portuguese salt	0.250	1.40%
Italian/Spanish alum	0.240	1.30%	French salt	0.250	1.40%
Spanish-American cochineal	0.225	1.20%	Spanish olive oils	0.200	1.10%
			Spanish salt	0.175	0.90%
			German copper	0.160	0.90%
Totals	10.095	54.60%	Totals	8.405	45.40%

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).

The Baltic, 16th – 18th centuries - 6

- b) **Lumber and Naval Stores:**
- **hemp, pitch, tar, flax – for canvas sails**
- **Prussia, Poland, Livonia, Sweden, Norway:**
- i) **along with population growth, increased deforestation in Mediterranean** → increased importance of the Baltic zone for lumber + naval stores
- ii) **unlike grain trade, no new competitors** arose in trade for lumber + naval stores
- iii) **lumber products relatively cheap:** vast stands of timber in sparsely populated zones
- iv) **provided foundations for Dutch supremacy in ship building** → and in shipping

The Baltic, 16th – 18th centuries - 7

- c) **Metals (Copper & Iron): Sweden**
- i) **copper: initially the more important**
- - **Central European copper mines depleted**
- - **Thirty Years War: Δ demand for copper-based munitions: bronze cannons (copper + tin)**
- - **though more costly than iron, much safer (not shatter)**

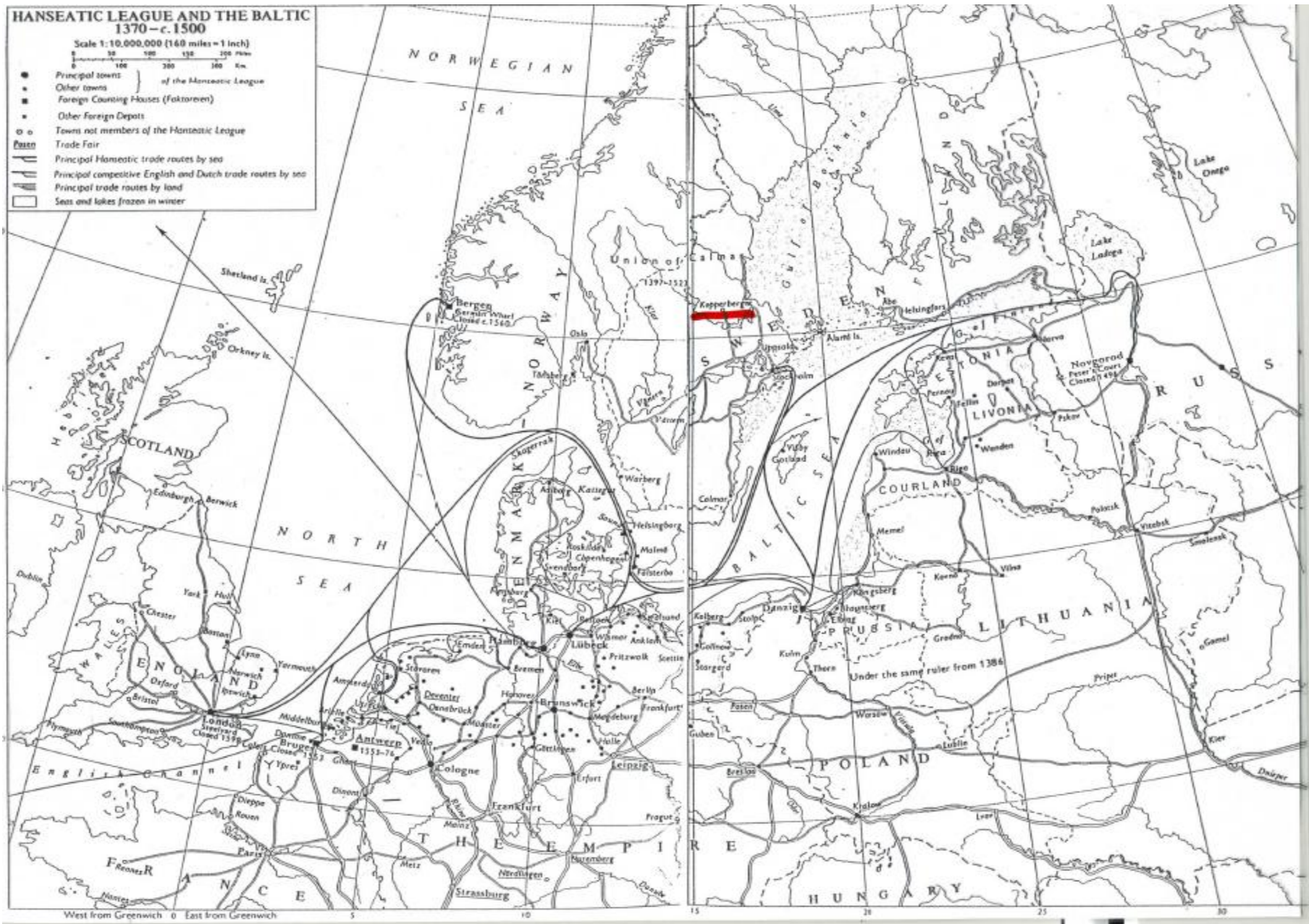
The Baltic, 16th – 18th centuries - 8

- i) **copper: initially the more important (cont'd)**
- - **Stora-Kopparberg**: Falun region of north-central Sweden (300 km NE of Stockholm)
- - **ca. 1650: producing 3,000 metric tonnes a year**-production then fell but remained high to 1680s
- - **Dutch controlled Swedish mines by lending money to the king**, with copper & iron mines as collateral for loans
- - **De Geer family of Dutch merchant-financiers**: controlled copper mines + copper trade + munitions factories in Sweden & Holland

HANSEATIC LEAGUE AND THE BALTIC 1370 - c. 1500

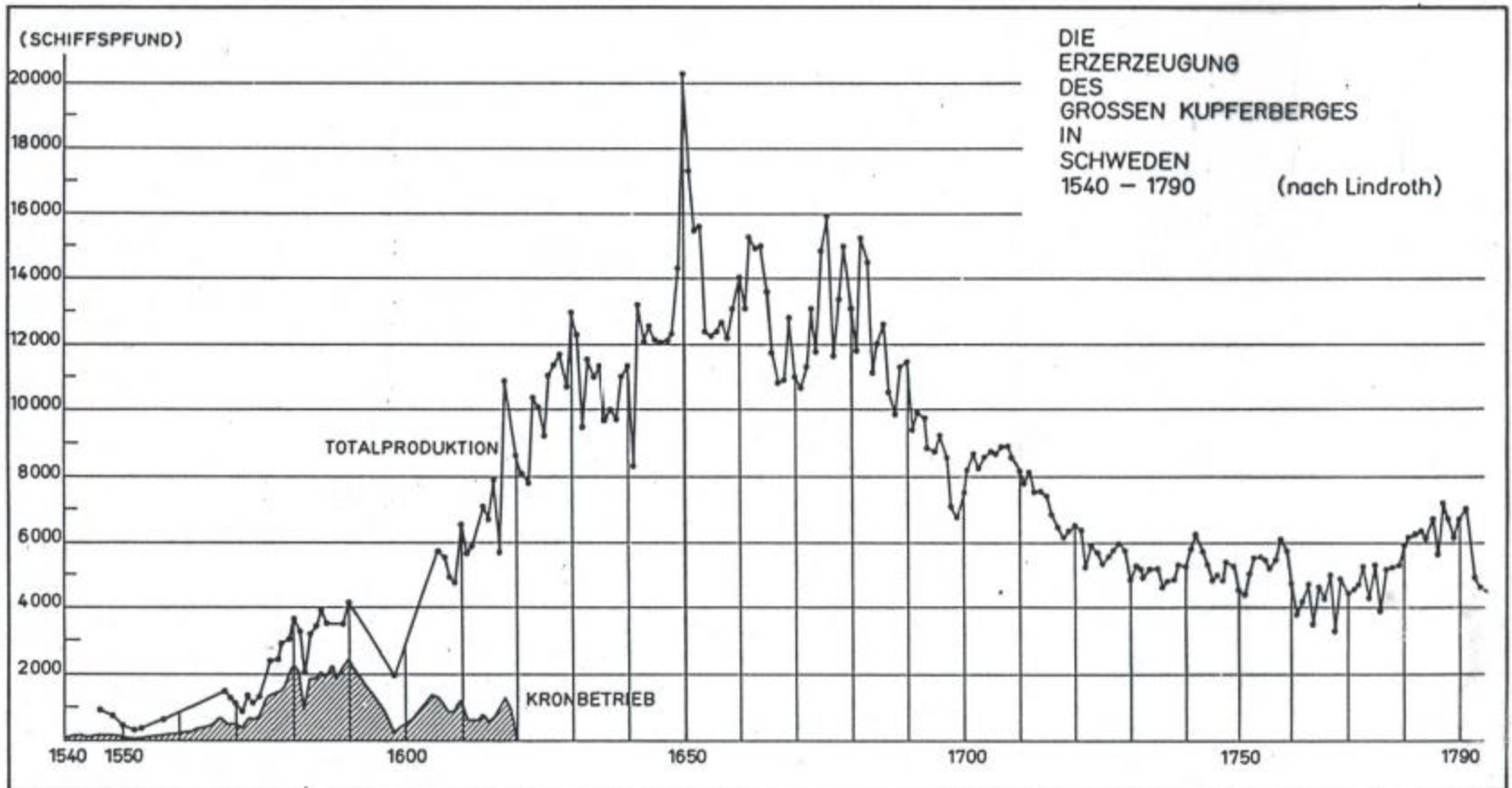
Scale 1: 10,000,000 (160 miles = 1 inch)

- Principal towns of the Hanseatic League
- Other towns
- Foreign Counting Houses (Faktoreien)
- Other Foreign Depots
- Towns not members of the Hanseatic League
- Passes
- Principal Hanseatic trade routes by sea
- Principal competitive English and Dutch trade routes by sea
- Principal trade routes by land
- Seas and lakes frozen in winter



Copper Production in Sweden, principally Stora-Kopparberg (Kopperberget)

1540 - 1790



The Baltic, 16th – 18th centuries - 9

- c) **Metals (Copper & Iron): Sweden**
- ii) **iron: became more important by 18th century**
- - **shift to use of cast-iron cannon** in naval warfare by early 18th century
- - **innovations in iron smelting with coke** (final lecture): improved quality & safety of cast iron
- - **Sweden + Russia: world's leading producers of iron:** with low-cost wood fuels, water power, labour + high quality iron ores
- - **England:** not surpass them until 1770s

The Baltic, 16th – 18th centuries - 10

- d) **Dutch Import Trade into the Baltic zone:**
 - i) **Salt:** chief import, from Bay of Biscay
 - ii) **Fish:** herring most important; then cod
 - iii) **Textiles:** English and Dutch woollens
 - iv) **Others:** wines, spices, tobacco, manufactures
 - v) **Silver** bullion and coin (Dutch)

The Baltic, 16th–18th centuries - 11

- d) **Dutch Import Trade into the Baltic zone:**
- v) **Sales of imported goods into the Baltic never matched the cost of acquiring export commodities:**
 - - sparse population of much of Baltic zone
 - - Second Serfdom in Prussia-Poland-Russia
- vi) **Result: chronic deficits in balance of payments, on a 70:30 ratio → silver imports into Baltic**

X. COMMERCE: Changing Patterns of International Trade in Early Modern Europe, 1520 - 1750

B. Dutch Shipbuilding and Commercial Supremacy: the Industrial Link

15 February 2012

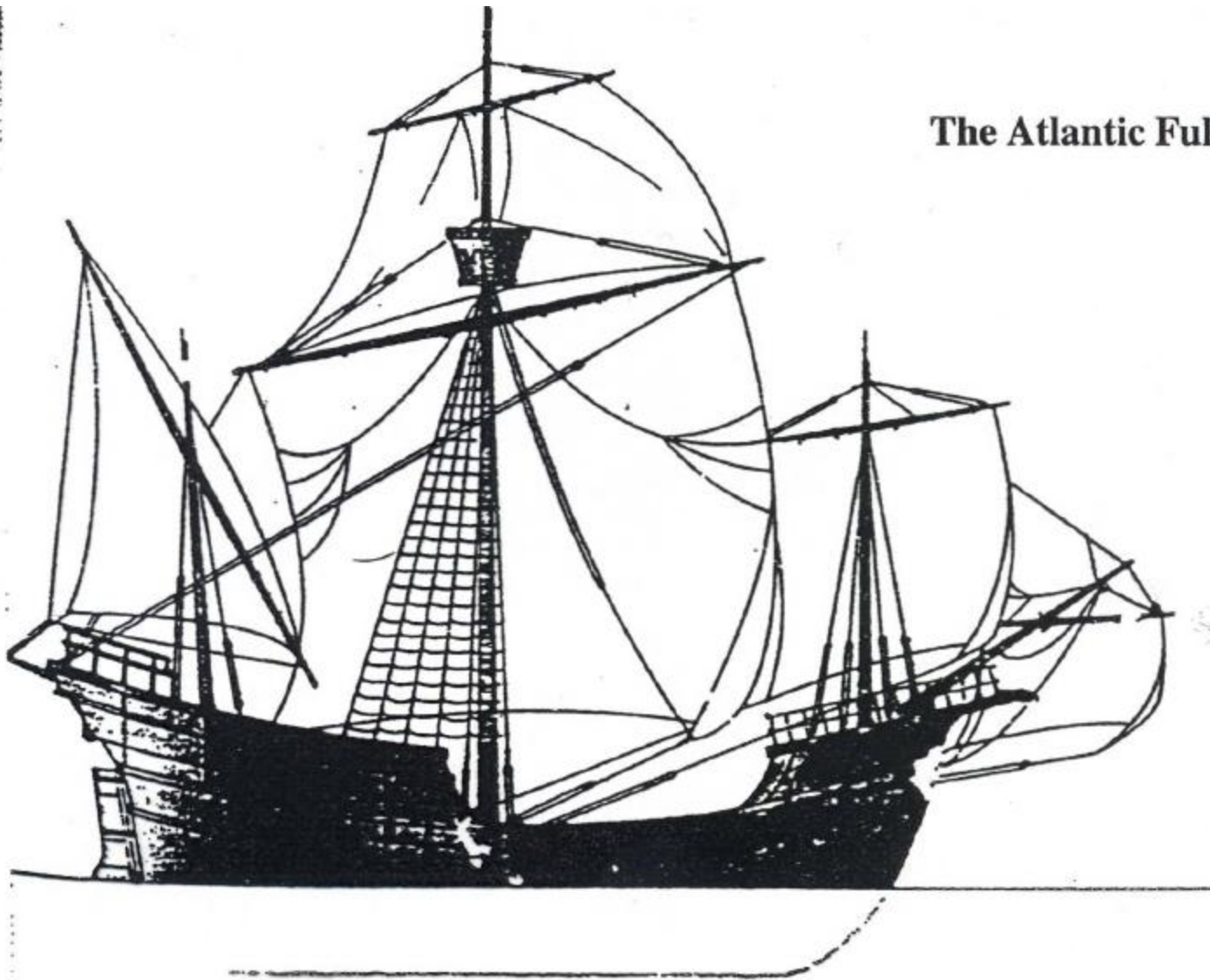
Dutch Shipbuilding Supremacy - 1

- 1) **Link between supremacy in commerce and supremacy in shipbuilding + shipping**
- a) **Dutch supremacy in northern commerce** in part dependent on supremacy in shipbuilding and shipping
- b) **shipbuilding supremacy based in turn on:**
- i) **Dutch supremacy in Baltic trades:** especially control over Baltic lumber + naval stores → gave Dutch lower cost inputs for shipbuilding
- ii) **low-cost Dutch shipping:** transporting lumber, etc.
- ii) **Dutch innovations in shipbuilding technology**

Dutch Shipbuilding Supremacy - 2

- 2) **Technological Innovations in Shipbuilding: the Fluitschip**
- a) **evolution from previously developed carrack** (last term):
northern cog + Portuguese caravel: → 'hulk' →
buyscaraveel → boyer → vlieboot → fluitschip ('Flute')
- - **first documented at Hoorn Shipyard** (in Amsterdam):
1595
- b) **ship-rigging: speed + maneuverability:**
- - i) **with three masts** (fewer than most carracks)
- - two square sails for speed + lateen sail on mizzen mast
- - ii) **fewer sails** → simpler rigging → fewer sailors

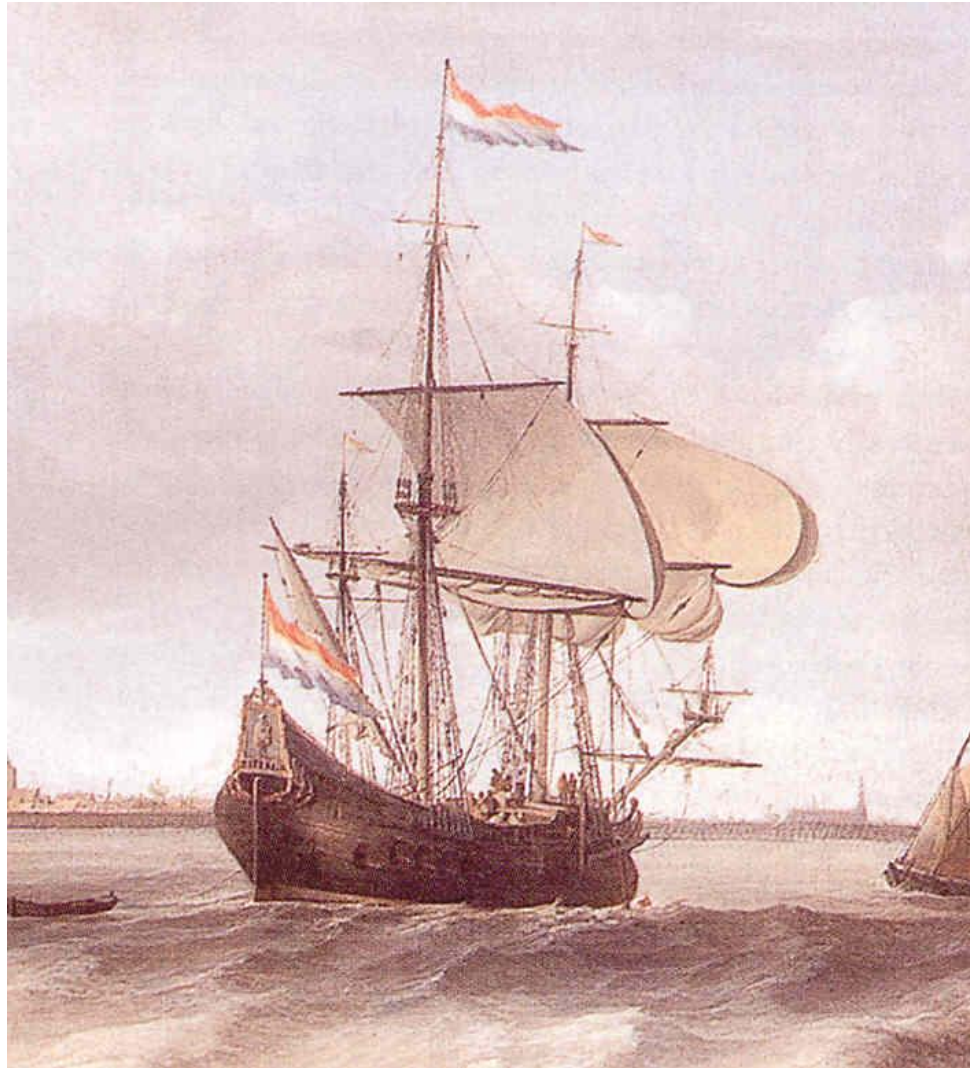
CARRACK
The Atlantic Full-Rigged Ship



26: Boyer (left) and Netherlands Cargo Ship Showing Many Features of the Later Fluyt, from a Mid-sixteenth-century Engraving by Pieter Breugel the Elder







Dutch Shipbuilding Supremacy - 3

- c) **Designed for optimum speed + cargo (tradeoff)**
- - i) **length 4-6 times beam** (vs. standard 3 times)
- - 300 to 500 tons displacement
- - ii) **hull: low centre of gravity to ride out storms, with flat bottom** for shallow draft in coastal waters and rivers

Dutch Shipbuilding Supremacy - 4

- 2) **Technological Innovations in Shipbuilding:**
the **Fluitschip** ('Flute')
- d) **pine construction:**
 - - **chiefly pine**, and oak only for hull stress points
 - - **much cheaper to build**
 - - **made ships lighter + faster** in speed

Dutch Shipbuilding Supremacy - 5

- e) **carried no cannons: with many advantages**
- - i) **permitted pine construction** (warships: oak)
- - ii) **lower weight → faster speed**
- - iii) **smaller crews (no gunners) → cheaper labour**
- - iv) **much more cargo space with guns, munitions, crew**
- - v) **because Dutch built fluitschips as specialized bulk-cargo ships for Baltic trades**, did not require same type of heavily-armed protection required for Caribbean + Asian trades (higher priced cargoes: semi-luxuries)

Dutch Shipbuilding Supremacy - 6

- 3) **Factors in Low-Cost Shipbuilding: ca. 1670s**
- a) **mass production with extensive mechanization:**
 - i) **simple design** → permitted **standardization of parts** (interchangeable parts) – as opposed to standard ‘custom built’ ships
 - ii) **large volume of Baltic trades** → permitted **specialized ship design** → mass production techniques
- b) **Dutch naval engineering + mechanization:** extensive use of wind-powered sawmills, cranes

Dutch Shipbuilding Supremacy - 7

- 3) **Factors in Low-Cost Shipbuilding: cont'd**
- c) **cheaper inputs:** pine wood, etc.; simpler rigging
- d) **lower capital costs:** with lower interest rates
- i) **highly developed commercial + financial institutions**
- ii) **growing volume of profitable trade → high profit margins**
- e) **cheap timber and naval stores: Dutch dominance of Baltic trades → allowed Dutch to buy goods at more favourable rates, with bulk purchases**
- f) **Dutch shipbuilding costs were 2/3 those of rivals:**
- £4.50 vs. £7.15 per ton for English ships

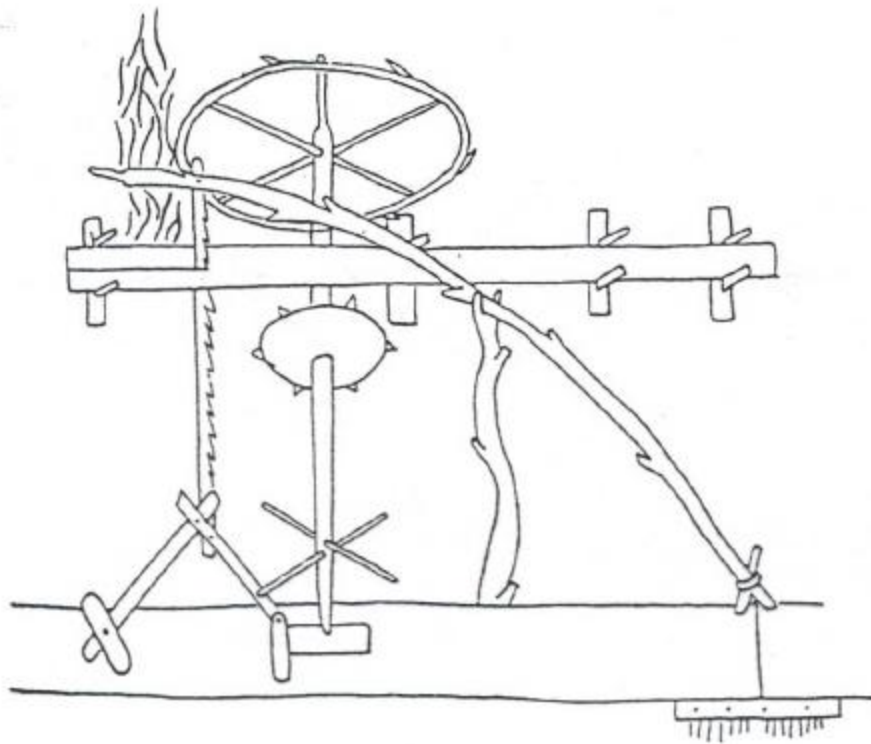


FIGURE 2-28. Water-powered sawmill of Villard de Honnecourt, c1235. The sticklike projections on the axle are cams and were used to depress the saw blade. A spring-pole returned it to position for the next stroke. The toothed wheel shown in the center of the axle fed the timber continuously into the saw.

Dutch Shipping Supremacy - 1

- 1) **Factors in Low-Cost Shipping: Freight rates**
- a) **low construction costs** (just seen)
- b) **lower capital costs** (just seen):
- 4% vs. 10% for English, French
- c) **lower labour costs: far fewer men:**
- Dutch crews of 10 men vs. 30 men on English & French ships of comparable size (300-400 tons):
→ **higher productivity** → **higher wages**, which still did not raise total labour costs above those of the English & French ships

Dutch Shipping Supremacy - 2

- d) **much more cargo space**: for reasons noted
- e) **greater speed + shorter round trips**:
 - - faster sailing times
 - - quicker turnovers in ports: better organization → savings on transaction and interest costs
- - f) **superior commercial + financial organizations** (subsequent lecture)

Dutch Shipping Supremacy - 3

- 2) **The English Dilemma: a vicious circle**
- a) **English could not build or operate ships as cheaply as the Dutch** → higher freight rates → higher costs of obtaining lumber
- b) **with far smaller trading volumes & exclusion from the Baltic, the English could not afford to build specialized cargo ships:**
 - - had to build heavily armed merchant war-ships for higher-valued trades in Mediterranean, Caribbean, etc
- c) **lower commercial profits** → could not accumulate enough commercial capital → could not acquire capital at lower interest rates

Dutch Shipping Supremacy - 4

- d) **The English responses:**
- i) **buy or capture Dutch ships,**
- also copy their construction methods
- ii) **better answer: develop their own comparative advantages in international trade:**
- where bigger ships and superior fire-power (cannons) proved to be the decisive factors:
- esp. Mediterranean, the Caribbean, and Indian Ocean regions
- – **and also in warfare!**