

# Consumer Price Indices and Wages in Central-Northern Italy and Southern England 1300-1850

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## STATISTICAL APPENDIX

More information on the sources and elaboration of this Statistical Appendix are available in the article by P. Malanima, *When did England overtake Italy? Medieval and early modern divergence in prices and wages* (European Economic History Review).

### Databases

I used the following databases for England:

Allen DB1:

[www.nuffield.ox.ac.uk/users/allen/data/craftweb.xls](http://www.nuffield.ox.ac.uk/users/allen/data/craftweb.xls) (series of nominal wages for craftsmen, CPI and real wages for several European cities);

Allen DB2:

<http://www.nuffield.ox.ac.uk/users/allen/data/labweb.xls> (series of nominal wages for labourers, CPI and real wages for several European cities);

Allen DB4:

[www.nuff.ox.ac.uk/users/allen/studer/london.xls](http://www.nuff.ox.ac.uk/users/allen/studer/london.xls) (prices and wages in London and southern England).

Clark DB:

[www.iisg.nl/hpw/data.php](http://www.iisg.nl/hpw/data.php) (series of prices and wages in England).

Munro DB:

[www.economics.utoronto.ca/munro5/ResearchData.html](http://www.economics.utoronto.ca/munro5/ResearchData.html) (the P. Brown and S. Hopkins Basket of Consumables' Commodity Prices and Craftsmen's Wages, in Southern England, 1264 to 1700: revised data).

### I

#### Prices 1300-1850

Sources of the data are: 1. *Bread*. Clark 2004 and Clark DB for wheat per litre (equation from Allen to convert litres of wheat into kg of bread). 2. *Rye*. Data from Phelps-Brown-Sheila Hopkins (1956, 1957 and Munro DB) until 1623, and then Clark (2004) and Clark DB (missing data up to 1700 have been filled with the previous source). Missing data in 1704-06 have been interpolated from the relationship rye-wheat prices. See also Munro (2005) and Munro DB. *Beef*. For the period 1300-1559 prices are from Allen DB4, then I follow Clark (2004) and Clark DB (whose series is not far from that of Allen around 1560). 4. *Eggs*. Clark DB. 5. *Butter*. Clark DB. 6. *Beer*. Allen DB4, although the price is much lower than that in the series by Clark. The series by Allen is computed based on the price of barley up

to 1600 (from Beveridge 1965). 7. *Firewood*. Clark DB. 8. *Coal*. Clark DB (price for southern England). 9. *Linen cloth*. Clark DB.

In the series of the English currency is not included the so-called “Great Debasement” occurring from 1544 until 1551 (when the silver content of coin was about one-sixth what it had been under Henry VII). By 1560 the silver content of English coin was back to the level of 1527.

In the case of Italy, we have data for different cities. From 1300 until the beginning of the seventeenth century, the best series of prices relate to Tuscany. From then on Lombardy, and in particular Milan, is better documented. When a comparison is possible, such as in the case of the price of wheat and rye, the correlation between the series is higher than 0.70 for rye and 0.80 for wheat. The basic data on which the Italian CPI is based are : *Firenze*: De La Roncière (1982), Goldthwaite (1980), Tognetti (1995), Parenti (1939). *Milano*: De Maddalena (1949) (1957) (1974), Sella (1968), Sella (1979). See also P.

The increase of prices in England, when prices are expressed in silver, is of about 2.5 times between 1300 and 1850. When converted into pence the rise of the English CPI is more than 7 times. This higher increase depends on the loss of weight of the pence in the meantime. See the weight of the penny in fine silver in col. 9. In the series of the English currency (but not in the price series in silver and currency) is included the so-called “Great Debasement” occurring from 1544 until 1551 (when the silver content of coin was about one-sixth what it had been under Henry VII). By 1560 the silver content of English coin was back to the level of 1527.

Col. 2-4: price of the basket in grams of silver, Florentine lire and index of col. 3 with 1420-40=1 in central and northern Italy.

Col. 5-7: price of the basket in grams of silver, pence and index of col. 6 with 1420-40=1 in southern England.

Col. 8-9: weight in grams of fine silver of the Florentine lira and English penny.

1	2	3	4	5	6	7	8	9
	PRICES						CURRENCY	
	ITALY	ITALY	ITALY	ENGLAND	ENGLAND	ENGLAND	ITALY	ENGLAND
	Centre-	Centre-	Centre-				Centre-	
	North	North	North				North	
	basket per	lire per year	Index	basket per	pence	Index	Florentine	penny
	year			year	per year		lira	
	silver grams	Florence	1420-40=1	silver grams		1420-40=1	silver grams	silver grams
1300				267.4	200.8	0.779	20.0	1.332
1301				253.8	190.6	0.739	20.0	1.332
1302				252.2	189.3	0.735	20.0	1.332
1303				249.3	187.2	0.726	20.0	1.332
1304				231.1	173.5	0.673	20.0	1.332
1305				251.7	189.0	0.733	20.0	1.332
1306				253.9	190.6	0.740	19.0	1.332
1307				240.5	180.5	0.701	19.0	1.332
1308				272.5	204.6	0.794	19.0	1.332
1309				322.1	241.8	0.938	19.0	1.332
1310	253.7	13.4	0.473	322.1	241.8	0.938	19.0	1.332
1311	315.3	16.6	0.588	333.8	250.6	0.973	19.0	1.332
1312	296.8	15.6	0.553	297.2	223.1	0.866	19.0	1.332
1313	299.4	15.8	0.558	283.0	212.5	0.824	19.0	1.332
1314	281.4	14.8	0.525	298.6	224.1	0.870	19.0	1.332
1315	256.2	13.5	0.478	371.8	279.1	1.083	19.0	1.332
1316	251.9	13.3	0.470	513.8	385.7	1.497	19.0	1.332

1317	292.8	15.4	0.546	490.7	368.4	1.429	19.0	1.332
1318	255.6	16.3	0.577	325.0	244.0	0.947	15.7	1.332
1319	237.4	15.1	0.536	241.8	181.5	0.704	15.7	1.332
1320	217.4	13.8	0.491	290.0	217.7	0.845	15.7	1.332
1321	209.3	13.3	0.472	307.6	230.9	0.896	15.7	1.332
1322	277.1	17.6	0.625	422.6	317.3	1.231	15.7	1.332
1323	314.8	20.1	0.710	346.7	260.3	1.010	15.7	1.332
1324	271.4	17.3	0.612	324.7	243.8	0.946	15.7	1.332
1325	235.1	15.0	0.531	320.2	240.4	0.933	15.7	1.332
1326	228.7	14.6	0.516	250.6	188.1	0.730	15.7	1.332
1327	256.9	16.4	0.580	224.3	168.4	0.654	15.7	1.332
1328	286.0	18.2	0.645	259.5	194.8	0.756	15.7	1.332
1329	378.9	24.1	0.855	304.5	228.6	0.887	15.7	1.332
1330	369.6	23.5	0.834	295.4	221.8	0.861	15.7	1.332
1331	266.6	17.0	0.602	351.2	263.7	1.023	15.7	1.332
1332	236.3	15.0	0.533	320.8	240.8	0.934	15.7	1.332
1333	287.2	18.3	0.648	267.8	201.1	0.780	15.7	1.332
1334	316.6	20.2	0.714	242.1	181.7	0.705	15.7	1.332
1335	305.1	19.4	0.688	245.2	190.8	0.740	15.7	1.285
1336	266.3	17.0	0.601	260.4	202.7	0.786	15.7	1.285
1337	250.7	16.0	0.566	230.0	179.0	0.695	15.7	1.285
1338	260.1	16.6	0.587	215.8	167.9	0.652	15.7	1.285
1339	388.8	24.8	0.877	201.2	156.6	0.608	15.7	1.285
1340	323.5	20.6	0.730	261.3	203.3	0.789	15.7	1.285
1341	265.9	16.9	0.600	223.4	173.9	0.675	15.7	1.285
1342	254.3	16.2	0.574	224.3	174.6	0.677	15.7	1.285
1343	330.3	21.0	0.745	227.4	177.0	0.687	15.7	1.285
1344	158.2	10.1	0.357	234.7	192.9	0.748	15.7	1.217
1345	238.8	19.4	0.688	209.4	172.1	0.668	12.3	1.217
1346	326.7	26.6	0.941	232.3	190.9	0.741	12.3	1.217
1347	277.3	25.0	0.885	282.1	231.8	0.899	11.1	1.217
1348	250.6	22.6	0.800	276.6	227.3	0.882	11.1	1.217
1349	274.4	24.7	0.876	231.9	190.6	0.739	11.1	1.217
1350	253.7	22.9	0.810	294.4	241.9	0.939	11.1	1.217
1351	338.6	30.5	1.081	310.7	288.0	1.117	11.1	1.079
1352	440.1	40.8	1.444	343.3	318.1	1.235	10.8	1.079
1353	384.0	35.6	1.260	264.4	245.1	0.951	10.8	1.079
1354	277.0	25.7	0.909	239.4	221.8	0.861	10.8	1.079
1355	257.4	23.8	0.844	264.4	245.1	0.951	10.8	1.079
1356	257.8	23.9	0.846	285.9	265.0	1.028	10.8	1.079
1357	239.1	22.1	0.784	286.1	265.2	1.029	10.8	1.079
1358	229.4	21.2	0.752	296.5	274.8	1.066	10.8	1.079
1359	283.9	26.3	0.931	282.2	261.5	1.015	10.8	1.079
1360	287.0	26.6	0.941	297.5	275.8	1.070	10.8	1.079
1361	229.4	21.2	0.752	305.8	283.4	1.100	10.8	1.079
1362	214.5	19.9	0.704	274.4	254.3	0.987	10.8	1.079
1363	257.0	23.8	0.843	300.6	278.6	1.081	10.8	1.079
1364	223.7	20.7	0.734	313.0	290.1	1.126	10.8	1.079
1365	235.9	21.8	0.774	278.8	258.4	1.003	10.8	1.079
1366	258.6	23.9	0.848	270.7	250.9	0.974	10.8	1.079
1367	242.5	22.4	0.795	279.1	258.7	1.004	10.8	1.079
1368	355.9	33.0	1.167	317.0	293.8	1.140	10.8	1.079
1369	382.7	35.4	1.255	336.4	311.8	1.210	10.8	1.079
1370	430.9	39.9	1.413	417.1	386.6	1.500	10.8	1.079
1371	345.7	32.0	1.134	287.1	266.1	1.033	10.8	1.079
1372	298.2	27.6	0.978	276.9	256.7	0.996	10.8	1.079
1373	284.4	26.3	0.933	294.5	272.9	1.059	10.8	1.079
1374	433.6	45.2	1.600	260.4	241.4	0.937	9.6	1.079
1375	320.6	33.4	1.183	314.8	291.8	1.132	9.6	1.079
1376	261.4	27.2	0.964	301.7	279.6	1.085	9.6	1.079
1377	243.1	25.3	0.897	246.0	228.0	0.885	9.6	1.079

1378	291.9	30.4	1.077	218.9	202.9	0.787	9.6	1.079
1379	162.9	17.0	0.601	231.2	214.2	0.831	9.6	1.079
1380	260.1	27.1	0.960	266.4	246.9	0.958	9.6	1.079
1381	318.0	33.1	1.173	266.4	246.9	0.958	9.6	1.079
1382	300.6	31.3	1.109	261.3	242.1	0.940	9.6	1.079
1383	346.6	36.1	1.279	258.8	239.8	0.931	9.6	1.079
1384	364.3	37.9	1.344	240.4	222.8	0.864	9.6	1.079
1385	349.6	36.4	1.290	241.0	223.3	0.867	9.6	1.079
1386	359.8	37.5	1.328	254.4	235.7	0.915	9.6	1.079
1387	305.6	31.8	1.128	231.8	214.8	0.834	9.6	1.079
1388	337.8	35.2	1.247	215.3	199.5	0.774	9.6	1.079
1389	435.0	45.3	1.605	219.2	203.2	0.788	9.6	1.079
1390	396.0	41.2	1.461	304.6	282.3	1.095	9.6	1.079
1391	389.0	40.5	1.435	311.5	288.7	1.120	9.6	1.079
1392	446.3	46.5	1.647	243.9	226.0	0.877	9.6	1.079
1393	328.0	34.2	1.210	225.6	209.0	0.811	9.6	1.079
1394	247.1	25.7	0.912	229.8	213.0	0.827	9.6	1.079
1395	267.1	27.8	0.986	235.2	217.9	0.846	9.6	1.079
1396	301.1	31.4	1.111	252.7	234.2	0.909	9.6	1.079
1397	311.8	32.5	1.150	281.0	260.5	1.011	9.6	1.079
1398	320.7	33.4	1.184	283.8	263.0	1.021	9.6	1.079
1399	320.4	33.4	1.182	256.9	238.1	0.924	9.6	1.079
1400	265.3	27.6	0.979	276.3	256.1	0.994	9.6	1.079
1401	275.5	28.7	1.017	284.5	263.7	1.023	9.6	1.079
1402	271.1	30.1	1.067	323.2	299.6	1.162	9.0	1.079
1403	252.1	28.0	0.992	275.1	255.0	0.990	9.0	1.079
1404	241.4	26.8	0.950	246.4	228.4	0.886	9.0	1.079
1405	281.0	31.2	1.106	231.5	214.6	0.833	9.0	1.079
1406	274.6	30.5	1.081	221.4	205.2	0.796	9.0	1.079
1407	273.8	30.4	1.077	246.1	228.1	0.885	9.0	1.079
1408	299.3	33.3	1.178	265.1	245.7	0.954	9.0	1.079
1409	291.6	32.4	1.148	284.6	263.8	1.023	9.0	1.079
1410	259.5	28.8	1.021	302.8	280.7	1.089	9.0	1.079
1411	303.9	33.8	1.196	262.2	243.0	0.943	9.0	1.079
1412	347.3	38.6	1.367	211.5	235.2	0.913	9.0	0.899
1413	196.9	21.9	0.775	215.8	240.0	0.931	9.0	0.899
1414	226.9	25.2	0.893	218.1	242.5	0.941	9.0	0.899
1415	257.8	28.6	1.015	217.5	241.8	0.938	9.0	0.899
1416	306.2	34.0	1.205	248.6	276.4	1.073	9.0	0.899
1417	287.1	31.9	1.130	261.1	290.3	1.126	9.0	0.899
1418	243.9	27.1	0.960	235.8	262.2	1.017	9.0	0.899
1419	269.1	29.9	1.059	236.8	263.4	1.022	9.0	0.899
1420	327.1	36.3	1.288	206.5	229.6	0.891	9.0	0.899
1421	276.5	30.7	1.088	218.1	242.5	0.941	9.0	0.899
1422	217.2	24.1	0.855	219.5	244.1	0.947	9.0	0.899
1423	234.8	26.1	0.924	207.1	230.2	0.893	9.0	0.899
1424	206.6	23.0	0.813	209.8	233.3	0.905	9.0	0.899
1425	234.3	26.6	0.943	216.2	240.4	0.933	8.8	0.899
1426	241.9	27.5	0.974	194.6	216.4	0.840	8.8	0.899
1427	234.3	26.6	0.943	195.9	217.9	0.845	8.8	0.899
1428	189.9	21.6	0.764	219.6	244.2	0.948	8.8	0.899
1429	188.1	21.4	0.757	261.6	290.9	1.129	8.8	0.899
1430	212.5	24.1	0.855	269.5	299.7	1.163	8.8	0.899
1431	288.1	32.7	1.160	238.6	265.3	1.030	8.8	0.899
1432	312.5	35.5	1.258	210.0	233.6	0.906	8.8	0.899
1433	238.0	27.0	0.958	248.0	275.8	1.070	8.8	0.899
1434	228.5	26.0	0.920	227.1	252.5	0.980	8.8	0.899
1435	250.9	28.5	1.010	208.0	231.3	0.898	8.8	0.899
1436	301.4	34.3	1.213	219.6	244.2	0.947	8.8	0.899
1437	259.1	29.4	1.043	235.5	261.8	1.016	8.8	0.899
1438	245.4	27.9	0.988	298.0	331.4	1.286	8.8	0.899

1439	309.2	35.1	1.245	331.6	368.8	1.431	8.8	0.899
1440	290.3	36.3	1.285	230.4	256.2	0.994	8.0	0.899
1441	186.1	23.3	0.824	193.5	215.1	0.835	8.0	0.899
1442	339.5	42.4	1.503	212.8	236.6	0.918	8.0	0.899
1443	208.7	26.1	0.924	199.7	222.0	0.862	8.0	0.899
1444	229.6	28.7	1.017	192.4	214.0	0.830	8.0	0.899
1445	206.0	25.8	0.912	192.8	214.4	0.832	8.0	0.899
1446	205.8	25.7	0.911	218.6	243.1	0.943	8.0	0.899
1447	234.3	29.3	1.038	239.0	265.8	1.031	8.0	0.899
1448	242.2	30.3	1.072	223.2	248.2	0.963	8.0	0.899
1449	155.3	19.4	0.688	229.4	255.1	0.990	8.0	0.899
1450	223.7	28.0	0.990	230.2	255.9	0.993	8.0	0.899
1451	159.5	19.9	0.706	239.3	266.1	1.033	8.0	0.899
1452	231.4	28.9	1.025	222.2	247.1	0.959	8.0	0.899
1453	226.1	28.3	1.001	235.8	262.2	1.017	8.0	0.899
1454	231.9	29.0	1.027	213.4	237.4	0.921	8.0	0.899
1455	251.5	31.4	1.114	205.6	228.7	0.887	8.0	0.899
1456	289.4	36.2	1.282	211.3	235.0	0.912	8.0	0.899
1457	289.7	36.2	1.283	208.4	231.8	0.899	8.0	0.899
1458	239.5	29.9	1.060	228.1	253.6	0.984	8.0	0.899
1459	198.4	24.8	0.879	223.5	248.5	0.964	8.0	0.899
1460	186.9	23.4	0.828	227.9	253.4	0.983	8.0	0.899
1461	176.0	23.2	0.821	251.0	279.1	1.083	7.6	0.899
1462	176.4	23.2	0.822	237.4	264.0	1.024	7.6	0.899
1463	212.3	27.9	0.990	207.0	230.2	0.893	7.6	0.899
1464	259.6	34.2	1.210	192.5	214.0	0.831	7.6	0.899
1465	284.9	37.5	1.328	178.4	248.0	0.962	7.6	0.719
1466	247.2	32.5	1.152	174.2	242.3	0.940	7.6	0.719
1467	220.5	32.0	1.132	185.9	258.5	1.003	6.9	0.719
1468	209.5	30.4	1.075	190.6	265.0	1.028	6.9	0.719
1469	206.7	30.0	1.061	191.8	266.8	1.035	6.9	0.719
1470	189.5	27.5	0.973	196.6	273.5	1.061	6.9	0.719
1471	194.6	28.2	0.999	210.5	292.8	1.136	6.9	0.719
1472	205.5	29.8	1.055	188.7	262.4	1.018	6.9	0.719
1473	256.4	37.2	1.316	177.4	246.6	0.957	6.9	0.719
1474	256.2	37.1	1.315	173.6	241.4	0.937	6.9	0.719
1475	247.7	35.9	1.272	167.9	233.5	0.906	6.9	0.719
1476	252.4	36.6	1.296	176.9	245.9	0.954	6.9	0.719
1477	245.8	35.6	1.262	177.3	246.5	0.957	6.9	0.719
1478	204.4	29.6	1.049	203.7	283.3	1.099	6.9	0.719
1479	205.1	29.7	1.053	201.1	279.6	1.085	6.9	0.719
1480	199.3	28.9	1.023	189.2	263.1	1.021	6.9	0.719
1481	190.1	28.8	1.020	196.4	273.1	1.060	6.6	0.719
1482	250.7	38.0	1.345	221.4	307.8	1.194	6.6	0.719
1483	291.9	44.2	1.567	245.7	341.7	1.326	6.6	0.719
1484	239.0	36.2	1.283	206.9	287.7	1.116	6.6	0.719
1485	195.4	29.6	1.049	175.5	244.1	0.947	6.6	0.719
1486	222.9	33.8	1.196	179.6	249.7	0.969	6.6	0.719
1487	223.6	33.9	1.200	202.3	281.4	1.092	6.6	0.719
1488	226.7	34.3	1.217	181.4	252.3	0.979	6.6	0.719
1489	200.6	30.4	1.076	190.1	264.3	1.026	6.6	0.719
1490	210.9	31.9	1.132	186.9	259.9	1.009	6.6	0.719
1491	193.6	29.3	1.039	194.6	270.6	1.050	6.6	0.719
1492	187.1	28.4	1.004	186.6	259.5	1.007	6.6	0.719
1493	199.3	30.2	1.070	173.3	241.0	0.935	6.6	0.719
1494	261.9	39.7	1.405	186.1	258.8	1.004	6.6	0.719
1495	242.5	36.7	1.301	171.5	238.5	0.926	6.6	0.719
1496	350.6	53.1	1.882	167.3	232.7	0.903	6.6	0.719
1497	327.1	49.6	1.756	200.4	278.7	1.081	6.6	0.719
1498	248.0	37.6	1.331	197.3	274.4	1.065	6.6	0.719
1499	250.0	37.9	1.342	185.0	257.3	0.998	6.6	0.719

1500	268.6	40.7	1.442	180.9	251.5	0.976	6.6	0.719
1501	273.9	41.5	1.470	216.5	301.0	1.168	6.6	0.719
1502	294.5	44.6	1.581	210.1	292.2	1.134	6.6	0.719
1503	252.4	46.7	1.656	199.5	277.4	1.076	5.4	0.719
1504	309.8	57.4	2.032	202.8	282.0	1.094	5.4	0.719
1505	244.8	45.3	1.606	190.0	264.2	1.025	5.4	0.719
1506	189.1	35.0	1.240	195.3	271.5	1.054	5.4	0.719
1507	225.4	41.7	1.478	187.9	261.3	1.014	5.4	0.719
1508	202.2	37.4	1.327	184.3	256.3	0.995	5.4	0.719
1509	200.6	37.1	1.316	161.9	225.1	0.873	5.4	0.719
1510	194.7	36.1	1.277	155.7	216.6	0.840	5.4	0.719
1511	235.5	43.6	1.545	155.4	216.1	0.838	5.4	0.719
1512	225.3	41.7	1.478	195.9	272.4	1.057	5.4	0.719
1513	210.1	38.9	1.378	213.5	297.0	1.152	5.4	0.719
1514	228.1	42.2	1.496	183.9	255.8	0.993	5.4	0.719
1515	246.1	45.6	1.614	181.9	253.0	0.982	5.4	0.719
1516	242.0	44.8	1.587	190.5	264.9	1.028	5.4	0.719
1517	209.4	38.8	1.374	171.7	238.7	0.926	5.4	0.719
1518	204.8	37.9	1.343	192.6	267.8	1.039	5.4	0.719
1519	224.2	41.5	1.471	185.6	258.1	1.002	5.4	0.719
1520	226.7	42.0	1.487	216.2	300.7	1.167	5.4	0.719
1521	248.8	46.1	1.632	224.1	311.7	1.209	5.4	0.719
1522	257.6	47.7	1.690	211.2	293.8	1.140	5.4	0.719
1523	267.0	49.4	1.752	198.1	275.5	1.069	5.4	0.719
1524	220.1	40.8	1.444	179.3	280.5	1.088	5.4	0.639
1525	224.9	41.7	1.475	163.2	255.3	0.991	5.4	0.639
1526	301.0	55.7	1.975	171.6	268.4	1.042	5.4	0.639
1527	377.5	69.9	2.476	205.8	321.8	1.249	5.4	0.639
1528	423.1	78.3	2.775	249.5	390.2	1.514	5.4	0.639
1529	318.7	59.0	2.091	214.8	335.9	1.303	5.4	0.639
1530	455.5	87.6	3.103	218.2	341.3	1.325	5.2	0.639
1531	419.7	85.6	3.034	219.4	343.2	1.332	4.9	0.639
1532	340.3	69.4	2.460	214.6	335.6	1.302	4.9	0.639
1533	380.9	77.7	2.754	218.0	341.0	1.323	4.9	0.639
1534	224.2	45.8	1.621	198.2	310.0	1.203	4.9	0.639
1535	200.1	40.8	1.447	222.1	347.5	1.348	4.9	0.639
1536	207.5	42.3	1.500	215.8	337.6	1.310	4.9	0.639
1537	201.2	41.1	1.454	200.0	312.9	1.214	4.9	0.639
1538	287.4	58.6	2.078	181.3	283.6	1.100	4.9	0.639
1539	416.4	85.0	3.010	194.2	303.8	1.179	4.9	0.639
1540	353.1	72.1	2.553	188.3	294.5	1.143	4.9	0.639
1541	245.5	50.1	1.775	208.9	326.8	1.268	4.9	0.639
1542	230.1	47.0	1.664	185.0	389.5	1.512	4.9	0.475
1543	250.0	51.0	1.807	192.4	405.0	1.571	4.9	0.475
1544	260.2	53.1	1.881	221.2	465.7	1.807	4.9	0.475
1545	274.6	56.0	1.985	209.6	441.3	1.712	4.9	0,324
1546	214.4	43.7	1.550	229.4	483.0	1.874	4.9	0,216
1547	294.1	60.0	2.126	169.7	357.3	1.386	4.9	0,216
1548	330.9	67.5	2.392	172.2	362.6	1.407	4.9	0,216
1549	287.1	58.6	2.076	199.9	420.8	1.633	4.9	0,216
1550	345.1	70.4	2.495	228.4	480.8	1.866	4.9	0,216
1551	281.5	57.4	2.035	213.0	448.4	1.740	4.9	0,108
1552	254.6	52.0	1.841	247.8	516.9	2.006	4.9	0.480
1553	279.9	57.1	2.024	228.9	477.4	1.852	4.9	0.480
1554	426.6	87.1	3.084	239.6	499.7	1.939	4.9	0.480
1555	429.2	95.4	3.379	275.7	575.1	2.231	4.5	0.480
1556	340.6	75.7	2.681	312.7	652.1	2.530	4.5	0.480
1557	366.7	81.5	2.887	309.7	645.9	2.506	4.5	0.480
1558	354.9	78.9	2.794	228.5	476.5	1.849	4.5	0.480
1559	374.8	83.3	2.951	241.5	503.6	1.954	4.5	0.480
1560	317.1	70.5	2.497	242.9	506.6	1.966	4.5	0.480

1561	327.6	72.8	2.579	256.1	534.2	2.073	4.5	0.480
1562	434.6	96.6	3.421	268.1	559.1	2.170	4.5	0.480
1563	274.6	61.0	2.162	271.3	565.8	2.196	4.5	0.480
1564	351.2	78.0	2.764	276.5	576.7	2.238	4.5	0.480
1565	354.7	78.8	2.792	253.4	528.5	2.051	4.5	0.480
1566	348.5	77.4	2.744	257.7	537.4	2.085	4.5	0.480
1567	298.2	66.3	2.348	249.5	520.2	2.019	4.5	0.480
1568	330.0	73.3	2.598	231.7	483.3	1.875	4.5	0.480
1569	452.5	100.6	3.562	237.7	495.8	1.924	4.5	0.480
1570	359.2	79.8	2.827	233.2	486.4	1.887	4.5	0.480
1571	407.9	90.7	3.211	221.9	462.7	1.795	4.5	0.480
1572	406.8	90.4	3.203	244.5	509.8	1.978	4.5	0.480
1573	330.2	73.4	2.599	285.9	596.3	2.314	4.5	0.480
1574	341.6	75.9	2.689	302.7	631.2	2.449	4.5	0.480
1575	373.3	83.0	2.939	275.6	574.7	2.230	4.5	0.480
1576	355.0	78.9	2.794	290.7	606.2	2.352	4.5	0.480
1577	355.7	79.1	2.800	298.1	621.6	2.412	4.5	0.480
1578	388.8	86.4	3.061	287.4	599.4	2.326	4.5	0.480
1579	458.1	101.8	3.606	292.3	609.5	2.365	4.5	0.480
1580	408.9	90.9	3.219	289.6	603.9	2.343	4.5	0.480
1581	403.6	89.7	3.177	313.7	654.2	2.539	4.5	0.480
1582	407.9	90.6	3.211	302.9	631.7	2.451	4.5	0.480
1583	376.0	83.5	2.960	314.5	656.0	2.545	4.5	0.480
1584	400.5	89.0	3.153	278.9	581.7	2.257	4.5	0.480
1585	419.1	93.1	3.299	302.8	631.4	2.450	4.5	0.480
1586	446.2	99.2	3.512	368.0	767.5	2.978	4.5	0.480
1587	401.0	89.1	3.157	360.9	752.7	2.921	4.5	0.480
1588	410.9	91.3	3.235	281.6	587.3	2.279	4.5	0.480
1589	429.0	95.3	3.377	281.4	586.8	2.277	4.5	0.480
1590	495.0	110.0	3.896	360.1	751.0	2.914	4.5	0.480
1591	565.8	125.7	4.454	334.5	697.6	2.707	4.5	0.480
1592	541.0	120.2	4.259	293.8	612.8	2.378	4.5	0.480
1593	442.7	98.4	3.485	301.8	629.5	2.443	4.5	0.480
1594	471.4	104.8	3.711	366.4	764.1	2.965	4.5	0.480
1595	487.5	108.3	3.838	442.8	923.4	3.583	4.5	0.480
1596	626.4	139.2	4.931	474.3	989.2	3.839	4.5	0.480
1597	558.8	124.2	4.399	528.7	1102.6	4.279	4.5	0.480
1598	478.4	106.3	3.766	461.1	961.5	3.731	4.5	0.480
1599	462.8	102.9	3.644	368.0	767.5	2.978	4.5	0.480
1600	473.0	105.1	3.723	395.9	825.6	3.204	4.5	0.480
1601	571.6	127.0	4.500	378.5	815.5	3.164	4.5	0.464
1602	565.9	125.8	4.455	361.7	779.4	3.024	4.5	0.464
1603	473.5	105.2	3.727	349.7	753.5	2.924	4.5	0.464
1604	524.2	116.5	4.127	356.3	767.8	2.979	4.5	0.464
1605	526.5	117.0	4.144	367.1	791.0	3.069	4.5	0.464
1606	595.2	132.3	4.686	375.1	808.3	3.136	4.5	0.464
1607	579.5	128.8	4.562	381.6	822.2	3.190	4.5	0.464
1608	508.0	112.9	3.999	454.0	978.3	3.796	4.5	0.464
1609	489.9	108.9	3.856	471.1	1015.1	3.939	4.5	0.464
1610	521.8	115.9	4.107	391.6	843.8	3.274	4.5	0.464
1611	535.7	119.0	4.217	423.0	911.4	3.537	4.5	0.464
1612	474.5	105.5	3.736	442.3	953.0	3.698	4.5	0.464
1613	463.2	102.9	3.646	466.3	1004.7	3.899	4.5	0.464
1614	508.5	113.0	4.003	473.6	1020.4	3.960	4.5	0.464
1615	505.0	112.2	3.976	431.4	929.5	3.607	4.5	0.464
1616	469.6	104.4	3.697	412.9	889.6	3.452	4.5	0.464
1617	552.2	122.7	4.347	456.2	983.0	3.814	4.5	0.464
1618	542.2	120.5	4.268	457.4	985.7	3.825	4.5	0.464
1619	601.5	133.7	4.735	401.7	865.5	3.359	4.5	0.464
1620	505.6	112.3	3.980	370.3	797.9	3.096	4.5	0.464
1621	515.2	114.5	4.056	399.2	860.1	3.337	5.4	0.464

1622	535.9	119.1	4.219	499.9	1077.2	4.180	5.4	0.464
1623	546.5	121.4	4.302	463.3	998.3	3.874	5.4	0.464
1624	538.6	119.7	4.240	442.5	953.4	3.699	5.4	0.464
1625	495.6	110.1	3.901	475.8	1025.1	3.978	5.4	0.464
1626	529.1	117.6	4.165	459.6	990.4	3.843	5.4	0.464
1627	584.6	129.9	4.602	415.5	895.4	3.475	5.4	0.464
1628	635.9	141.3	5.006	411.7	887.2	3.443	5.4	0.464
1629	678.5	150.8	5.341	447.3	963.8	3.740	5.4	0.464
1630	634.5	141.0	4.995	519.4	1119.1	4.343	5.4	0.464
1631	552.1	122.7	4.346	541.8	1167.5	4.530	5.4	0.464
1632	473.1	105.1	3.724	500.2	1077.9	4.183	5.4	0.464
1633	474.8	105.5	3.738	506.1	1090.5	4.231	5.4	0.464
1634	445.3	99.0	3.505	520.4	1121.3	4.351	5.3	0.464
1635	586.5	130.3	4.617	497.8	1072.6	4.162	5.3	0.464
1636	543.5	120.8	4.279	482.0	1038.6	4.030	5.1	0.464
1637	513.4	114.1	4.041	537.6	1158.5	4.495	5.3	0.464
1638	458.2	101.8	3.607	536.7	1156.5	4.488	5.3	0.464
1639	445.3	99.0	3.505	487.8	1051.0	4.078	5.2	0.464
1640	425.7	94.6	3.351	457.4	985.6	3.825	5.2	0.464
1641	419.9	93.3	3.305	482.8	1040.2	4.036	5.2	0.464
1642	434.8	96.6	3.423	456.7	984.1	3.819	5.1	0.464
1643	500.8	111.3	3.943	463.2	998.1	3.873	5.1	0.464
1644	496.7	110.4	3.910	464.1	1000.0	3.880	5.1	0.464
1645	457.2	101.6	3.599	475.0	1023.4	3.971	5.1	0.464
1646	451.6	100.4	3.555	503.6	1085.0	4.210	5.1	0.464
1647	516.0	114.7	4.062	613.8	1322.5	5.132	5.1	0.464
1648	592.1	131.6	4.661	658.6	1419.2	5.507	5.1	0.464
1649	640.5	142.3	5.042	651.2	1403.2	5.445	5.1	0.464
1650	617.2	137.2	4.859	626.3	1349.6	5.237	5.1	0.464
1651	454.3	101.0	3.577	588.9	1268.8	4.924	5.1	0.464
1652	453.7	100.8	3.572	535.0	1152.8	4.473	5.1	0.464
1653	460.6	102.3	3.625	448.8	967.1	3.753	5.1	0.464
1654	448.8	99.7	3.533	398.1	857.8	3.328	5.1	0.464
1655	442.6	98.4	3.485	412.1	888.0	3.446	5.1	0.464
1656	469.1	104.2	3.693	485.3	1045.7	4.058	5.1	0.464
1657	453.9	100.9	3.573	505.3	1088.7	4.225	5.0	0.464
1658	431.2	95.8	3.394	551.2	1187.6	4.609	4.4	0.464
1659	428.9	95.3	3.376	573.1	1234.9	4.792	4.4	0.464
1660	442.7	98.4	3.485	537.3	1157.8	4.493	4.4	0.464
1661	411.9	91.5	3.242	605.2	1304.0	5.060	4.4	0.464
1662	405.2	90.0	3.190	588.9	1269.0	4.924	4.4	0.464
1663	411.3	91.4	3.238	531.9	1146.1	4.448	4.4	0.464
1664	413.4	91.9	3.254	517.4	1114.9	4.326	4.4	0.464
1665	399.7	88.8	3.147	485.8	1046.7	4.062	4.4	0.464
1666	368.2	81.8	2.898	424.9	915.6	3.553	4.4	0.464
1667	363.8	80.8	2.863	429.3	925.0	3.589	4.4	0.464
1668	376.5	83.7	2.964	448.5	966.4	3.750	4.4	0.464
1669	418.3	93.0	3.293	485.6	1046.3	4.060	4.4	0.464
1670	413.6	91.9	3.256	479.4	1032.9	4.008	4.4	0.464
1671	391.3	87.0	3.081	520.4	1121.4	4.352	4.4	0.464
1672	354.8	78.8	2.793	509.9	1098.8	4.264	4.3	0.464
1673	338.5	75.2	2.665	496.3	1069.3	4.149	4.3	0.464
1674	342.4	76.1	2.696	570.5	1229.2	4.770	4.1	0.464
1675	404.1	89.8	3.181	532.6	1147.6	4.453	4.1	0.464
1676	385.6	85.7	3.036	459.2	989.4	3.839	3.9	0.464
1677	428.7	95.3	3.375	478.3	1030.7	3.999	3.9	0.464
1678	440.8	98.0	3.470	510.0	1099.0	4.265	3.9	0.464
1679	392.4	87.2	3.089	510.0	1098.9	4.264	3.9	0.464
1680	374.5	83.2	2.948	476.3	1026.3	3.983	3.9	0.464
1681	358.4	79.6	2.821	523.6	1128.2	4.378	3.9	0.464
1682	352.1	78.2	2.772	507.2	1093.0	4.241	3.9	0.464



1683	343.8	76.4	2.706	490.7	1057.3	4.103	3.9	0.464
1684	374.8	83.3	2.951	522.2	1125.2	4.366	3.9	0.464
1685	426.4	94.8	3.357	505.3	1088.7	4.225	3.9	0.464
1686	396.5	88.1	3.121	472.4	1017.8	3.949	3.9	0.464
1687	343.2	76.3	2.702	454.3	978.9	3.799	3.9	0.464
1688	354.0	78.7	2.787	430.3	927.3	3.598	3.9	0.464
1689	357.5	79.4	2.814	441.8	952.0	3.694	3.9	0.464
1690	389.4	86.5	3.065	443.4	955.4	3.707	3.9	0.464
1691	383.2	85.2	3.017	451.4	972.7	3.775	3.9	0.464
1692	394.5	87.7	3.106	505.5	1089.2	4.227	3.9	0.464
1693	406.9	90.4	3.203	559.3	1205.1	4.676	3.9	0.464
1694	448.9	99.8	3.534	549.0	1183.0	4.591	3.9	0.464
1695	477.5	106.1	3.759	481.1	1036.7	4.023	3.9	0.464
1696	474.4	105.4	3.735	533.4	1149.3	4.460	3.9	0.464
1697	451.5	100.3	3.554	615.4	1326.1	5.146	3.9	0.464
1698	414.5	92.1	3.263	629.8	1357.0	5.266	3.9	0.464
1699	402.0	89.3	3.164	570.8	1230.0	4.773	3.9	0.464
1700	382.9	85.1	3.014	507.0	1092.5	4.240	3.9	0.464
1701	361.9	80.4	2.849	484.1	1043.1	4.048	3.9	0.464
1702	385.3	85.6	3.033	456.1	982.7	3.813	3.9	0.464
1703	367.0	81.6	2.889	443.7	956.0	3.710	3.9	0.464
1704	358.7	79.7	2.824	487.2	1049.8	4.074	3.9	0.464
1705	365.6	81.2	2.878	466.8	1005.8	3.903	3.9	0.464
1706	382.7	85.1	3.013	460.3	991.8	3.849	3.9	0.464
1707	388.4	86.3	3.057	463.6	998.8	3.876	3.9	0.464
1708	388.6	86.3	3.059	513.0	1105.3	4.289	3.9	0.464
1709	480.3	106.7	3.781	631.7	1361.1	5.282	3.9	0.464
1710	424.9	94.4	3.345	626.6	1350.2	5.239	3.9	0.464
1711	358.6	83.6	2.961	561.6	1210.1	4.696	3.9	0.464
1712	341.5	79.6	2.820	522.9	1126.7	4.372	3.9	0.464
1713	347.3	81.0	2.868	540.5	1164.6	4.519	3.9	0.464
1714	368.5	85.9	3.043	556.9	1200.0	4.657	3.9	0.464
1715	378.9	88.3	3.128	489.0	1053.6	4.088	3.9	0.464
1716	354.1	82.6	2.924	502.9	1083.6	4.205	3.9	0.464
1717	341.8	79.7	2.823	498.5	1074.2	4.168	3.9	0.464
1718	350.5	81.7	2.894	471.4	1015.6	3.941	3.9	0.464
1719	318.4	74.2	2.629	465.5	1002.9	3.892	3.9	0.464
1720	288.4	67.2	2.381	495.2	1067.0	4.141	3.9	0.464
1721	300.7	70.1	2.483	480.5	1035.4	4.018	3.9	0.464
1722	297.5	69.3	2.456	467.6	1007.6	3.910	3.9	0.464
1723	278.2	64.8	2.297	492.3	1060.9	4.117	3.9	0.464
1724	254.7	59.4	2.103	495.4	1067.4	4.142	3.9	0.464
1725	292.8	68.2	2.418	524.5	1130.2	4.386	3.9	0.464
1726	318.4	74.2	2.629	547.1	1178.9	4.575	3.9	0.464
1727	303.3	70.7	2.504	533.6	1149.7	4.461	3.9	0.464
1728	300.7	70.1	2.483	591.6	1274.7	4.946	3.9	0.464
1729	298.5	69.6	2.465	549.5	1184.0	4.594	3.9	0.464
1730	281.4	65.6	2.323	495.2	1066.9	4.140	3.9	0.464
1731	300.5	71.7	2.541	474.7	1022.8	3.969	3.8	0.464
1732	292.6	69.8	2.474	446.5	962.2	3.734	3.8	0.464
1733	360.5	86.0	3.048	456.2	983.0	3.814	3.8	0.464
1734	431.7	103.0	3.650	499.1	1075.5	4.173	3.8	0.464
1735	404.6	96.6	3.421	529.7	1141.4	4.429	3.8	0.464
1736	372.9	89.0	3.153	519.0	1118.3	4.340	3.8	0.464
1737	316.0	75.4	2.671	498.0	1073.1	4.164	3.8	0.464
1738	327.6	78.2	2.770	486.1	1047.5	4.065	3.8	0.464
1739	332.2	79.3	2.809	485.0	1045.1	4.055	3.8	0.464
1740	349.5	83.4	2.955	560.0	1206.7	4.683	3.8	0.464
1741	365.1	93.6	3.316	545.4	1175.1	4.560	3.7	0.464
1742	352.2	90.3	3.199	499.8	1077.0	4.179	3.7	0.464
1743	363.7	93.2	3.303	470.5	1013.8	3.934	3.7	0.464

1744	342.9	87.9	3.114	459.2	989.6	3.840	3.7	0.464
1745	350.5	89.9	3.184	488.3	1052.2	4.083	3.7	0.464
1746	406.8	104.3	3.695	501.8	1081.2	4.196	3.7	0.464
1747	445.1	114.1	4.043	483.5	1041.8	4.043	3.7	0.464
1748	441.5	113.2	4.010	503.8	1085.4	4.212	3.7	0.464
1749	400.2	102.6	3.635	497.7	1072.3	4.161	3.7	0.464
1750	439.1	112.6	3.989	492.9	1062.0	4.121	3.7	0.464
1751	432.5	110.9	3.928	524.8	1130.8	4.388	3.6	0.464
1752	391.6	100.4	3.557	522.9	1126.6	4.372	3.6	0.464
1753	334.2	85.7	3.036	520.1	1120.6	4.349	3.6	0.464
1754	332.5	85.2	3.020	485.2	1045.5	4.057	3.6	0.464
1755	360.5	92.4	3.275	508.3	1095.3	4.250	3.6	0.464
1756	380.0	97.4	3.452	601.1	1295.2	5.026	3.6	0.464
1757	389.7	99.9	3.540	593.5	1278.8	4.962	3.6	0.464
1758	372.7	95.6	3.385	515.7	1111.1	4.312	3.6	0.464
1759	375.7	96.3	3.413	483.1	1041.0	4.040	3.6	0.464
1760	342.7	87.9	3.113	482.6	1039.8	4.035	3.6	0.464
1761	329.3	84.4	2.991	477.2	1028.3	3.990	3.6	0.464
1762	317.8	81.5	2.887	517.8	1115.7	4.329	3.6	0.464
1763	334.8	85.8	3.041	539.5	1162.5	4.511	3.6	0.464
1764	365.7	93.8	3.321	558.8	1204.0	4.672	3.6	0.464
1765	389.6	99.9	3.538	562.9	1212.8	4.706	3.6	0.464
1766	435.3	111.6	3.954	610.5	1315.5	5.105	3.6	0.464
1767	443.9	113.8	4.032	615.4	1326.1	5.146	3.6	0.464
1768	421.8	108.1	3.831	565.9	1219.4	4.732	3.6	0.464
1769	399.3	102.4	3.627	538.0	1159.2	4.498	3.6	0.464
1770	425.4	109.1	3.864	575.0	1239.0	4.808	3.6	0.464
1771	449.2	115.2	4.080	625.3	1347.4	5.229	3.6	0.464
1772	497.5	127.6	4.519	658.1	1418.1	5.503	3.6	0.464
1773	494.5	126.8	4.492	642.5	1384.5	5.372	3.6	0.464
1774	528.1	135.4	4.797	682.6	1470.8	5.707	3.6	0.464
1775	549.4	140.9	4.990	594.4	1280.8	4.970	3.6	0.464
1776	444.8	114.1	4.040	598.3	1289.2	5.003	3.6	0.464
1777	499.7	128.1	4.539	611.1	1316.8	5.110	3.6	0.464
1778	584.1	149.8	5.305	568.9	1225.9	4.757	3.6	0.464
1779	489.2	125.4	4.444	565.7	1218.9	4.730	3.6	0.464
1780	428.3	109.8	3.890	615.1	1325.3	5.143	3.6	0.464
1781	449.6	117.1	4.148	593.8	1279.4	4.965	3.5	0.464
1782	497.2	129.5	4.587	611.3	1317.2	5.111	3.5	0.464
1783	518.0	134.9	4.778	625.2	1347.2	5.228	3.5	0.464
1784	501.3	130.5	4.624	625.2	1347.2	5.228	3.5	0.464
1785	466.5	121.5	4.303	607.9	1310.0	5.083	3.5	0.464
1786	445.7	116.1	4.111	592.7	1277.1	4.956	3.5	0.464
1787	498.0	129.7	4.594	624.4	1345.4	5.221	3.5	0.464
1788	456.0	118.8	4.207	627.4	1351.9	5.246	3.5	0.464
1789	454.1	118.3	4.189	660.0	1422.1	5.518	3.5	0.464
1790	479.4	124.8	4.423	657.3	1416.3	5.496	3.5	0.464
1791	421.3	110.9	3.928	616.2	1327.6	5.152	3.5	0.464
1792	459.1	120.8	4.280	645.2	1390.2	5.395	3.5	0.464
1793	539.1	141.9	5.026	672.3	1448.7	5.621	3.5	0.464
1794	529.1	139.2	4.932	732.6	1578.5	6.125	3.5	0.464
1795	555.7	146.2	5.180	862.9	1859.3	7.215	3.5	0.464
1796	576.5	151.7	5.375	739.3	1593.1	6.182	3.5	0.464
1797	573.6	150.9	5.347	759.1	1635.8	6.347	3.5	0.464
1798	588.8	155.0	5.489	729.8	1572.5	6.102	3.5	0.464
1799	659.1	173.5	6.145	921.2	1985.0	7.703	3.5	0.464
1800	889.4	234.0	8.291	1086.3	2340.7	9.083	3.5	0.464
1801	913.4	240.4	8.515	929.4	2002.7	7.771	3.5	0.464
1802	728.5	191.7	6.791	811.8	1749.3	6.788	3.5	0.464
1803	659.2	173.5	6.145	768.8	1656.6	6.428	3.5	0.464
1804	607.0	159.7	5.659	934.4	2013.3	7.813	3.5	0.464

1805	626.5	164.9	5.841	895.9	1930.4	7.491	3.5	0.464
1806	648.1	170.5	6.042	912.0	1965.0	7.625	3.5	0.464
1807	588.3	154.8	5.484	893.2	1924.6	7.468	3.5	0.464
1808	546.2	143.7	5.092	952.5	2052.3	7.964	3.5	0.464
1809	540.0	142.1	5.034	1029.8	2219.0	8.610	3.5	0.464
1810	697.5	183.6	6.503	995.4	2144.8	8.323	3.5	0.464
1811	827.6	217.8	7.715	1061.6	2287.4	8.876	3.5	0.464
1812	759.6	199.9	7.081	1077.2	2321.1	9.007	3.5	0.464
1813	672.4	176.9	6.268	938.2	2021.5	7.844	3.5	0.464
1814	683.4	179.8	6.371	899.5	1938.2	7.521	3.5	0.464
1815	828.7	218.1	7.725	836.0	1801.4	6.990	3.5	0.464
1816	892.9	235.0	8.324	1061.9	2436.2	9.453	3.5	0.436
1817	855.9	225.2	7.979	1002.3	2212.5	8.585	3.5	0.453
1818	611.7	161.0	5.702	955.1	2171.4	8.426	3.5	0.440
1819	533.1	140.3	4.970	932.4	2051.7	7.961	3.5	0.454
1820	561.5	147.8	5.235	910.0	1912.3	7.420	3.5	0.476
1821	605.9	159.4	5.648	827.8	1697.7	6.588	3.5	0.488
1822	558.3	146.9	5.205	711.5	1468.5	5.699	3.5	0.485
1823	552.1	145.3	5.147	786.2	1614.3	6.264	3.5	0.487
1824	506.4	133.3	4.720	849.2	1762.2	6.838	3.5	0.482
1825	542.1	142.6	5.053	885.3	1871.3	7.261	3.5	0.473
1826	509.5	134.1	4.749	876.6	1820.6	7.065	3.5	0.481
1827	580.3	152.7	5.409	825.4	1714.4	6.653	3.5	0.481
1828	632.5	166.4	5.896	791.0	1642.9	6.375	3.5	0.481
1829	640.0	168.4	5.966	823.1	1701.5	6.603	3.5	0.484
1830	611.7	161.0	5.703	805.5	1659.1	6.438	3.5	0.486
1831	606.6	159.6	5.654	813.8	1676.0	6.504	3.5	0.486
1832	584.4	153.8	5.448	788.3	1623.7	6.301	3.5	0.486
1833	574.1	151.1	5.352	761.2	1566.2	6.078	3.5	0.486
1834	543.4	143.0	5.066	730.3	1521.6	5.904	3.5	0.480
1835	528.6	139.1	4.927	710.8	1474.8	5.723	3.5	0.482
1836	628.3	165.3	5.857	764.0	1593.4	6.183	3.5	0.479
1837	724.6	190.7	6.755	818.8	1695.4	6.579	3.5	0.483
1838	653.8	172.0	6.095	849.8	1757.6	6.820	3.5	0.483
1839	680.3	179.0	6.342	864.9	1815.1	7.044	3.5	0.476
1840	684.0	180.0	6.377	853.1	1790.4	6.947	3.5	0.476
1841	635.5	167.2	5.924	829.2	1731.2	6.718	3.5	0.479
1842	625.2	164.5	5.828	781.0	1613.6	6.262	3.5	0.484
1843	655.1	172.4	6.107	740.9	1524.4	5.915	3.5	0.486
1844	648.2	170.6	6.043	740.8	1532.1	5.945	3.5	0.483
1845	618.5	162.8	5.765	735.1	1514.1	5.875	3.5	0.486
1846	650.8	171.3	6.067	758.4	1563.7	6.068	3.5	0.485
1847	735.1	193.4	6.852	853.9	1771.7	6.875	3.5	0.482
1848	664.9	175.0	6.198	748.6	1548.3	6.008	3.5	0.483
1849	661.4	174.0	6.165	687.6	1428.1	5.542	3.5	0.481
1850	605.5	159.3	5.645	666.9	1392.4	5.403	3.5	0.479

## II

### Masons' Wages 1300-1850

Data on England are from Allen DB4 and Clark DB. For Florence (1310-1610): De La Roncière (1982) and Goldthwaite (1980), Parenti (1939). For Milan (1610-1850): De Maddalena (1949), (1957), (1974), Sella (1968), (1979). See also:

Daily wage is presented in the following Table in grams of silver (col. 2 and 5); in the currency of both countries (col. 3 and 6); and in real terms (according to the welfare ratio criteria, that is dividing the daily wage by the price of the basket in col. 3 and 6 of the previous Table divided by 365, being the price of the basket per year).

1	2	3	4	5	6	7	8	9
	WAGES			Clark			Allen	
	ITALY	ITALY	ITALY	ENGLAND	ENGLAND	ENGLAND	ENGLAND	ENGLAND
	Centre	Centre	Centre					
	North	North	North					
	silver	Florentine	real	silver	pence/day	real	pence/day	real
	grams/ day	soldi/ day		grams/ day				
1300				4.1	3.1	5.6	3.00	5.5
1301				4.0	3.0	5.8	3.25	6.2
1302				3.9	2.9	5.6	3.25	6.3
1303				3.9	2.9	5.7	3.25	6.3
1304				4.0	3.0	6.4	3.25	6.8
1305				3.9	2.9	5.6	3.50	6.8
1306				4.0	3.0	5.7	3.50	6.7
1307				4.1	3.1	6.3	3.50	7.1
1308				3.8	2.8	5.1	3.50	6.2
1309				4.4	3.3	5.0	3.75	5.7
1310	6.5	6.8	9.3	4.3	3.2	4.9	3.75	5.7
1311	6.8	7.2	7.9	4.1	3.1	4.5	3.75	5.5
1312	6.8	7.2	8.4	4.3	3.2	5.2	4.00	6.5
1313	6.8	7.2	8.3	4.3	3.2	5.6	4.00	6.9
1314	6.8	7.2	8.8	4.4	3.3	5.3	4.00	6.5
1315	6.8	7.2	9.7	4.2	3.2	4.1	4.00	5.2
1316	6.8	7.2	9.8	4.4	3.3	3.1	4.00	3.8
1317	6.8	7.2	8.5	4.8	3.6	3.6	4.00	4.0
1318	5.6	7.2	8.0	4.3	3.3	4.9	4.00	6.0
1319	5.6	7.2	8.6	4.4	3.3	6.7	4.00	8.0
1320	5.6	7.2	9.4	4.3	3.2	5.4	4.00	6.7
1321	5.6	7.2	9.8	4.5	3.3	5.3	4.00	6.3
1322	5.6	7.2	7.4	4.6	3.4	3.9	4.00	4.6
1323	5.6	7.2	6.5	4.2	3.1	4.4	4.00	5.6
1324	5.6	7.2	7.5	4.5	3.4	5.0	4.00	6.0
1325	5.6	7.2	8.7	4.3	3.2	4.9	4.00	6.1
1326	5.6	7.2	9.0	4.3	3.2	6.2	4.00	7.8
1327	5.6	7.2	8.0	4.2	3.1	6.8	4.00	8.7
1328	5.6	7.2	7.2	4.3	3.2	6.0	4.00	7.5
1329	5.6	7.2	5.4	4.2	3.1	5.0	4.00	6.4
1330	5.6	7.2	5.5	4.3	3.2	5.3	4.00	6.6
1331	5.6	7.2	7.7	4.5	3.4	4.7	4.00	5.5
1332	5.6	7.2	8.7	4.7	3.5	5.3	4.00	6.1
1333	5.6	7.2	7.1	4.6	3.5	6.3	4.00	7.3
1334	5.6	7.2	6.5	4.5	3.4	6.8	4.00	8.0
1335	5.6	7.2	6.7	4.0	3.1	6.0	4.00	7.7
1336	5.6	7.2	7.7	4.3	3.4	6.1	4.00	7.2
1337	5.9	7.5	8.6	4.2	3.2	6.6	4.00	8.2
1338	5.1	6.5	7.2	3.9	3.1	6.6	3.50	7.6
1339	6.0	7.7	5.7	3.7	2.8	6.6	3.50	8.2
1340	5.8	7.4	6.5	3.8	3.0	5.3	3.50	6.3
1341	5.8	7.4	7.9	3.7	2.9	6.1	3.00	6.3
1342	5.8	7.4	8.3	3.6	2.8	5.9	3.00	6.3
1343	5.8	7.4	6.4	3.6	2.8	5.7	3.00	6.2
1344	5.8	7.4	13.3	3.3	2.7	5.2	3.00	5.7
1345	4.3	7.0	6.6	3.4	2.8	6.0	3.00	6.4

1346	4.9	8.0	5.5	3.5	2.8	5.4	3.00	5.7
1347	5.6	10.0	7.3	3.6	2.9	4.6	3.00	4.7
1348	6.9	12.5	10.1	3.6	3.0	4.8	3.00	4.8
1349	7.4	13.4	9.9	3.9	3.2	6.1	3.00	5.7
1350	9.3	16.8	13.4	5.2	4.2	6.4	3.00	4.5
1351	10.2	18.3	10.9	4.4	4.1	5.2	4.00	5.1
1352	9.6	17.8	8.0	4.3	4.0	4.6	4.00	4.6
1353	9.6	17.8	9.1	4.3	3.9	5.9	4.00	6.0
1354	9.2	17.0	12.1	4.2	3.9	6.5	4.00	6.6
1355	9.0	16.6	12.7	4.3	4.0	6.0	4.00	6.0
1356	8.7	16.2	12.4	4.4	4.1	5.7	4.00	5.5
1357	9.1	16.9	13.9	4.5	4.2	5.8	4.00	5.5
1358	9.2	17.0	14.6	4.3	4.0	5.3	4.00	5.3
1359	7.4	13.7	9.5	4.4	4.1	5.7	4.00	5.6
1360	7.2	13.3	9.1	4.5	4.2	5.5	4.00	5.3
1361	7.8	14.5	12.5	4.3	4.0	5.2	5.00	6.4
1362	7.2	13.3	12.2	4.8	4.4	6.3	5.00	7.2
1363	8.6	16.0	12.3	4.8	4.4	5.8	5.00	6.6
1364	8.0	14.8	13.0	4.7	4.4	5.5	5.00	6.3
1365	9.6	17.8	14.9	5.0	4.6	6.5	5.00	7.1
1366	9.2	17.0	13.0	4.9	4.6	6.6	5.00	7.3
1367	8.5	15.8	12.8	4.9	4.5	6.4	5.00	7.1
1368	8.3	15.4	8.5	5.0	4.6	5.8	5.00	6.2
1369	8.9	16.4	8.4	5.1	4.7	5.5	5.00	5.9
1370	8.7	16.1	7.4	5.2	4.8	4.5	5.00	4.7
1371	8.5	15.7	9.0	5.2	4.8	6.6	5.00	6.9
1372	8.6	15.9	10.5	5.2	4.9	6.9	5.00	7.1
1373	9.7	17.9	12.4	5.2	4.9	6.5	5.00	6.7
1374	7.6	15.8	6.4	5.0	4.6	7.0	5.00	7.6
1375	7.8	16.3	8.9	5.2	4.8	6.0	5.00	6.3
1376	8.2	17.0	11.4	5.0	4.6	6.0	5.00	6.5
1377	7.2	15.0	10.8	4.9	4.5	7.2	5.00	8.0
1378	8.6	18.0	10.8	5.0	4.6	8.3	5.00	9.0
1379	6.5	13.5	14.5	5.0	4.6	7.9	5.00	8.5
1380	6.8	14.1	9.5	4.8	4.4	6.6	5.00	7.4
1381	7.5	15.7	8.7	5.0	4.6	6.9	5.00	7.4
1382	7.4	15.5	9.0	5.2	4.8	7.3	5.00	7.5
1383	7.2	15.0	7.6	4.9	4.6	7.0	5.00	7.6
1384	8.4	17.6	8.5	5.0	4.7	7.7	5.00	8.2
1385	8.3	17.3	8.7	5.1	4.7	7.7	5.00	8.2
1386	7.7	16.0	7.8	5.0	4.6	7.1	5.00	7.7
1387	7.7	16.0	9.2	5.0	4.6	7.8	5.00	8.5
1388	7.9	16.5	8.5	5.0	4.6	8.4	5.00	9.1
1389	8.1	16.9	6.8	4.9	4.5	8.2	5.00	9.0
1390	8.1	16.8	7.4	4.9	4.5	5.8	5.00	6.5
1391	8.2	17.0	7.7	5.0	4.6	5.8	5.00	6.3
1392	8.2	17.0	6.7	4.8	4.4	7.2	5.00	8.1
1393	8.2	17.0	9.1	5.0	4.7	8.1	5.00	8.7
1394	8.3	17.2	12.2	4.8	4.5	7.7	5.00	8.6
1395	7.7	16.0	10.5	5.1	4.8	8.0	5.00	8.4
1396	8.1	16.9	9.8	4.9	4.6	7.1	5.00	7.8
1397	7.8	16.2	9.1	4.8	4.5	6.3	5.00	7.0
1398	7.8	16.3	8.9	4.8	4.5	6.2	5.00	6.9
1399	7.7	16.1	8.8	4.9	4.6	7.0	5.00	7.7
1400	7.8	16.2	10.7	4.9	4.6	6.5	5.00	7.1
1401	8.6	18.0	11.4	5.1	4.7	6.5	5.00	6.9
1402	8.3	18.4	11.1	5.1	4.7	5.7	5.00	6.1
1403	8.1	18.1	11.8	5.0	4.7	6.7	5.50	7.9
1404	7.8	17.3	11.8	5.2	4.9	7.8	5.50	8.8
1405	8.3	18.4	10.8	4.9	4.6	7.8	5.50	9.4
1406	8.3	18.4	11.0	5.1	4.7	8.4	5.50	9.8

1407	8.1	18.0	10.8	5.1	4.7	7.6	5.50	8.8
1408	8.1	17.9	9.8	5.0	4.6	6.8	5.50	8.2
1409	7.6	16.9	9.5	5.5	5.1	7.0	5.50	7.6
1410	8.1	17.9	11.3	5.4	5.0	6.5	5.50	7.2
1411	8.3	18.4	9.9	5.5	5.1	7.7	5.50	8.3
1412	8.3	18.5	8.7	4.5	5.0	7.7	5.50	8.5
1413	7.2	16.0	13.3	4.2	4.7	7.1	6.00	9.1
1414	7.9	17.5	12.7	4.4	4.9	7.3	6.00	9.0
1415	8.1	17.9	11.4	4.3	4.7	7.1	6.00	9.1
1416	8.6	19.1	10.2	4.4	4.9	6.4	6.00	7.9
1417	8.2	18.2	10.4	4.3	4.8	6.1	6.00	7.5
1418	8.6	19.1	12.9	4.4	4.8	6.7	6.00	8.4
1419	8.6	19.1	11.7	4.5	5.0	6.9	6.00	8.3
1420	8.0	17.8	8.9	4.4	4.9	7.8	6.00	9.5
1421	8.5	18.9	11.2	4.4	4.9	7.4	6.00	9.0
1422	8.5	18.9	14.3	4.5	5.0	7.5	6.00	9.0
1423	8.5	18.9	13.2	4.4	4.9	7.8	6.00	9.5
1424	9.0	20.0	15.9	4.4	4.9	7.6	6.00	9.4
1425	8.1	18.5	12.7	4.4	4.9	7.5	6.00	9.1
1426	7.5	17.0	11.3	4.4	4.9	8.2	6.00	10.1
1427	8.0	18.1	12.4	4.4	4.9	8.2	6.00	10.1
1428	8.0	18.2	15.4	4.4	4.9	7.4	6.00	9.0
1429	8.1	18.5	15.8	4.8	5.4	6.7	6.00	7.5
1430	7.7	17.6	13.3	4.6	5.1	6.2	6.00	7.3
1431	7.7	17.6	9.8	4.3	4.8	6.6	6.00	8.3
1432	7.3	16.5	8.5	4.5	5.0	7.8	6.00	9.4
1433	7.3	16.5	11.1	4.6	5.1	6.7	6.00	7.9
1434	7.2	16.4	11.5	4.6	5.1	7.4	6.00	8.7
1435	8.1	18.4	11.8	4.6	5.1	8.0	6.00	9.5
1436	9.4	21.3	11.3	4.3	4.8	7.2	6.00	9.0
1437	9.5	21.6	13.4	4.6	5.2	7.2	6.00	8.4
1438	7.5	17.0	11.1	4.6	5.1	5.6	6.00	6.6
1439	8.0	18.1	9.4	4.9	5.4	5.4	6.00	5.9
1440	7.8	19.6	9.9	4.8	5.3	7.5	6.00	8.5
1441	8.6	21.5	16.9	4.9	5.4	9.2	6.00	10.2
1442	8.0	20.0	8.6	4.8	5.3	8.2	6.00	9.3
1443	8.2	20.4	14.3	4.5	5.1	8.3	6.00	9.9
1444	8.3	20.8	13.2	4.7	5.2	8.8	6.00	10.2
1445	7.6	19.1	13.5	4.8	5.3	9.0	6.00	10.2
1446	6.5	16.3	11.6	4.7	5.2	7.8	6.00	9.0
1447	7.8	19.6	12.2	5.0	5.6	7.7	6.00	8.2
1448	7.3	18.3	11.0	4.7	5.2	7.7	6.00	8.8
1449	7.3	18.3	17.2	4.8	5.3	7.6	6.00	8.6
1450	6.8	17.0	11.1	4.8	5.3	7.6	6.00	8.6
1451	7.6	18.9	17.3	4.6	5.1	7.0	6.00	8.2
1452	7.8	19.5	12.3	4.9	5.5	8.1	6.00	8.9
1453	7.2	18.0	11.6	4.9	5.4	7.5	6.00	8.4
1454	7.2	18.0	11.3	4.8	5.3	8.2	6.00	9.2
1455	6.6	16.5	9.6	4.3	4.8	7.7	6.00	9.6
1456	6.0	15.0	7.6	4.4	4.9	7.6	6.00	9.3
1457	6.4	16.0	8.1	4.6	5.2	8.1	6.00	9.4
1458	6.0	15.1	9.2	4.6	5.2	7.4	6.00	8.6
1459	6.7	16.7	12.3	4.6	5.1	7.5	6.00	8.8
1460	7.1	17.8	13.9	4.7	5.3	7.6	6.00	8.6
1461	6.7	17.7	13.9	4.8	5.3	6.9	6.00	7.8
1462	6.5	17.2	13.5	4.6	5.1	7.0	6.00	8.3
1463	8.0	21.0	13.7	4.3	4.7	7.5	6.00	9.5
1464	6.1	16.0	8.5	4.5	5.0	8.5	6.00	10.2
1465	7.6	20.0	9.7	3.7	5.2	7.7	6.00	8.8
1466	5.7	14.9	8.4	3.3	4.6	6.9	6.00	9.0
1467	5.3	15.3	8.7	3.6	5.0	7.0	6.00	8.5

1468	5.9	17.0	10.2	3.7	5.1	7.0	6.00	8.3
1469	6.0	17.5	10.7	3.6	5.1	6.9	6.00	8.2
1470	6.9	20.0	13.3	3.6	5.1	6.8	6.00	8.0
1471	6.9	20.0	12.9	3.7	5.1	6.3	6.00	7.5
1472	6.9	20.0	12.3	3.8	5.3	7.3	6.00	8.3
1473	6.9	20.0	9.8	3.7	5.1	7.6	6.00	8.9
1474	6.0	17.5	8.6	3.6	4.9	7.5	6.00	9.1
1475	6.0	17.5	8.9	3.6	5.1	7.9	6.00	9.4
1476	5.2	15.0	7.5	3.8	5.2	7.7	6.00	8.9
1477	5.7	16.4	8.4	3.8	5.2	7.7	6.00	8.9
1478	5.2	15.1	9.3	3.7	5.1	6.6	6.00	7.7
1479	5.2	15.2	9.3	3.7	5.2	6.8	6.00	7.8
1480	5.4	15.6	9.9	3.8	5.2	7.2	6.00	8.3
1481	4.6	13.8	8.7	3.5	4.9	6.6	6.00	8.0
1482	4.6	14.0	6.7	3.6	5.0	6.0	6.00	7.1
1483	5.4	16.3	6.7	3.5	4.9	5.2	6.00	6.4
1484	5.4	16.5	8.3	3.7	5.1	6.4	6.00	7.6
1485	5.2	15.7	9.7	3.4	4.8	7.1	6.00	9.0
1486	5.3	16.0	8.6	3.6	5.0	7.3	6.00	8.8
1487	5.3	16.0	8.6	3.5	4.8	6.2	6.00	7.8
1488	5.8	17.7	9.4	3.6	5.1	7.3	6.00	8.7
1489	5.0	15.2	9.1	3.7	5.1	7.0	6.00	8.3
1490	5.2	15.9	9.1	3.7	5.1	7.2	6.00	8.4
1491	5.3	16.0	10.0	3.7	5.1	6.9	6.00	8.1
1492	4.6	14.0	9.0	3.5	4.8	6.8	6.00	8.4
1493	4.6	14.0	8.5	3.8	5.3	8.1	6.00	9.1
1494	5.3	16.2	7.5	3.6	5.0	7.0	6.00	8.5
1495	4.3	12.9	6.4	3.9	5.4	8.2	6.00	9.2
1496	3.8	11.6	4.0	3.6	5.1	8.0	6.00	9.4
1497	4.4	13.4	4.9	3.6	5.0	6.6	6.00	7.9
1498	3.8	11.4	5.5	3.6	5.1	6.7	6.00	8.0
1499	4.9	14.9	7.2	3.6	5.0	7.1	6.00	8.5
1500	4.8	14.5	6.5	3.5	4.9	7.1	6.00	8.7
1501	4.1	12.3	5.4	3.4	4.8	5.8	6.00	7.3
1502	4.7	14.2	5.8	3.5	4.9	6.1	6.00	7.5
1503	3.9	14.3	5.6	3.4	4.7	6.2	6.00	7.9
1504	4.3	15.8	5.0	3.6	5.0	6.5	6.00	7.8
1505	4.3	15.8	6.4	3.6	5.0	6.9	6.00	8.3
1506	4.3	15.8	8.2	3.5	4.9	6.5	6.00	8.1
1507	4.3	15.8	6.9	3.8	5.3	7.5	6.00	8.4
1508	4.3	15.8	7.7	3.6	4.9	7.0	6.00	8.5
1509	4.3	15.8	7.8	3.5	4.9	7.9	6.00	9.7
1510	4.3	15.8	8.0	3.6	5.1	8.5	6.00	10.1
1511	4.3	15.8	6.6	3.5	4.9	8.2	6.00	10.1
1512	4.3	15.8	6.9	3.8	5.2	7.0	6.00	8.0
1513	4.3	15.8	7.4	3.6	5.0	6.1	6.00	7.4
1514	4.3	15.8	6.8	3.8	5.3	7.5	6.00	8.6
1515	4.3	15.8	6.3	3.6	4.9	7.1	6.00	8.7
1516	4.7	17.3	7.0	3.9	5.5	7.5	6.00	8.3
1517	4.8	17.8	8.4	3.7	5.2	7.9	6.00	9.2
1518	4.7	17.5	8.4	3.6	5.1	6.9	6.00	8.2
1519	4.9	18.0	7.9	3.7	5.1	7.2	6.00	8.5
1520	4.6	17.1	7.4	3.9	5.4	6.5	6.00	7.3
1521	5.0	18.7	7.4	3.9	5.4	6.3	6.00	7.0
1522	5.0	18.7	7.2	3.9	5.4	6.7	6.00	7.5
1523	4.9	18.0	6.6	3.8	5.2	6.9	6.00	7.9
1524	4.9	18.0	8.1	3.4	5.3	6.8	6.00	7.8
1525	4.7	17.3	7.6	3.4	5.3	7.5	6.00	8.6
1526	4.7	17.3	5.7	3.3	5.2	7.1	6.00	8.2
1527	4.7	17.3	4.5	3.3	5.2	5.9	6.00	6.8
1528	4.7	17.3	4.0	3.4	5.3	4.9	6.00	5.6

1529	4.7	17.3	5.3	3.4	5.3	5.7	6.00	6.5
1530	7.8	30.0	6.3	3.4	5.3	5.6	6.00	6.4
1531	7.4	30.0	6.4	3.5	5.4	5.7	6.00	6.4
1532	4.5	18.4	4.8	3.4	5.3	5.7	6.00	6.5
1533	5.5	22.5	5.3	3.6	5.6	6.0	6.50	7.0
1534	5.9	23.9	9.5	3.5	5.5	6.5	6.50	7.7
1535	5.6	23.0	10.3	3.5	5.4	5.7	6.50	6.8
1536	5.5	22.5	9.7	3.5	5.4	5.9	6.50	7.0
1537	5.5	22.5	10.0	3.7	5.7	6.7	6.50	7.6
1538	5.5	22.5	7.0	3.5	5.4	7.0	6.50	8.4
1539	5.4	22.0	4.7	3.5	5.4	6.5	6.50	7.8
1540	5.8	23.8	6.0	3.6	5.7	7.0	6.50	8.1
1541	6.2	25.5	9.3	3.5	5.5	6.1	6.50	7.3
1542	5.6	23.0	8.9	2.7	5.6	5.2	6.50	6.1
1543	5.0	20.5	7.3	2.7	5.6	5.1	6.50	5.9
1544	5.4	22.2	7.6	2.7	5.6	4.4	6.50	5.1
1545	5.4	22.2	7.2	2.6	5.4	4.5	6.50	5.4
1546	5.4	22.2	9.2	2.7	5.8	4.4	6.50	4.9
1547	5.8	23.8	7.2	2.8	5.9	6.0	6.50	6.6
1548	5.3	21.6	5.8	2.9	6.1	6.1	6.50	6.5
1549	5.0	20.6	6.4	3.2	6.6	5.8	7.50	6.5
1550	5.0	20.6	5.3	3.3	6.9	5.3	7.50	5.7
1551	4.8	19.5	6.2	3.6	7.6	6.2	7.50	6.1
1552	6.3	25.9	9.1	3.9	8.2	5.8	7.50	5.3
1553	5.8	23.8	7.6	3.5	7.3	5.5	9.00	6.9
1554	5.8	23.6	4.9	3.6	7.5	5.5	9.00	6.6
1555	5.0	22.2	4.2	3.7	7.7	4.9	9.00	5.7
1556	5.2	23.1	5.6	3.7	7.7	4.3	9.00	5.0
1557	5.1	22.6	5.1	3.9	8.1	4.6	9.00	5.1
1558	6.3	28.2	6.5	3.6	7.4	5.7	9.00	6.9
1559	6.0	26.7	5.8	3.7	7.8	5.7	9.00	6.5
1560	6.6	29.5	7.6	3.8	7.9	5.7	9.00	6.5
1561	7.3	32.3	8.1	4.1	8.6	5.9	9.00	6.1
1562	6.0	26.5	5.0	4.2	8.9	5.8	10.00	6.5
1563	6.9	30.5	9.1	4.2	8.8	5.7	10.00	6.5
1564	6.9	30.8	7.2	4.4	9.1	5.8	10.00	6.3
1565	8.0	35.4	8.2	4.3	8.9	6.1	10.00	6.9
1566	8.0	35.4	8.3	4.2	8.8	6.0	10.00	6.8
1567	8.0	35.4	9.7	4.0	8.2	5.8	10.00	7.0
1568	8.0	35.4	8.8	4.2	8.8	6.6	10.00	7.6
1569	8.0	35.4	6.4	4.1	8.5	6.2	10.00	7.4
1570	9.0	40.0	9.1	4.2	8.7	6.5	10.00	7.5
1571	9.0	40.0	8.1	4.1	8.5	6.7	10.00	7.9
1572	9.7	43.0	8.7	4.4	9.2	6.6	10.00	7.2
1573	7.8	34.6	8.6	4.2	8.8	5.4	10.00	6.1
1574	7.9	35.0	8.4	4.4	9.1	5.3	10.50	6.1
1575	7.4	33.0	7.3	4.4	9.1	5.8	10.50	6.7
1576	9.0	40.0	9.3	4.4	9.2	5.6	10.50	6.3
1577	7.9	35.0	8.1	4.5	9.4	5.5	10.50	6.2
1578	8.9	39.7	8.4	4.3	9.0	5.5	10.50	6.4
1579	9.3	41.3	7.4	4.5	9.4	5.6	10.50	6.3
1580	8.1	35.8	7.2	4.4	9.1	5.5	10.50	6.3
1581	8.4	37.2	7.6	4.5	9.4	5.3	12.00	6.7
1582	7.9	35.0	7.0	4.8	10.0	5.8	12.00	6.9
1583	9.0	40.0	8.7	4.7	9.8	5.4	12.00	6.7
1584	8.5	37.8	7.8	4.6	9.6	6.0	12.00	7.5
1585	6.9	30.8	6.0	4.6	9.6	5.6	12.00	6.9
1586	9.0	40.0	7.4	4.8	9.9	4.7	12.00	5.7
1587	7.9	35.0	7.2	4.7	9.9	4.8	12.00	5.8
1588	7.9	35.0	7.0	4.8	10.0	6.2	12.00	7.5
1589	6.8	30.0	5.7	5.0	10.4	6.4	12.00	7.5



1590	8.4	37.5	6.2	4.6	9.7	4.7	12.00	5.8
1591	8.7	38.8	5.6	4.5	9.4	4.9	12.00	6.3
1592	9.0	40.0	6.1	4.6	9.6	5.7	12.00	7.1
1593	9.0	40.0	7.4	4.8	10.1	5.9	12.00	7.0
1594	9.0	40.0	7.0	5.0	10.3	4.9	12.00	5.7
1595	9.0	40.0	6.7	4.8	10.0	4.0	12.00	4.7
1596	9.0	40.0	5.2	4.8	10.1	3.7	12.00	4.4
1597	8.6	38.4	5.6	4.9	10.3	3.4	12.00	4.0
1598	8.3	36.7	6.3	4.9	10.3	3.9	12.00	4.6
1599	11.5	51.0	9.0	5.0	10.4	4.9	12.00	5.7
1600	9.0	40.0	6.9	5.0	10.4	4.6	12.00	5.3
1601	9.2	41.0	5.9	5.0	10.8	4.8	12.00	5.4
1602	9.7	43.0	6.2	5.0	10.7	5.0	12.00	5.6
1603	10.1	45.0	7.8	5.0	10.8	5.2	12.00	5.8
1604	9.0	40.0	6.3	5.1	10.9	5.2	12.00	5.7
1605	10.1	45.0	7.0	5.0	10.8	5.0	12.00	5.5
1606	9.5	42.0	5.8	5.2	11.2	5.0	12.00	5.4
1607	9.7	43.2	6.1	5.2	11.2	5.0	12.00	5.3
1608	10.1	45.0	7.3	5.2	11.1	4.2	12.00	4.5
1609	10.1	45.0	7.5	5.3	11.4	4.1	12.00	4.3
1610	9.0	40.0	6.3	5.3	11.4	4.9	12.00	5.2
1611	10.6	47.0	7.2	5.4	11.6	4.6	12.00	4.8
1612	10.9	48.5	8.4	5.4	11.7	4.5	12.00	4.6
1613	10.9	48.5	8.6	5.4	11.6	4.2	12.00	4.4
1614	11.3	50.0	8.1	5.5	11.8	4.2	12.00	4.3
1615	12.0	53.3	8.7	5.5	11.9	4.7	12.00	4.7
1616	9.0	40.0	7.0	5.7	12.3	5.1	12.00	4.9
1617	10.1	45.0	6.7	5.6	12.1	4.5	12.00	4.5
1618	10.0	44.3	6.7	5.7	12.3	4.6	12.00	4.4
1619	10.1	45.0	6.1	6.0	12.8	5.4	12.00	5.1
1620	10.1	45.0	7.3	5.9	12.8	5.9	12.00	5.5
1621	9.7	43.1	6.9	5.7	12.2	5.2	12.00	5.1
1622	9.7	43.1	6.6	5.8	12.4	4.2	12.00	4.1
1623	9.7	43.1	6.5	5.7	12.3	4.5	12.00	4.4
1624	9.7	43.1	6.6	5.8	12.5	4.8	12.00	4.6
1625	9.7	43.1	7.1	5.9	12.6	4.5	12.00	4.3
1626	9.7	43.1	6.7	5.9	12.8	4.7	12.00	4.4
1627	9.7	43.1	6.1	5.6	12.1	4.9	12.00	4.9
1628	9.7	43.1	5.6	5.8	12.6	5.2	12.00	4.9
1629	9.7	43.1	5.2	5.8	12.6	4.8	12.00	4.5
1630	9.7	43.1	5.6	5.8	12.6	4.1	14.00	4.6
1631	9.7	43.1	6.4	6.3	13.5	4.2	14.00	4.4
1632	9.7	43.1	7.5	6.2	13.4	4.5	14.00	4.7
1633	9.7	43.1	7.5	6.1	13.2	4.4	14.00	4.7
1634	9.6	42.7	7.9	6.5	14.0	4.6	14.00	4.6
1635	9.5	42.0	5.9	6.1	13.2	4.5	14.00	4.8
1636	9.1	40.6	6.1	6.0	13.0	4.6	14.00	4.9
1637	9.6	42.7	6.8	6.1	13.2	4.2	14.00	4.4
1638	9.5	42.0	7.5	6.3	13.6	4.3	14.00	4.4
1639	9.3	41.3	7.6	6.2	13.3	4.6	14.00	4.9
1640	9.3	41.3	8.0	6.3	13.5	5.0	14.00	5.2
1641	9.3	41.3	8.1	6.6	14.2	5.0	14.00	4.9
1642	9.1	40.5	7.6	6.7	14.4	5.3	14.00	5.2
1643	9.1	40.5	6.6	6.9	14.9	5.4	17.00	6.2
1644	9.1	40.5	6.7	7.3	15.7	5.7	17.00	6.2
1645	9.1	40.5	7.3	7.2	15.5	5.5	17.00	6.1
1646	9.1	40.5	7.4	7.3	15.8	5.3	17.00	5.7
1647	9.1	40.5	6.4	7.5	16.1	4.4	17.00	4.7
1648	9.1	40.5	5.6	6.9	14.9	3.8	17.00	4.4
1649	9.1	40.5	5.2	6.8	14.6	3.8	17.00	4.4
1650	9.1	40.5	5.4	7.4	15.9	4.3	17.00	4.6

1651	9.1	40.5	7.3	7.8	16.9	4.9	17.00	4.9
1652	9.1	40.5	7.3	7.3	15.6	5.0	17.00	5.4
1653	9.1	40.5	7.2	7.4	15.9	6.0	17.00	6.4
1654	9.1	40.5	7.4	7.5	16.3	6.9	17.00	7.2
1655	9.1	40.5	7.5	7.8	16.8	6.9	17.00	7.0
1656	9.1	40.5	7.1	8.1	17.4	6.1	18.00	6.3
1657	8.9	39.7	7.2	7.8	16.8	5.6	18.00	6.0
1658	8.0	35.4	6.7	7.8	16.8	5.2	18.00	5.5
1659	8.0	35.4	6.8	8.2	17.6	5.2	18.00	5.3
1660	8.0	35.4	6.6	8.3	17.9	5.7	18.00	5.7
1661	8.0	35.4	7.1	8.3	17.8	5.0	18.00	5.0
1662	8.0	35.4	7.2	8.0	17.2	4.9	18.00	5.2
1663	8.0	35.4	7.1	8.5	18.2	5.8	18.00	5.7
1664	8.0	35.4	7.0	8.2	17.7	5.8	18.00	5.9
1665	8.0	35.4	7.3	8.1	17.4	6.1	18.00	6.3
1666	8.0	35.4	7.9	8.2	17.7	7.0	18.00	7.2
1667	8.0	35.4	8.0	8.2	17.8	7.0	18.00	7.1
1668	8.0	35.4	7.7	8.1	17.5	6.6	18.00	6.8
1669	8.0	35.4	6.9	7.9	17.1	6.0	18.00	6.3
1670	8.0	35.4	7.0	8.4	18.1	6.4	18.00	6.4
1671	8.0	35.4	7.4	8.5	18.3	6.0	18.00	5.9
1672	6.8	30.4	7.0	8.3	17.8	5.9	18.00	6.0
1673	6.8	30.4	7.4	8.1	17.5	6.0	18.00	6.1
1674	6.6	29.4	7.0	8.0	17.3	5.1	18.00	5.3
1675	6.6	29.4	6.0	8.5	18.2	5.8	18.00	5.7
1676	6.2	27.5	5.9	8.2	17.7	6.5	18.00	6.6
1677	6.2	27.5	5.3	8.0	17.3	6.1	18.00	6.4
1678	6.2	27.5	5.1	8.0	17.2	5.7	18.00	6.0
1679	6.2	27.5	5.8	8.0	17.2	5.7	18.00	6.0
1680	6.2	27.5	6.0	8.1	17.5	6.2	18.00	6.4
1681	6.6	29.2	6.7	8.1	17.4	5.6	18.00	5.8
1682	6.6	29.2	6.8	8.4	18.1	6.0	18.00	6.0
1683	6.6	29.2	7.0	8.1	17.5	6.0	18.00	6.2
1684	6.6	29.2	6.4	8.2	17.6	5.7	18.00	5.8
1685	6.6	29.2	5.6	8.2	17.7	6.0	18.00	6.0
1686	6.6	29.2	6.1	8.5	18.4	6.6	18.00	6.5
1687	6.6	29.2	7.0	8.2	17.6	6.6	18.00	6.7
1688	6.4	28.4	6.6	8.1	17.4	6.9	19.00	7.5
1689	6.4	28.4	6.5	9.0	19.3	7.4	19.00	7.3
1690	6.2	27.5	5.8	8.8	19.0	7.3	19.00	7.3
1691	6.2	27.5	5.9	8.7	18.7	7.0	19.00	7.1
1692	6.2	27.5	5.7	8.4	18.1	6.1	19.00	6.4
1693	6.0	26.7	5.4	8.8	18.9	5.7	19.00	5.8
1694	6.0	26.7	4.9	8.7	18.8	5.8	19.00	5.9
1695	5.8	25.8	4.4	8.5	18.2	6.4	19.00	6.7
1696	5.8	25.8	4.5	8.7	18.8	6.0	19.00	6.0
1697	5.8	25.8	4.7	8.5	18.3	5.0	19.00	5.2
1698	5.8	25.8	5.1	8.4	18.2	4.9	19.00	5.1
1699	5.8	25.8	5.3	8.4	18.2	5.4	19.00	5.6
1700	5.8	25.8	5.5	8.6	18.5	6.2	19.00	6.3
1701	6.8	30.1	6.8	8.7	18.8	6.6	19.00	6.6
1702	6.8	30.1	6.4	8.8	19.0	7.1	21.00	7.8
1703	6.8	30.1	6.7	8.6	18.6	7.1	21.00	8.0
1704	6.8	30.1	6.9	8.8	18.9	6.6	21.00	7.3
1705	6.8	30.1	6.8	9.1	19.6	7.1	21.00	7.6
1706	6.8	30.1	6.5	8.9	19.1	7.0	21.00	7.7
1707	6.8	30.1	6.4	8.7	18.8	6.9	21.00	7.7
1708	6.8	30.1	6.4	9.2	19.8	6.5	21.00	6.9
1709	6.8	30.1	5.1	8.9	19.3	5.2	21.00	5.6
1710	6.8	30.1	5.8	9.2	19.7	5.3	21.00	5.7
1711	6.8	31.6	6.9	9.1	19.5	5.9	22.00	6.6

1712	6.8	31.6	7.2	8.9	19.3	6.2	22.00	7.1
1713	6.8	31.6	7.1	9.2	19.9	6.2	22.00	6.9
1714	6.8	31.6	6.7	9.2	19.9	6.0	22.00	6.7
1715	6.8	31.6	6.5	9.3	20.0	6.9	22.00	7.6
1716	6.8	31.6	7.0	9.2	19.8	6.7	22.00	7.4
1717	6.8	31.6	7.2	9.0	19.5	6.6	22.00	7.5
1718	6.8	31.6	7.1	9.3	20.0	7.2	22.00	7.9
1719	6.8	31.6	7.8	9.1	19.7	7.2	22.00	8.0
1720	6.8	31.6	8.6	9.6	20.7	7.1	22.00	7.5
1721	6.8	31.6	8.2	9.2	19.8	7.0	22.00	7.8
1722	6.8	31.6	8.3	9.0	19.3	7.0	22.00	8.0
1723	6.8	31.6	8.9	9.4	20.3	7.0	22.00	7.6
1724	6.8	31.6	9.7	9.3	20.1	6.9	22.00	7.5
1725	6.8	31.6	8.4	9.2	19.9	6.4	22.00	7.1
1726	6.8	31.6	7.8	9.7	20.8	6.4	22.00	6.8
1727	6.8	31.6	8.2	8.8	19.0	6.0	22.00	7.0
1728	6.8	31.6	8.2	9.3	20.1	5.8	22.00	6.3
1729	6.8	31.6	8.3	9.2	19.8	6.1	22.00	6.8
1730	6.8	31.6	8.8	9.4	20.3	7.0	22.00	7.5
1731	6.6	31.3	8.0	9.4	20.3	7.2	23.00	8.2
1732	6.6	31.3	8.2	9.3	20.1	7.6	23.00	8.7
1733	6.6	31.3	6.6	9.5	20.5	7.6	23.00	8.5
1734	6.6	31.3	5.5	9.4	20.2	6.8	23.00	7.8
1735	6.6	31.3	5.9	9.4	20.2	6.5	23.00	7.4
1736	6.6	31.3	6.4	9.7	20.9	6.8	23.00	7.5
1737	6.6	31.3	7.6	9.5	20.5	7.0	24.00	8.2
1738	6.6	31.3	7.3	9.3	20.1	7.0	24.00	8.4
1739	6.6	31.3	7.2	9.5	20.4	7.1	24.00	8.4
1740	6.6	31.3	6.9	9.1	19.5	5.9	24.00	7.3
1741	6.5	33.1	6.5	9.4	20.2	6.3	24.00	7.5
1742	6.5	33.1	6.7	9.2	19.9	6.7	24.00	8.1
1743	6.5	33.1	6.5	9.7	20.9	7.5	24.00	8.6
1744	6.5	33.1	6.9	10.0	21.6	8.0	24.00	8.9
1745	6.5	33.1	6.7	9.8	21.0	7.3	24.00	8.3
1746	6.5	33.1	5.8	9.9	21.3	7.2	24.00	8.1
1747	6.5	33.1	5.3	9.6	20.7	7.3	24.00	8.4
1748	6.5	33.1	5.3	9.5	20.4	6.9	24.00	8.1
1749	6.5	33.1	5.9	9.4	20.4	6.9	24.00	8.2
1750	6.5	33.1	5.4	9.3	20.0	6.9	24.00	8.2
1751	6.3	32.1	5.3	9.3	20.0	6.5	24.00	7.7
1752	6.3	32.1	5.8	9.5	20.5	6.6	24.00	7.8
1753	6.3	32.1	6.8	9.5	20.5	6.7	24.00	7.8
1754	6.3	32.1	6.9	9.9	21.3	7.4	24.00	8.4
1755	6.3	32.1	6.3	9.5	20.5	6.8	24.00	8.0
1756	6.3	32.1	6.0	9.7	20.8	5.9	24.00	6.8
1757	6.3	32.1	5.9	9.5	20.4	5.8	24.00	6.8
1758	6.3	32.1	6.1	9.6	20.8	6.8	24.00	7.9
1759	6.3	32.1	6.1	9.4	20.3	7.1	24.00	8.4
1760	6.3	32.1	6.7	10.1	21.8	7.7	24.00	8.4
1761	6.3	32.1	6.9	9.9	21.3	7.6	24.00	8.5
1762	6.3	32.1	7.2	9.8	21.1	6.9	24.00	7.9
1763	6.3	32.1	6.8	9.8	21.0	6.6	24.00	7.5
1764	6.3	32.1	6.3	10.0	21.5	6.5	24.00	7.3
1765	6.3	32.1	5.9	9.8	21.2	6.4	24.00	7.2
1766	6.3	32.1	5.3	9.7	20.9	5.8	24.00	6.7
1767	6.3	32.1	5.2	9.8	21.1	5.8	24.00	6.6
1768	6.3	32.1	5.4	9.8	21.0	6.3	24.00	7.2
1769	6.3	32.1	5.7	10.0	21.6	6.8	24.00	7.6
1770	6.3	32.1	5.4	9.9	21.3	6.3	24.00	7.1
1771	6.3	32.1	5.1	10.1	21.7	5.9	24.00	6.5
1772	6.3	32.1	4.6	10.2	22.0	5.7	24.00	6.2

1773	6.3	32.1	4.6	10.1	21.8	5.8	24.00	6.3
1774	6.3	32.1	4.3	10.0	21.5	5.3	26.50	6.6
1775	6.3	32.1	4.2	10.3	22.3	6.4	26.50	7.6
1776	6.3	32.1	5.1	10.4	22.4	6.3	26.50	7.5
1777	6.3	32.1	4.6	10.7	23.1	6.4	29.00	8.0
1778	6.3	32.1	3.9	10.9	23.4	7.0	29.00	8.6
1779	6.3	32.1	4.7	10.6	22.9	6.9	29.00	8.7
1780	6.3	32.1	5.3	10.8	23.2	6.4	29.00	8.0
1781	6.1	31.9	5.0	10.6	22.8	6.5	29.00	8.3
1782	6.1	31.9	4.5	10.6	22.9	6.3	29.00	8.0
1783	6.1	31.9	4.3	10.7	23.0	6.2	29.00	7.9
1784	6.1	31.9	4.5	10.9	23.5	6.4	29.00	7.9
1785	6.1	31.9	4.8	10.9	23.4	6.5	29.00	8.1
1786	6.1	31.9	5.0	10.9	23.5	6.7	29.00	8.3
1787	6.1	31.9	4.5	11.0	23.8	6.4	29.00	7.9
1788	6.1	31.9	4.9	11.1	23.9	6.5	29.00	7.8
1789	6.1	31.9	4.9	11.2	24.1	6.2	29.00	7.4
1790	6.1	31.9	4.7	11.2	24.0	6.2	29.00	7.5
1791	6.1	32.2	5.3	11.6	24.9	6.8	29.00	8.0
1792	6.1	32.2	4.9	11.8	25.5	6.7	32.50	8.5
1793	6.1	32.2	4.1	12.3	26.6	6.7	32.50	8.2
1794	6.1	32.2	4.2	12.3	26.5	6.1	32.50	7.5
1795	6.1	32.2	4.0	12.5	26.9	5.3	32.50	6.4
1796	6.1	32.2	3.9	12.9	27.7	6.4	32.50	7.4
1797	6.1	32.2	3.9	13.1	28.2	6.3	36.00	8.0
1798	6.1	32.2	3.8	13.5	29.1	6.7	36.00	8.4
1799	6.1	32.2	3.4	13.2	28.5	5.2	36.00	6.6
1800	6.1	32.2	2.5	14.1	30.4	4.7	36.00	5.6
1801	6.1	32.2	2.4	15.2	32.8	6.0	36.00	6.6
1802	6.1	32.2	3.1	15.7	33.9	7.1	36.00	7.5
1803	6.1	32.2	3.4	15.7	33.9	7.5	39.50	8.7
1804	6.1	32.2	3.7	16.7	36.1	6.5	39.50	7.2
1805	6.1	32.2	3.6	17.1	36.8	7.0	39.50	7.5
1806	6.1	32.2	3.4	17.4	37.4	7.0	39.50	7.3
1807	6.1	32.2	3.8	17.6	38.0	7.2	43.00	8.2
1808	6.1	32.2	4.1	18.4	39.6	7.0	43.00	7.6
1809	6.1	32.2	4.1	18.6	40.1	6.6	43.00	7.1
1810	6.1	32.2	3.2	19.2	41.5	7.1	48.00	8.2
1811	6.1	32.2	2.7	20.0	43.1	6.9	48.00	7.7
1812	6.1	32.2	2.9	20.5	44.1	6.9	48.00	7.5
1813	6.1	32.2	3.3	21.0	45.2	8.2	48.00	8.7
1814	6.1	32.2	3.3	21.3	46.0	8.7	48.00	9.0
1815	6.1	32.2	2.7	21.1	45.4	9.2	48.00	9.7
1816	6.1	32.2	2.5	19.3	44.3	6.6	48.00	7.2
1817	6.1	32.2	2.6	19.4	42.8	7.1	48.00	7.9
1818	6.1	32.2	3.7	18.6	42.2	7.1	48.00	8.1
1819	6.1	32.2	4.2	19.7	43.4	7.7	48.00	8.5
1820	6.1	32.2	4.0	20.4	42.9	8.2	48.00	9.2
1821	6.1	32.2	3.7	20.5	41.9	9.0	48.00	10.3
1822	6.1	32.2	4.0	19.8	40.8	10.1	48.00	11.9
1823	7.0	36.8	4.6	19.5	40.1	9.1	48.00	10.9
1824	7.0	36.8	5.0	19.5	40.4	8.4	48.00	9.9
1825	7.0	36.8	4.7	20.2	42.8	8.3	48.00	9.4
1826	7.0	36.8	5.0	20.5	42.7	8.6	48.00	9.6
1827	7.0	36.8	4.4	20.9	43.3	9.2	48.00	10.2
1828	7.0	36.8	4.0	20.8	43.2	9.6	48.00	10.7
1829	7.0	36.8	4.0	20.5	42.4	9.1	48.00	10.3
1830	7.0	36.8	4.2	20.9	43.1	9.5	48.00	10.6
1831	7.0	36.8	4.2	20.4	42.0	9.1	48.00	10.5
1832	7.0	36.8	4.4	20.5	42.2	9.5	48.00	10.8
1833	7.0	36.8	4.5	20.8	42.8	10.0	48.00	11.2

<b>1834</b>	7.0	36.8	4.7	20.0	41.6	10.0	48.00	11.5
<b>1835</b>	7.0	36.8	4.8	21.4	44.3	11.0	48.00	11.9
<b>1836</b>	7.0	36.8	4.1	20.5	42.7	9.8	48.00	11.0
<b>1837</b>	7.0	36.8	3.5	21.1	43.8	9.4	48.00	10.3
<b>1838</b>	7.0	36.8	3.9	20.5	42.4	8.8	48.00	10.0
<b>1839</b>	7.0	36.8	3.8	20.4	42.7	8.6	48.00	9.7
<b>1840</b>	7.0	36.8	3.7	19.7	41.4	8.4	48.00	9.8
<b>1841</b>	7.0	36.8	4.0	20.9	43.6	9.2	48.00	10.1
<b>1842</b>	7.0	36.8	4.1	21.3	43.9	9.9	48.00	10.9
<b>1843</b>	7.0	36.8	3.9	20.9	42.9	10.3	48.00	11.5
<b>1844</b>	7.0	36.8	3.9	20.4	42.2	10.1	48.00	11.4
<b>1845</b>	7.0	36.8	4.1	21.0	43.3	10.5	48.00	11.6
<b>1846</b>	7.0	36.8	3.9	20.8	43.0	10.0	48.00	11.2
<b>1847</b>	7.0	36.8	3.5	21.6	44.9	9.3	49.00	10.1
<b>1848</b>	7.0	36.8	3.8	21.0	43.4	10.2	49.00	11.6
<b>1849</b>	7.0	36.8	3.9	21.4	44.4	11.3	49.00	12.5
<b>1850</b>	7.0	36.8	4.2	21.1	44.1	11.6	49.00	12.8