The Dual Crises of the Late-Medieval Florentine Cloth Industry, ca. 1320 – 1420

Textiles and the Economy in the Middle Ages

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The Dual Crises of the Late-Medieval Florentine Cloth Industry

- **During the century ca. 1320 – 1420, the Florentine cloth industry underwent two closely connected crises:**
- (1) **first crisis: with beneficial consequences:**
- **made it Italy's most important manufacturing industry,** and a major European leader in producing **luxury woollen textiles**
- (2) **second crisis: resulted from the economic conditions that had produced that beneficial outcome of the first crisis: with far longer-lasting, deleterious consequences**

The Florentine Textile Industries and Trade before 1320 - 1

- 1) **Arte della Lana: Florentine textile manufacturing industry had largely focused, earlier, on a wide range of relatively low cost, coarse, and lighter fabrics:**
- - **including many worsteds, or hybrid woollen-worsteds**, and not just cheaper woollens (but also a few costly woollens)
- - **these were widely marketed throughout the Mediterranean basin** (Christian and Muslim lands) – from 12^{th} century

The Florentine Textile Industries and Trade before 1320 - 2

- 2) **Arte di Calimala: then a far more important guild:** more commercial than purely industrial: for **luxury quality, heavy-weight woollens**
- \- a) **imported such high-quality, high-priced luxury woollens from Champagne Fairs: produced in northern France and Low Countries:** known as ***panni alla francesca***
- \- b) **Arte di Calimala: hired specialists to dye, shear, press, and finish** these northern woollens
- \- c) **then re-exported these luxury woollens** to rest of Italy and Mediterranean basin

The First Textile Crisis: Warfare and rising transaction costs (1290s) - 1

- 1) **Spreading stain of warfare: from 1290s:**
- - a) **In eastern Mediterranean basin:**
- - **1291**: **Mamluk conquest** of last Crusader ports in Palestine (Acre)→ cut vital trades link to western and southern Asia
- - **1291-99: Venetian-Genoese wars** to control Black Sea trade (alternative trade routes to Asia)
- - **1303 & after**: Ottoman Turks: invasions of Byzantine Empire → SE Europe (Balkans)

The First Textile Crisis: Warfare and rising transaction costs (1290s) - 2

- 1) **Spreading stain of warfare: from 1280s:**
- b) **Western Mediterranean, NW Europe:**
- - **1282-1302**: **Wars of the Sicilian Vespers** (Italy, France)
- - **1291-1340**: **Berber-Merinid invasions** of Spain
- - **1296-1328: Anglo-French, Anglo-Scottish, Franco-Flemish wars** & Flemish civil wars
- - **1313-43: Guelf-Ghibelline wars in Italy** → Angevin, Catalan, German, Hungarian invasions of Italy
- c) **Hundred Years' War, 1337-1453**: involving France, England, Low Countries, and Spain

ITALY
in the XII & XIII Centuries
Statute Miles
Duchy of Tuscany
Papal Territory: Patrimony
Papal States under Innocent III.
Venetian Territories in XII Cent.
Kingdom of Naples and Sicily
Lands of Counts of Savoy
Boundary of the Kingdom of Italy
Boundary of Lands of Countess Matilda
Towns in Lombard & Veronese League 1164-7 thus •
Towns in Lombard League 1177 are underlined red
Towns in Tuscan League 1196 are underlined black
KINGDOM OF SICILY
PATRIMONIUM
TUSCANY
CORSICA
SARDINIA


ITALY
DURING THE RENAISSANCE
in the XV and Early XVI Centuries
Scale 1:5,000,000 (80 miles=1 inch)
Boundaries are given as in 1454
Papal States
Lands claimed by the Pope
Smaller independent States
SAVOY
DUCHY OF SAVOY
VALAIS
DAUPHINE
PROVENCE
MARQUISATE SALUZZO
REPUBLIC OF GENOA
DUCHY OF MILAN
REPUBLIC OF VENICE
FRIULI
ISTRIA
DALMATIA
MARQ. OF MANTUA
DUCHY OF FERRARA ESTE
DUCHY OF MODENA ESTE
REP. OF LUCCA
REPUBLIC OF FLORENCE
REPUBLIC OF SIENA
EMILIA
ROMAGNA
STATES OF THE CHURCH
THE MARCHES
UMBRIA
SABINA
PATRIMONY OF ST. PETER
CAMPAGNA
ADRIATIC SEA
KINGDOM OF NAPLES
ABRUZZI
MOLISE
CAPITANATA
BARI
OTRANTO
BASILICATA
PRINCIPATO CITRA
TERRA DI LAVORO
Venice
Bologna
Ravenna
Rome
Naples
Salerno
Elba
Ostia

The First Textile Crisis: Warfare and rising transaction costs (1290s) - 3

- 2) **Rising transportation & transaction costs**
- a) **disruption of normal trade routes + destruction of commodities, ships, mule-trains**, etc: not so much from warfare itself as from breakdown of authority ➔ Δ brigandage + piracy ➔ Δ civil strife + chronic crime
- b) **Church & state bans on trade**: **especially with Mamluks (or all Muslims)** ➔ costly trade licences when trade temporarily permitted
- c) **increased taxes & forced loans, coinage debasements (seigniorage profits)**: for defence, increased military costs-
- **building far larger armed ships**: with new artillery

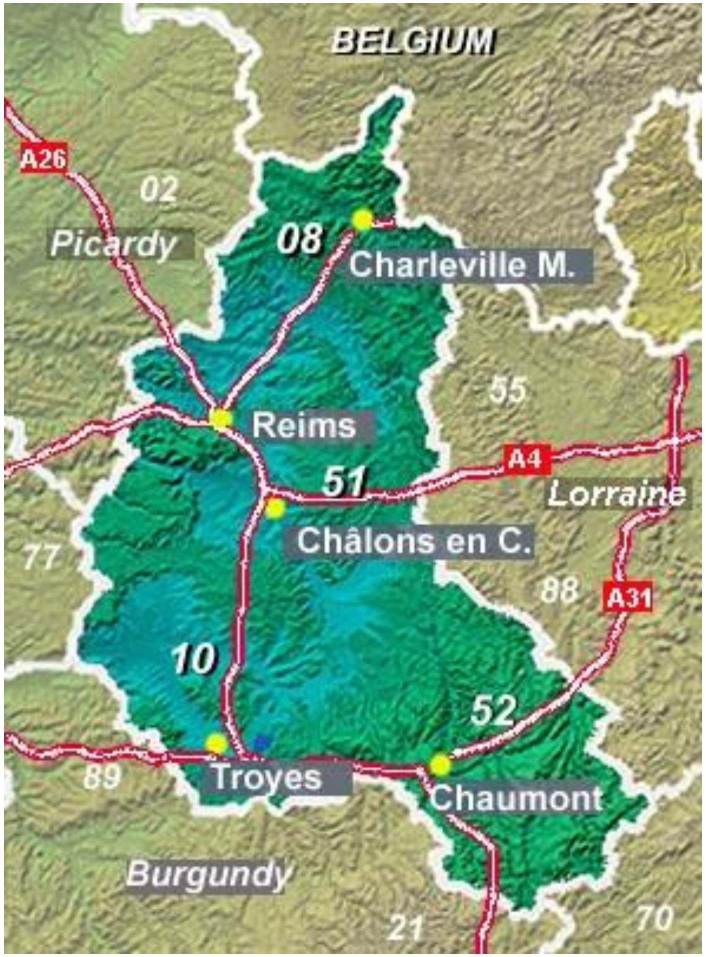
The First Textile Crisis: Warfare and rising transaction costs (1290s) - 4

- 3) **Major changes in trade + trade routes: from 1290s to the 1320s**
- a) **rapid decline & fall of Champagne Fairs**: on which N-S textile trades had been based
- b) **shift from continental overland trade routes** ➔ maritime trade routes:
- **Italy to NW Europe**: by 1320s (Venice: 1314)
- **BUT**: from 1332-1400: Venice's Flanders Galleys made only 24 north-bound voyages

The First Textile Crisis: Warfare and rising transaction costs (1290s) - 5

- c) **Problems with Italian direct sea routes:**
- - **maritime transport was relatively cheaper** (now) than war-torn overland routes; **BUT with rising costs**
- - i) **maritime route** from Venice/Florence to Southampton & Bruges: **5 times longer** than land route
- -ii) **major problems**: naval warfare, increased piracy, ocean storms ➔ shipwrecks + destruction
- - iii) **navigation problems**: **inability to calculate longitude** ➔ forced ships to hug coastlines ➔ much longer trips
- - iv) **uncertainty** ➔ **inability to schedule and concentrate** international trade transactions in fairs or towns ➔ increased transaction costs of trade (over fairs)

The Champagne Region (modern)



SCANDINAVIA
NORWAY
FINLAND
Stockholm
ESTONIA
Novgorod
SWEDEN
LIVONIA
Riga
SCOTLAND
JUTLAND
North Sea
LITHUANIA
RUSSIA
Lübeck
Danzig
York
IRELAND
PRUSSIA
ENGLAND
London
Antwerp
POLAND
Bruges
Ghent
FLANDERS
Cologne
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Geneva
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Lyon
Milan
Bordeaux
PROVENCE
Genoa
Caffa
Ravenna
Avignon
DALMATIA
Montpellier
Lucca
Florence
Pisa
Ragusa
Black Sea
CATALONIA
Adriatic Sea
CORSICA
Rome
Barcelona
Constantinople
ARAGON
Naples
Amalfi
PORTUGAL
CASTILE
MAJORCA
SARDINIA
Valencia
Phocaea
CHIOS
SICILY
Seville
ARMENIA
Tunis
RHODES
Antioch
CRETE
CYPRUS
Mediterranean Sea
LEVANT
Beirut
Alexandria
Business Centers and
Maritime Trade Routes
High Middle Ages
Genoa and Pisa
Venice
German Hanse
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MILES

The First Textile Crisis: Warfare and rising transaction costs (1290s) - 6

- 4) **Major Economic Consequences by 1320s**
- a) **rising transaction costs of long-distance trade in cheap textiles** → prohibitive or uneconomic for trade in undifferentiated cheap generic products
- → producers as 'price-takers' unable to raise prices to cover Δ costs (pure competition)
- b) **Black Death (1348) and depopulation** → undermined or destroyed **scale economies** necessary for effective commerce in cheap products: higher transaction costs per unit of goods traded
- c) **Black Death + 'Great Depression' from 1340s** → **more highly skewed** distributions of weath, income

The First Textile Crisis: Warfare and rising transaction costs (1290s) - 7

- d) **strong incentive to shift production + trade to luxury textiles, for which:**
- i) **producers engaged in monopolistic competition** based on quality (not so much price) ➔ as 'price-makers' with more inelastic demand
- ii) ➔ **thus able to raise prices** to cover rising transaction costs in long-distance trade
- iii) **but had to focus on much smaller, wealthier markets** – with more inelastic demand

The First Textile Crisis: Warfare and rising transaction costs (1290s) - 8

- 4) **Major Economic Consequences by 1320s**
- e) **Rapid decline & fall of the *Arte di Calimala*,** especially with **end of Champagne Fairs**
- f) ➔ **strong incentive for Florentines to develop an import-substitution industry** in luxury woollen textiles
- g) ➔ **rapid growth of Arte della Lana from 1320s**: in shifting **from cheaper textiles to luxury woollens**

The Golden Age of the Arte della Lana: 1330s to 1370s - 1

- 1) **Florence's Arte della Lana became Italy's single most important manufacturing industry** (esp. textiles)
- ➔ **chief rival of Flemish cloth industry** as leading European producer of **luxury woollens**
- ➔ **increasingly displaced most luxury woollens from Flanders + Brabant in Mediterranean** (except: cheaper but still luxury products of Nouvelles Draperies)
- 2) **Effectively also displaced and usurped former role of Arte di Calamala**: to benefit Florentine merchants in international trade

Memling: *Adoration of the Magi*

Memling, *Madonna & Child* (1490)

The Golden Age of the Arte della Lana: 1330s to 1370s - 2

- 3) **But NOT a complete transition to luxury woollens:**
- -a) **Hoshino:** about 75% of total **Arte della Lana** production was in luxury woollens by 1340s (vs. 30% in late 1320s) ➔ greater by 1390s, but never complete
- -b) **San Martino sector**: based totally on English wool
- vs. **Garbo sector**: based on cheaper, non-English wools
- -c) **Note: Italians had comparative advantage over northern producers in marketing cheaper textiles**: with much lower transaction costs in Mediterranean
- -d) **Domestic Italian markets remained wealthy and important for cheaper textiles:** especially in clothing servants of aristocratic and ecclesiastical housholds

The Golden Age of the Arte della Lana: 1330s to 1370s - 2

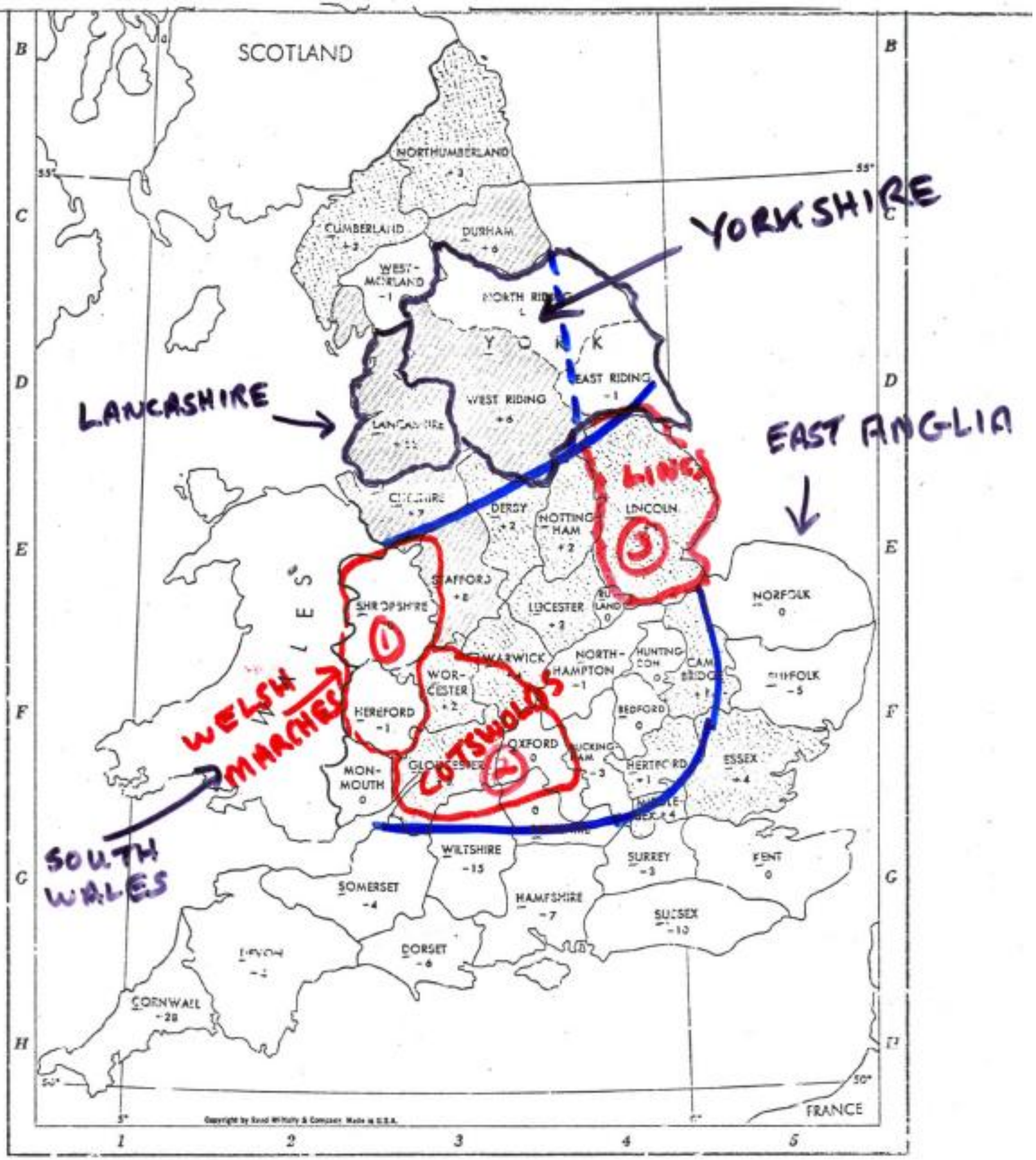
- 4) **Conundrum: Arte della Lana as import substitution industry using English wools**
- a) **sine qua non for luxury cloth production was exclusive use of the finest + costliest English wools**: in late-medieval Europe:
- b) **But why was it more economic to import raw wools than finished woollens:** when 35% of wool was removed in production process?

The Golden Age of the Arte della Lana: 1330s to 1370s - 3

- 4) **Conundrum: Arte della Lana as import substitution industry using English wools**
- c) **Answer: Florentine dominance in European banking:**
- **- innovation of bills of exchange banking and their mercantile monopoly on papal tax collections + banking**
- - i) **used papal taxes collected in cash to buy English wools**
- - ii) **remitted the tax proceeds by bills of exchange** (without transporting any specie: dangerous even by sea)
- -iii) **Florentine and Lucchese merchant-banking houses**: - **had served as bankers to English crown** (Edward I & II) from 1270s: by 1280s: total Florentine dominance
- **Italian loans to king granted** on security of wool-export customs duties from 1275 (first instituted by Edward I)

The Golden Age of the Arte della Lana: 1330s to 1370s - 4

- c) **Florentine dominance in European banking:**
- -iii) **Italians (Florentines) displaced the Flemish** in dominating English wool exports by late 1270s
- -iv) **but the Low Countries received almost all of wools** that Italians then exported -- before the 1320s
- - v) **from 1320s-30s,** the Italians were shipping English wools chiefly by sea, to Italy
- - vi) **Florentine merchants profited handsomely** from both banking operations and the wool trade
- - d) **Arte della Lana had no choice** but to use English wools: from time it began specializing in luxury cloth production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CUMBERLAND +3
DURHAM +6
WEST-MORLAND -1
NORTH RIDING
YORK
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WEST RIDING +6
LANCASHIRE
CHESHIRE
DERBY +2
NOTTINGHAM +2
LINCOLN
STAFFORD +8
SHROPSHIRE
LEICESTER +2
WALES
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NORTHAMPTON -1
HUNTINGDON
CAMBRIDGE
NORFOLK 0
SUFFOLK -5
WORCESTER +2
HEREFORD -1
BEDFORD 0
OXFORD 0
MONMOUTH 0
HERTFORD
ESSEX +4
WILTSHIRE -15
SURREY -3
KENT 0
SOMERSET -4
HAMPSHIRE -7
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DORSET -6
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Del Bene firm of Florence

- **In years 1355 to 1368, the Florentine merchant firm of the Del Bene imported English wools for the Arte della Lana:**
- 145,985 lb. Florentine = 49,568 kg.
- **80% came from the three major regions**:
- - **Cotswolds**: 46.03%
- - **Welsh Marches** (Shropshire): 25.73%
- - **Lincolnshire**: Lindseys: 7.29%

The Golden Age of the Arte della Lana: 1330s to 1370s - 4

- 5) **Florentine Supremacy in Mediterranean Markets: and with increasingly higher cloth prices**
- a) **Pisa: 1354-1371**: mean price = 43.55 florins = £6.50 st; highest: 115 fl. = £17.25 st
- b) **Catalonia: 1390s**: mean price = 64.43 florin = £9.67 sterling (Florentine = 27% of total Datini sales)
- c) **Syria & Egypt: 1390s**: 35 - 54 florins = £5.25 - £8.10 ster.,
- - vs. **Flemish woollens**: 38.5 florins for Mechelen woollens and 19.2 florins for Wervik woollens (Nouvelles Draperies)
- d) **Poland in 1390s**: Florentine woollens at 32 florins = £4.81 sterling (shorter) vs. 43.5 florins for Bruges woollens and 46.67 florins for Brussels woollens (£7.00 sterling = 280 days' wages for an Oxford master mason)

The Golden Age of the Arte della Lana: 1330s to 1370s - 5

- 6) **Other Italian woollen cloth producers**
- a) **Pisa market: in 1354-71** (**Italian** = 57% of cloth sales)
- **Tuscany + adjacent (except Florence):** Prato, Pisa, Lucca, Bologna, Perugia: woollens with mean value of 20.43 florins
- **Lombardy:** Milan, Como, Monza, Cremona, Brescia, Verona, Padua, Mantua, Vicenza, Treviso: woollens with mean value of 27.55 florins (£4.13 st)
- b) **Catalan markets: 1394-1410:** 2,652 Florentine woollens (mean: 64.43 fl = £9.67 st) vs just 86 woollens from Prato & Genoa: (mean: 30.78 fl = £4.62 st).
- - **Florentine mean value** = 387 days wages Oxford mason
- - **Prato/Genoa mean value** = 185 days wages Oxford mason (average work year = 210 days!)

The Second Florentine Textile Crisis: from 1370s - 1

- 1) The English Wool Problem: **bitter seeds of decline for the Arte della Lana**
- a) **total + vital dependence of Florentine, Flemish, Brabantine luxury cloth industries on fine English wools → exposed them all to English kings' fiscal exploitation: hostages to English fortunes!**
- b) **Edward III (1337-77) and Richard II (1377-99): financed wars in France by extortionate increases in wool export taxes**,
- - while controlling wool sales through **Calais Staple cartel** (established 1363)
- or port of **Southampton** (for Italian exports: from 1377):

The Second Florentine Textile Crisis: from 1370s - 2

- c) **Edward III's war-time, borrowing**: **after the bankruptcy of Florentine firms** (Bardi, Peruzzi, Acciaiuoli), 1341 – 45: crown relied more and more on English merchants ➔ giving English greater control over wool exports
- -d) **Increasing wool-export duties for aliens** (i.e., greater increases than for denizens: **from 1337 to 1405:**
- **alien wool export duties** for Italians increased from 14.56s/sack to over £3 (61.19s)sack: **4.2 fold increase in export taxes (nominal)**

The Second Florentine Textile Crisis: from 1370s - 3

- - e) **English tax burden ROSE with later deflationary fall in wool prices**, because **export taxes were 'specific'**
- - **from a mean of 13.6%** per sack value in 1331-35 to **54.0% in 1396-1400** (vs. 47.7% per sack for 'denizen' exports)
- f) **Fine English wool: were single most important determinant of both luxury quality and of cloth prices**:
- - evidence from Low Countries (1430s) that tax burdened English wools accounted for **65% - 70% of total costs** (before dyeing and finishing)

The Second Florentine Textile Crisis: from 1370s - 4

- e) **consequence: Italian share of (declining) English wool exports fell from 65.61% in 1351-55 (peak) to just 8.43% in 1401-05**
- \- **Italian wool exports fell from mean of 20,581 sacks** in 1351-55 to mean of just **960 sacks** in 1411-15 (**fall of 95.34%**): thus virtually excluded from English wool trade
- f) **Problem: no viable alternative source of fine wools, yet, for the Italian cloth industries**:
- \- **Spanish merino wools** not suitable & available until 1490s:
- \- **in 1390s**: ranked only 4th or 5th in quality & price

Values of English Wools (Better Qualities for Export) in pounds sterling, wool and CPI price indexes (1451-75=100), and the wool-export duties imposed on denizen and alien merchants, in five-year means, 1331- 35

Year 5 year means	Mean Price Sack Better Wools	Index 1451-75 = 100 £4.8544	Phelps Brown & Hopkins CPI 1451-75 = 100 (Munro)	Denizen Export Duties on Wool Sacks in shillings	Denizen Export Duties as Per Cent of Wool Prices	Alien Export Duties on Wool Sacks in shillings	Alien Export Duties as Per Cent of Wool Prices
1331-35	5.370	110.610	109.108	10.373	9.66%	14.559	13.56%
1336-40	4.646	95.700	89.256	29.556	31.81%	41.501	44.67%
1341-45	4.947	101.910	85.533	40.247	40.68%	43.333	43.80%
1346-50	4.713	97.090	100.064	40.000	42.43%	43.333	45.97%
1351-55	4.446	91.580	126.472	40.000	44.99%	43.333	48.74%
1356-60	5.243	108.010	118.092	40.000	38.14%	43.333	41.32%
1361-65	5.606	115.470	137.976	42.776	38.16%	46.110	41.13%
1366-70	6.689	137.800	136.460	46.667	34.88%	50.000	37.37%
1371-75	7.895	162.640	127.345	50.000	31.67%	53.333	33.78%
1376-80	7.536	155.240	109.891	50.000	33.17%	53.333	35.38%
1381-85	5.995	123.490	113.190	50.000	41.70%	53.333	44.48%
1386-90	5.071	104.460	101.233	48.516	47.84%	52.166	51.43%
1391-95	4.953	102.040	103.953	49.830	50.30%	53.163	53.66%
1396-1400	5.241	107.970	110.648	50.000	47.70%	56.555	53.95%
1401-05	5.702	117.460	112.653	51.187	44.89%	61.187	53.66%
1406-10	6.219	128.114	109.927	50.000	43.41%	60.000	52.09%
1411-15	5.954	122.650	108.261	50.000	41.99%	60.000	50.39%
1416-20	4.592	94.590	113.598	50.000	54.45%	68.000	74.05%
1421-25	5.269	108.540	103.740	43.841	41.60%	62.658	59.46%
1426-30	5.015	103.300	112.610	40.000	39.88%	53.333	53.18%
1431-35	5.613	115.630	109.122	40.000	35.63%	57.103	50.86%
1436-40	5.322	109.630	124.218	40.000	37.58%	62.267	58.50%
1441-45	5.201	107.150	92.574	40.000	38.45%	63.333	60.88%
1446-50	5.379	110.800	101.241	40.000	37.19%	63.333	58.88%

Alien (Italian) Exports of English Wools in sacks (364 lb)

in quinquennial means, 1301-05 to 1496-1500

Year from Michaelmas 5 year means	Denizen Wool Exports: sacks	Percent Total	Alien Wool Exports: sacks	Percent Total	Total Wool sacks
1301-05					32,344.00
1306-10	23,041.60	59.30%	15,974.60	40.70%	39,016.20
1311-15					35,328.60
1316-20					26,084.60
1321-25	14,074.30	55.56%	11,241.73	44.44%	25,315.40
1326-30	17,888.87	70.76%	7,108.73	29.24%	24,997.60
1331-35	24,633.00	72.97%	9,012.60	27.03%	33,645.60
1336-40	13,180.00	69.44%	7,344.80	30.56%	20,524.80
1341-45	10,565.51	58.09%	7,510.07	41.91%	18,075.58
1346-50					27,183.13
1351-55	10,169.40	34.39%	20,581.00	65.61%	30,750.40
1356-60					32,666.40
1361-65	20,899.95	69.03%	9,229.25	30.97%	30,129.20
1366-70	16,345.60	56.81%	10,106.20	43.19%	26,451.80
1371-75	16,712.02	64.39%	9,155.78	35.61%	25,867.80
1376-80	16,898.00	82.67%	3,572.20	17.33%	20,470.20
1381-85	13,886.80	78.97%	3,630.60	21.03%	17,517.40
1386-90	15,574.20	80.07%	3,737.80	19.93%	19,312.00
1391-95	13,593.20	72.00%	4,920.60	28.00%	18,513.80
1396-1400	14,515.80	86.15%	2,373.80	13.85%	16,889.60
1401-05	11,803.40	91.57%	1,100.80	8.43%	12,904.20
1406-10	13,392.80	89.41%	1,575.40	10.59%	14,968.20
1411-15	12,633.20	92.72%	960.00	7.28%	13,593.20
1416-20	13,355.40	92.98%	1,009.60	7.02%	14,365.00
1421-25	13,363.60	93.77%	881.60	6.23%	14,245.20
1426-30	12,429.00	92.60%	929.60	7.40%	13,358.60
1431-35	8,679.40	85.18%	705.20	14.82%	9,384.60
1436-40	4,197.80	41.65%	1,181.00	58.35%	5,378.80
1441-45	6,502.20	69.96%	1,527.20	30.04%	8,029.40
1446-50	9,176.80	88.50%	588.40	11.50%	9,765.20

The Second Florentine Textile Crisis: from 1370s - 3

- 2) **Luxury Re-orientation + Economics of the 'Great Depression' era: two aspects**
- a) **costs of reorientation to luxury production**➔ to survive rising transaction costs ➔ necessitated focus on **very small wealthy segments of a shrinking market**
- b) **BUT benefit A:** **supplanting the Arte di Calamala**
- c) **benefit B:** **supplanting most Flemish & Brabantine luxury woollens** in Med markets: except those of Flemish *nouvelles draperies* (eg Wervik) -- cheaper
- d) **possible benefit C:** **shift partly sustained** by aspects of 'Great Depression' ➔ **more highly skewed distributions of wealth and income**

Prices of Italian, Catalan, French, Flemish Woollens sold in Naples and Sicily, 1380 - 1410:

Place Country and Town	Textile	Rank Order	Value in Florentine Florins	Value in £ sterling 36d/ florin	Value in £ groot Flemish 34d /florin
Italy					
Florence	San Martino woollens	mean	60.740	9.111	8.605
Florence	San Martino woollens	highest	62.930	9.440	8.915
Milan, Como	dyed woollen broadcloths	lowest	40.000	6.000	5.667
Milan, Como	dyed woollen broadcloths	mean	43.360	6.504	6.143
Milan, Como	dyed woollen broadcloths	highest	45.000	6.750	6.375
Prato, Pisa, Siena	dyed woollen broadcloths	lowest	21.680	3.252	3.071
Prato, Pisa, Siena	dyed woollen broadcloths	mean	26.020	3.903	3.686
Prato, Pisa, Siena	dyed woollen broadcloths	highest	30.350	4.553	4.300
Catalonia					
Perpignano	dyed woollen broadcloths	mean	17.000	2.550	2.408
Villefranca	dyed woollen broadcloths	mean	9.370	1.406	1.327
France					
Languedoc	dyed woollen broadcloths	mean	16.000	2.400	2.267
Gignac, Beziers	dyed woollen broadcloths	mean	17.500	2.625	2.479
Carcassonne	dyed woollen broadcloths	mean	19.000	2.850	2.692
Flanders					
Wervik	dyed woollen broadcloths		26.000	3.900	3.683

Prices of Italian, Flemish, Brabantine, French, Spanish, and English Woollens in Spain

(Barcelona, Valencia, Majorca): Sales by the Datini Firm, 1394 - 1410

Place/Town	Textile	Rank	Value in Florentine Florins	Value in £ sterling 36d/florin	Value in £ groot Flemish 34d/florin
Italy					
Florence	dyed woollen broadcloths	mean	64.430	9.665	9.128
Prato, Genoa	dyed woollen broadcloths	mean	62.630	9.395	8.873
Flanders					
Wervik, Kortrijk	dyed woollen broadcloths	mean	27.900	4.185	3.953
Comines, Menin	dyed woollen broadcloths	mean	27.900	4.185	3.953
Bruges	dyed woollen broadcloths	mean	44.010	6.602	6.235
Brabant					
Brussels	dyed woollen broadcloths	mean	44.180	6.627	6.259
Mechelen	dyed woollen broadcloths	mean	44.180	6.627	6.259
France					
Montivilliers	dyed woollen broadcloths	mean	31.480	4.722	4.460
Spain					
Perpignano	dyed woollen broadcloths	lowest	10.670	1.601	1.512
Perpignano	dyed woollen broadcloths	mean	13.620	2.043	1.930
Perpignano	dyed woollen broadcloths	highest	18.670	2.801	2.645
Puigcerda	dyed woollen broadcloths	mean	10.670	1.601	1.512
Villefranca	dyed woollen broadcloths	mean	8.800	1.320	1.247
Villefranca	dyed woollen broadcloths	mean	8.400	1.260	1.190
Barcelona	dyed woollen broadcloths	mean	11.860	1.779	1.680
England					
Essex	straits (dozens)	mean	6.120	0.918	0.867

Prices for Italian, Catalan, French, Flemish, Brabantine, and English Textiles in the Levant

(Alexandria. Damascus, and Constantinople), c.1390 - 1435

Place/Town	Textile	Place of Sale and date	Value in Florentine Florins	Value in £ sterling 36d/florin 40d/florin	Value in £ groot Flemish 34d/florin 50d/florin
Italy					
Florence	grade 1 woollens	D: 1390	35.000	5.250	4.958
Florence	grade 2 woollens	D: 1390	46.000	6.900	6.517
Florence	grade 3 woollens	D: 1390	54.000	8.100	7.650
Florence	panni di fontego	D: 1390	27.000	4.050	3.825
Florence	grade 1 woollens	D: 1398	30.000	4.500	4.250
Florence	grade 2 woollens	D: 1398	43.300	6.495	6.134
Florence	grade 2 woollens	D: 1398	45.000	6.750	6.375
Florence	grade 1 woollens	A: 1400	30.000	4.500	4.250
Florence	grade 1 woollens	A: 1402	37.500	5.625	5.313
Catalonia					
Villefranca	dyed woollen broadcloths	D: 1390	16.500	2.475	2.338
Villefranca	dyed woollen broadcloths	D: 1395	14.500	2.175	2.054
Barcelona	dyed woollen broadcloths	D: 1390	15.500	2.325	2.196
Barcelona	dyed woollen broadcloths	D: 1395	12.000	1.800	1.700
Puigcerda	dyed woollen broadcloths	D: 1395	12.500	1.875	1.771
Perpignano	woollen 'simples'	D: 1395	14.500	2.175	2.054
Perpignano	panni alla francesca	D: 1395	17.300	2.595	2.451
France					
Louviers	dyed woollen broadcloths	A:1390	25.500	3.825	3.613
Narbonne	dyed woollen broadcloths	A: 1396	10.500	1.575	1.488
Narbonne	dyed woollen broadcloths	D: 1396	10.500	1.575	1.488
Narbonne	dyed woollen broadcloths	A: 1399	19.440	2.916	2.754
Flanders					
Wervik	dyed woollen broadcloths	D: 1395	19.200	2.880	2.720
Wervik	dyed woollen broadcloths	C: 1436	28.300	4.717	5.896
Wervik	dyed woollen broadcloths	C: 1436	22.000	3.667	4.583
Brabant					
Mechelen	dyed woollen broadcloths	D: 1395	38.500	5.775	5.454

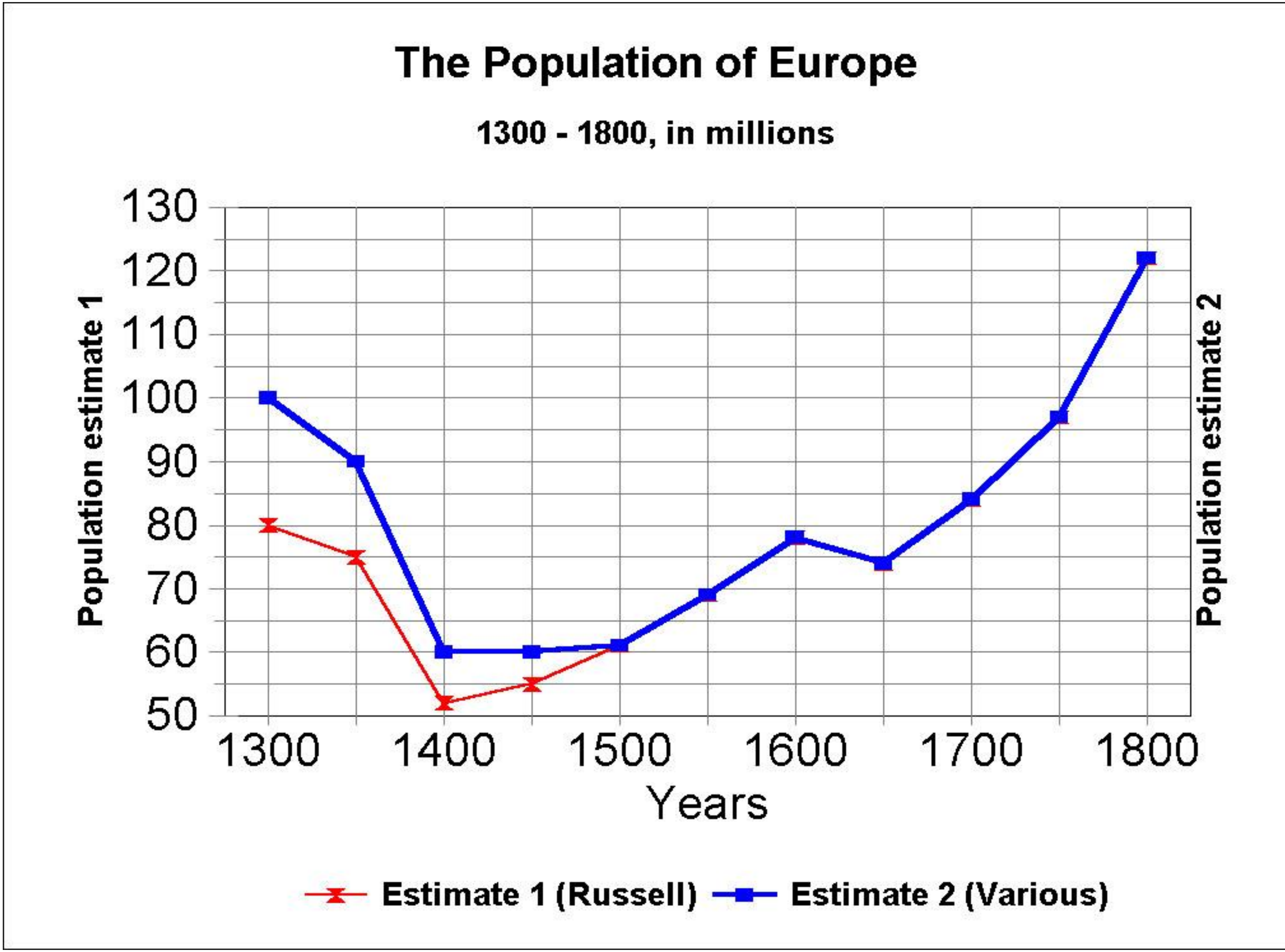
Place/Town	**Textile**	**Place of Sale and date**	**Value in Florentine Florins**	**Value in £ sterling** 36d/florin 40d/florin	**Value in £ groot Flemish** 34d/florin 50d/florin
England					
Worcestershire	Cotswolds	D: 1405	35.000	5.250	4.958
	Cotswolds	D: 1410	14.700	2.205	2.083
Essex	straits (dozens)	D: 1416	6.000	1.000	0.850
Norfolk or Ireland?	Saia d'Irlanda	D: 1394	4.500	0.675	0.638
Norfolk or Ireland?	Saia d'Irlanda	D: 1395	5.300	0.795	0.751
Norfolk or Ireland?	Saia d'Irlanda	D: 1397	6.000	0.900	0.850
Norfolk or Ireland?	Saia d'Irlanda	D: 1398	3.550	0.533	0.503

Prices for Italian, English, Flemish, Brabantine, Dutch, French, and Rhenish Textiles in Poland (Cracow), c. 1400: Prices for Woollens of 35 Flemish Ells

Place/Town	Textile	Value in Florentine Florins	Value in £ sterling 36d/florin	Groszes per ell	Value in £ groot Flemish 34d/florin
Italy					
Florence	dyed woollen broadcloths	29.170	4.376	20	4.132
Florence	dyed woollen broadcloths	32.080	4.812	22	4.545
Flanders					
Bruges	dyed woollen broadcloths	43.750	6.563	30	6.198
Dendermonde	dyed woollen broadcloths	21.870	3.281	15	3.098
Kortrijk	dyed woollen broadcloths	17.500	2.625	12	2.479
Geraardsbergen	dyed woollen broadcloths	17.500	2.625	12	2.479
Brabant					
Brussels	dyed woollen broadcloths	29.170	4.376	20	4.132
Brussels	dyed woollen broadcloths	46.670	7.001	32	6.612
Mechelen	dyed woollen broadcloths	24.790	3.719	17	3.512
Leuven	dyed woollen broadcloths	23.330	3.499	16	3.305
Lier	dyed woollen broadcloths	35.000	5.250	24	4.958
Lier	dyed woollen broadcloths	26.250	3.938	18	3.719
Tienen	dyed woollen broadcloths	20.420	3.063	14	2.893
Tienen	small cloths	13.120	1.968	9	1.859
Herentals	dyed woollen broadcloths	26.250	3.938	18	3.719
Holland					
Leiden ?	Ostrodommensis	21.870	3.281	15	3.098
England					
London	dyed woollen broadcloths	17.500	2.625	12	2.479
London	dyed woollen broadcloths	35.000	5.250	24	4.958
unspecified	dyed woollen broadcloths	20.420	3.063	14	2.893

The Second Florentine Textile Crisis: from 1370s - 4

- 3) Market Contractions: Warfare, Plague, and ‘Great Depression’ ➔ **inescapable fall in cloth outputs**
- a) **Demographic contraction in western Europe:** from 40% to 50% -- or more?
- b) **Fall in Florence’s Population:** Herlihy, Najemy, Goldthwaite
- - **Black Death (1348)**: loss of 70%; but then some demographic recovery
- - **From 1300- 1400**: net loss of 50%+
- - **demographic nadir in 1427** (Catasto): only 31% of population for 1300 (i.e., 70% loss)



The Population of Europe
1300 - 1800, in millions
130
120
110
100
90
80
70
60
50
Population estimate 1
Population estimate 2
1300
1400
1500
1600
1700
1800
Years
Estimate 1 (Russell)
Estimate 2 (Various)

Population of Florence (Tuscany)

Date	Estimated Urban Population
1300	120,000
1349	36,000?
1352	41, 600
1390	60,000
1427	37,144
1459	37,369
1469	40,332
1488	42,000
1526 (plague year)	70,000

The Second Florentine Textile Crisis: from 1370s - 5

- 4) **Revolt of the Ciompi (1378 – 1382): cause or symbol of decline?**
- a) **revolt of textile artisans against Florence's Arte della Lana and Signoria (civic gov't) & Parte Gulfa ➔ 3 new guilds, which were finally crushed and disbanded**
- **- more significant as symptom than as cause of Florentine cloth industry's decline**
- **-**b) **causes: warfare (War of Eight Saints), rising taxation** & forced loans, economic depression, oppressive rule of Arte della Lana over artisans (had been excluded from guilds)
- **-** c) **a chief demand of the Ciompi:** that the **Arte della Lana** be compelled to produce 2,000 bolts per month = **24,000 per year**
- **-** d) **significance: indicates excess labour supply in Florence, despite drastic fall in population**
- **➔ that markets had contracted more than had the industrial labour force**

The Second Florentine Textile Crisis: from 1370s - 6

- 5) **Decline in Arte della Lana’s cloth outputs**
- a) **Villani: decline in total output** from about **100,000 bolts in 1300 to 75,000 in 1330s**: but that represented shift from cheaper to luxury fabrics (made from English wools): i.e., 1st crisis
- b) **From: 75,000 bolts in late 1330s to about 9,000 in mid 1420s**: **a fall of 88%** -- far more than fall in European population:
- 2nd & irredeemable crisis
- c) **Florentine cloth industry never regained** its former level of output or its golden renown

Florentine cloth outputs (bolt=36m)

Year	Villani	Franceschi	Goldthwaite
1300	100,000		
1338	75,000		
1355-60		49,000	
1373		30,000	30,000
1381-82		19,296	19,000
1389		16,482	
1390		10,000	
1391		13,162	13,000
1393		14,026	
1395		13,672	
1425		9,052	
1427		9,750	11,000
1430		10,049	
1433		8,333	

Woollen Cloths Produced in the Prato Workshop of Agnolo di Niccolo and Franceso di Marco Datini in 1396-1398

Source of Wools Used	Percent of Total	Number of Cloths	Average Weight in kg	Average Length in metres	Width in metres	Area on the Loom in square metres	Final Area after Fulling sq. metres	Grams per square metre
England	6.89%	15.32	27.68	36.73	2.62	96.36	45.29	611.26
Minorca	18.62%	41.44	27.60	34.58	2.62	90.73	42.64	647.26
Majorca	13.57%	30.20	27.24	32.37	2.62	84.92	39.91	682.55
San Matteo*	20.75%	46.17	23.69	31.79	2.62	83.39	39.19	604.36
Provence	3.74%	8.33	21.79	31.48	2.62	82.59	38.82	561.29
Mixed	19.67%	43.77	25.64	32.07	2.62	84.12	39.54	648.47
Romagnola-Barbary	8.38%	18.64	27.78	28.57	2.62	74.95	35.22	788.79
Romagnola-Barbary: narrow	8.38%	18.64	27.75	49.56	2.00	99.11	46.58	595.74
Total	100.00%	222.50	26.15	34.64	2.55	87.02	40.90	

* San Matteo = Spanish *merino*

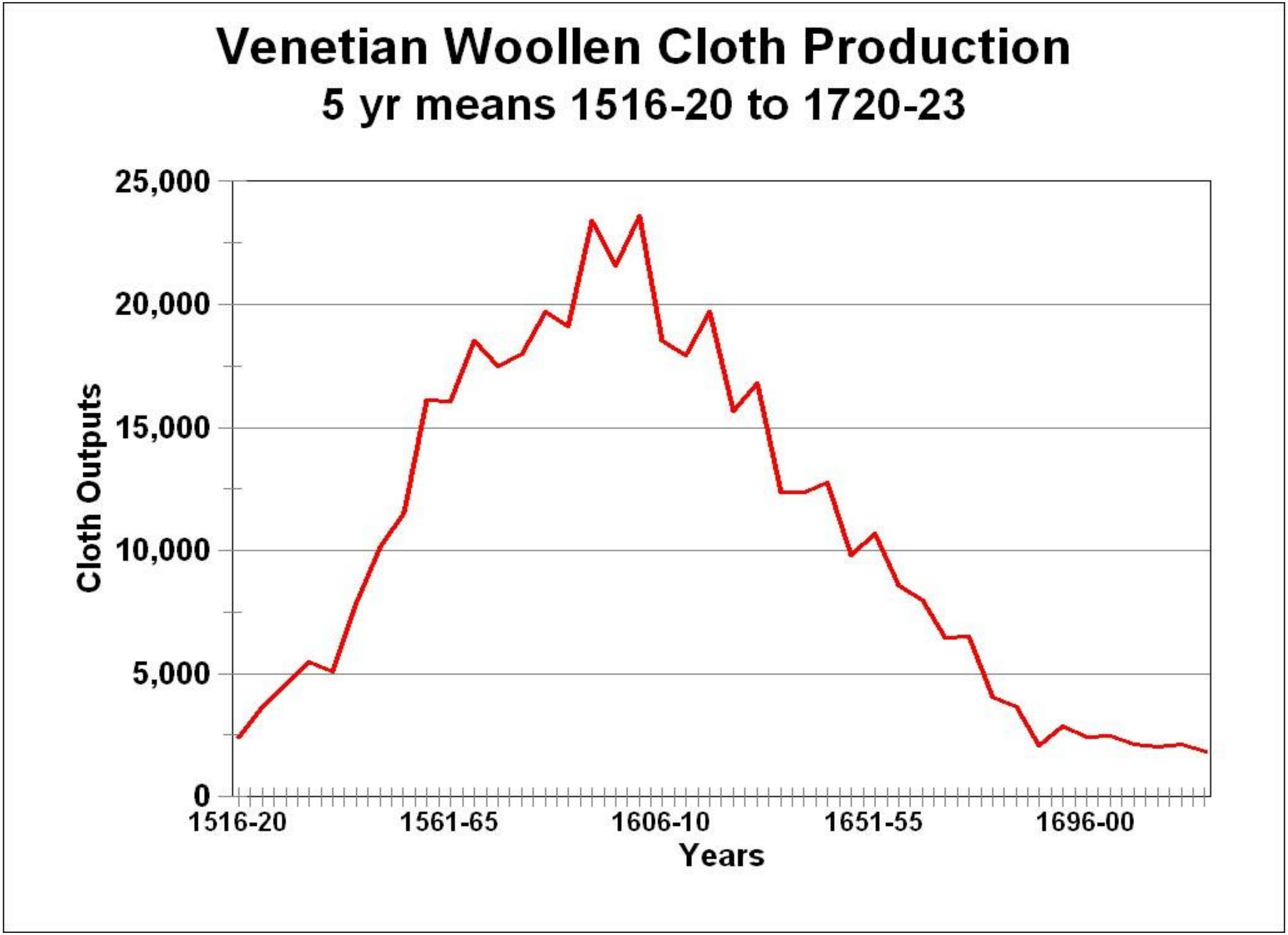

FLORENCE.
FIUME ARNO
Porta al Prato
Porta S.Gallo
Porta S. Frediano
Porta Pinti
Porta Romana
Porta alla Croce
Porta S. Niccolo
Via San Zanobi
Palazzo Pitti
Duomo
Via Maggio
Piazza d'Azeglio
Piazza dell' Indipendenza
Protestant Cemetry

Florentine Cloth Industry 1420 – 1520

- 1) **Some recovery from the 1430s, based on:**
- a) **production of much lower quality woollens**: made from domestic Italian wools: known as 'matricina' wools (from Abruzzi region) ➔ growth of **Garbo** sector
- b) **primarily aimed at Muslim Levant** (Mamluks) -- importing eastern (Persian) silks in return for woollens
- 2) **Further Expansion from 1490s:** output grew from 17,000 bolts in 1488 to maximum of 21,000 in 1526
- a) **from ca. 1490: shift from matricina wools to Spanish merino wools** – with new Castilian commercial connections
- b) **upgrade in quality and prices**

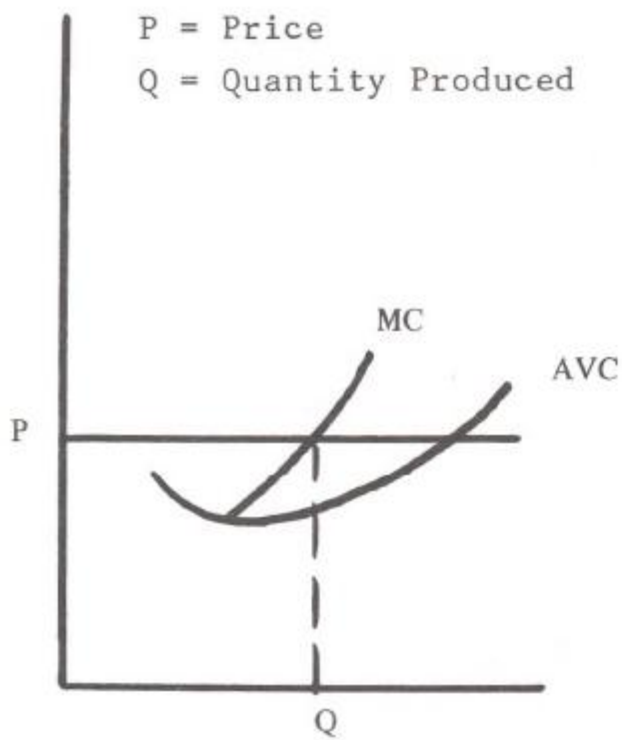
Florentine Cloth Industry 1420 – 1520

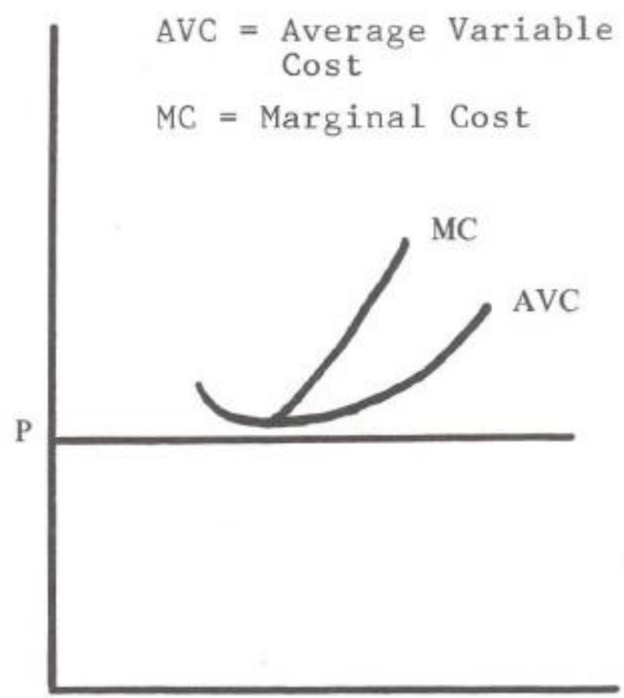
- 3) **Third Florentine Textile Crisis:**
- - a) **disruption of trade routes for Persian silks** ➔ hurt Florence, while Venetians gained from its own trade links
- -b) **Ottoman conquest of the Mamluk** domains in 1517
- - c) **Bubonic plague + civic revolt (anti-Medici) in Florence** ➔ Papal + Imperial armies crushed revolt in 1530
- 4) **Venetian cloth industry chief beneficiary:**
- -a) **output grew** from mean of 2,416 cloths in 1516-20 to maximum of 23,572 cloths in 1601-05
- b) **why did it decline thereafter?** yet another story – but essentially because of English competition and role of England's Levant Company (from 1590s).


Venetian Woollen Cloth Production
5 yr means 1516-20 to 1720-23
25,000
20,000
15,000
10,000
5,000
0
Cloth Outputs
1516-20
1561-65
1606-10
1651-55
1696-00
Years

CLOTH PRODUCTION UNDER PURE AND MONOPOLISTIC COMPETITION

Pure Competition: the supply curve for the producer is that part of the Marginal Cost Curve rising above the Average Variable Cost Curve, which it intersects at its lowest point; the draper will not produce at a price below AVC, which is the "shut-down" price. He will produce to the point Q, where MC = MR = P (Market Price) and where he will maximize profits. Demand for his cloth is perfectly elastic at this market price.





Monopolistic Competition: the draper will produce to the point Q, where MC = MR; and the vertical line intersecting that junction of MC and MR and then intersecting the Demand Schedule at U will determine his price P. His profit will be the area PUVW = [P.Q] - [ATC.Q]. The bottom line of this rectangle VW is the horizontal line tangent to ATC where it intersects the production point QU (where MC = MR).