

History Project: Smugglers' City

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The Economics behind the illicit wine trade in Elizabethan Bristol.

Candidate Number: 91800

INTRODUCTION

Bristol in the pre-Elizabethan era relied on wine for around half of its imports¹. As a port this would have represented a significant part of the local economy with a great many people relying on this trade for their incomes, from the merchants themselves to the sailors, shopkeepers and landlords that relied on their custom. Bristollians had imported wine from Gascony and Iberia at a rate of roughly 1875 tons per annum, equating to a trade worth nearly £7,500 per annum, for the ten years leading up to 1558². But this year represented a change in the industry that would cause an effect almost as great as the loss of Gascony to the French in 1453. Marian administrators desperate to reform the outdated taxation system they had inherited increased tariffs on French wine by 1,800% to around a forty two percent tax³. Similar reforms continued until in 1573 almost all types of wine were taxed at a similar level. Whereas Bristol's wine imports had averages 1875 tuns for the ten years preceding this they fell to 677 tuns for the ten years that followed, a 64% fall⁴.

¹ E.T. Jones *Inside the illicit economy: Reconstructing the smugglers' trade of 16th Century Bristol* (Unpublished-Bristol 2007)

² J. Vanes. (ed.), *Documents Illustrating the Overseas Trade of Bristol in the Sixteenth Century* (Bristol, 1979) Appendix 4. Missing data has been filled by five year rolling averages, something used to cover all missing data throughout this document.

³ From E.T. Jones *Inside the illicit economy: Reconstructing the smugglers' trade of 16th Century Bristol* (Unpublished-Bristol 2007). French wine initial increase=53s. 4d. per tun lowered to 50s. 4d. Total tax= 53s. 4d official limit for the price for French wine=£6 6s. 8d therefore equals 42% tax. 1559 saw an increase on tax for all sweet wines=13s. 4d per ton and increased in 1573 to include additional 40s, the tunnage paid by both 'sweet' and 'non-sweet' wine was 3s per tun with a tun on average costing £6. Prisaige constituted the Crown's right to take 1 tun from every ship carrying over 10 tuns of wine, and 2 tuns from every ship carrying 20 tuns or more.

⁴ Vanes *Documents*

Overnight a significant incentive to engage in illicit trade was produced, and therefore overnight the amounts listed in Customs accounts become only a portion of the trade. This poses a difficulty to Historians as the Illicit trade is notoriously difficult to quantify. Dr. Evan Jones and Catherine Pitt, in her recent MA Thesis, both produce studies on the illicit trade in Bristol, and produce intelligent and creative ways of hypothesising the techniques employed and quantities smuggled. Jones uses a combination of the "particular" account made by Customs officials and personal accounts, in particular the ledger of John Smythe and accounts by the Tyndall brothers, the success of which are typified by a fantastic analysis of the illegal trade in grain throughout the first half of the century. He uses Smythe's ledger which has full accounts of the amount of grain smuggled, techniques and even bribes paid, and compares it to the "Particular" accounts produced by Customs officials. This creative way of combining the two differing sources allows him to consider both the legal and illicit trades in a way that has been largely neglected by historians attempting to analyse British trade.

Pitt focuses on the Wine industry, and through a variety of sources (primarily the "particular" accounts and a survey of smuggling in Bristol produced in 1565) concludes that *"It is possible that Bristol's wine trade was not in decline in the sixteenth century"*⁵ and later that *"it can be estimated that possibly up to 50% of wine was illicitly imported into Bristol in the second half of the sixteenth century"*. This project will, among other things, seek to evaluate the legitimacy of these claims.

The difficulty in a study of the latter half of the Century is that personal sources of the ilk of Smyth's ledger are sparse. Attempts to study and quantify the extent of the illicit trade must therefore use other techniques. One way of quantifying the extend of illegal trade would be by continuing a trend line from 1558 and simply shade the area between this and the levels that were declared in the customs accounts but this would be taking a step back from the creative approach of Jones.

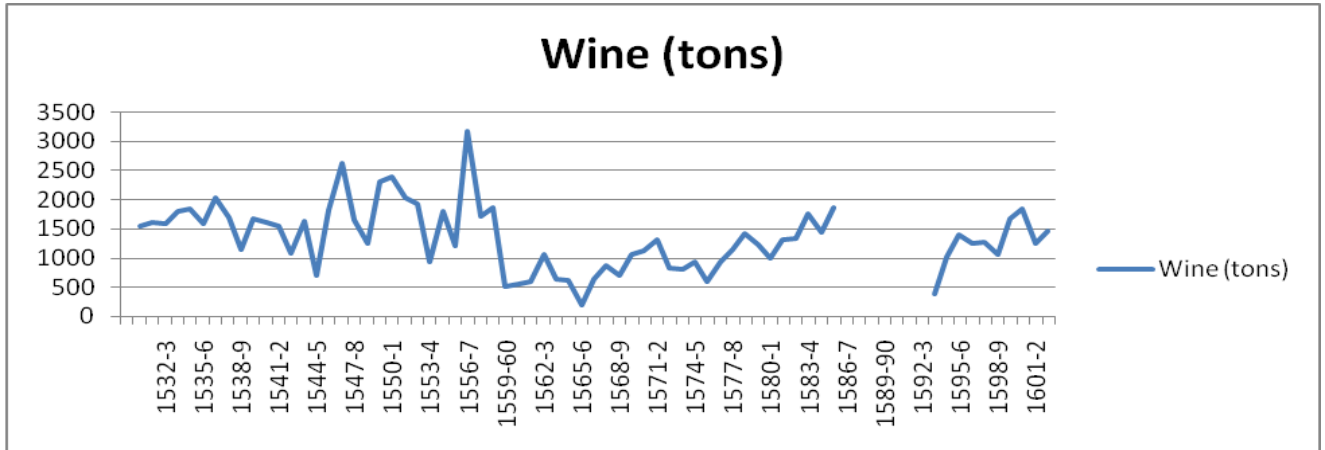
⁵ Catherine Pitt 'The Wine Trade in Bristol in the Fifteenth and Sixteenth Centuries (MA Dissertation, Bristol, 2006)

In this project the primary way of analysis the trade will be through evaluation of demand side factors that encouraged smuggling. I hope to be able to use varying information to determine how demand may have varied throughout the era and therefore piece together how net supply varied after the initial tax hike, which is well documented as providing the initial stimulus for engaging in smuggling⁶. The theory behind this is that while legitimate supply can be quantified, illegitimate cannot. Supply and demand must have worked in equal measures to determine prices and quantities and therefore a great deal may be learnt as to the extent of the illicit wine trade. It must be noted that I do not expect anything as groundbreaking as a quantifiable analysis of the illicit wine trade, something that both Jones and Pitt concede as being "*impossible*", but hope to be able to see if Pitt's claims are economically acceptable.

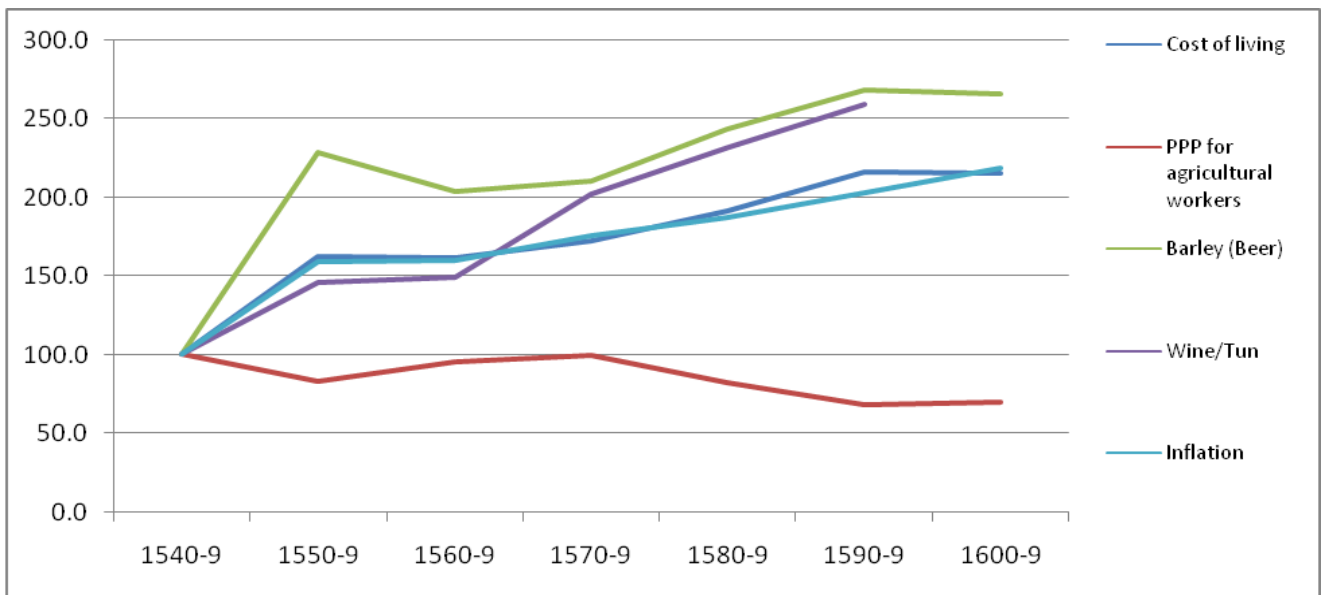
⁶ Jones *Illicit*, Pitt *Wine*, Sachs *Widening Gate*

STATISTICAL APPENDIX

GRAPH 1⁷



GRAPH 2⁸



⁷ From the Enrolled Customs accounts in Carrus Wilson's *Documents*

⁸ Cost of living, PPP of Agricultural Workers and Barley prices were all calculated from Peter Bowden "Agricultural Prices, Farm Profits, and Rent" in Joan Thirsk *The Agrarian History of England and Wales Volume IV 1500-1640* (Cambridge 1967). The Wine price was calculated from A. Simon *The History of the Wine trade in England Volume II* (Holland Press, London 1964) and the inflation rate is provided by the Phelps Brown-Hopkins Price Index from E.H. Phelps Brown and S. Hopkins "Seven Centuries of the price of consumables" (*Economica*, Vol. 23, No. 92 (Nov 1956), p. 296-314). All are rebased to 100 from 1540-9.

TABLE 1

	Cost of living	PPP for agricultural workers	Barley (Beer)	Wine/Tun	Inflation
1540-9	100.0	100.0	100.0	100.0	100.0
1550-9	162.3	83.1	228.4	145.5	158.8
1560-9	161.5	95.0	203.5	148.5	159.9
1570-9	172.3	99.5	210.0	201.5	175.4
1580-9	191.1	82.1	243.9	231.9	187.2
1590-9	216.3	68.1	268.4	258.8	203.0
1600-9	215.3	70.1	265.6		218.9

CHART 2**Pricing of Best French Wine by Royal Proclamation⁹**

1564	£6 6s 8d
1465	£7 6s 8d
1572	£8 6s 8d
1575	£ 10.00
1576	£ 10.00
1578	£11 13s 4d
1579	£ 12.00
1580	£ 12.00
1581	£ 13.00
1583	£ 12.00
1584	£ 11.00

⁹ P L Hughes and J F Larkin *Proclamations*

ANALYSIS

The comparison of these two graphs will form the basis of my study. The will be used to evaluate whether the claims made by Catherine Pitt make sense from an economic point of view. It is not possible to suppose that an illicit trade similar in size to the legitimate trade would not cause changes in the market, most importantly the price of wine. It is there therefore imperative to critically analyse this data¹⁰.

The historian Simon compiles a list of **wine** prices in his book *The history of the wine trade in England*¹¹. Although in many respects this is rather crude¹², it forms the basis for my analysis on the wine trade. My prices are compiled by using an average of all the prices Simon uncovers. These come from a variety of sources, Oxford Cambridge and Eton the most popular, from across the South of England. Although while maybe they do not produce the most accurate figure, particularly of the cost of wine in a port such as Bristol since cost increased as they moved away from its origin, a trend line can certainly be devised. His sources tend to be consistent and therefore trends can be derived with a certain level of legitimacy and is the main reasoning behind rebasing the figures to 100. What is more the changes in price are roughly in proportion with the changes to the maximum prices set by the Crown (Table 2)¹³. This suggests some accuracy in the trends given by Simon. With modern bottles of wine ranging from a few pounds to several thousand it seems laughable to use a single price for wine. But pricing seems to have been relatively consistent with Andalucían wine costing on average £2 more per tun¹⁴.

¹⁰ All of the figures have been rebased so as 1540=100.

¹¹ A. Simon *The History of the Wine trade in England Volume II* (Holland Press, London 1964)

¹¹ Vanes *Ledger*

¹³ until the 1580's where the Crown's settings seems so far from reality they have little use from P L Hughes and J F Larkin *Proclamations*. 1572-80=44% increase (P L Hughes and J F Larkin *Proclamations*) vs 1560-9 to 1570-9=34% increase (Simon *Wine*).Simon's figures are 10 year averages and since there were greater increases through the 1570's one would expect his figures to be slightly lower than *Proclamations*

¹⁴ for example in 1540 Gascon wine averaged £4 13s 4d and Andalusian £6 13s 4d, in 1538 the costs were £8 to £10 (Vanes *Ledger*) and 1574 Spanish wine was sold for £20 and French £17 to the same buyer(Simon *Wine*)

The **Inflation** rate is again given rather crudely by the Phelps Brown-Hopkins price index¹⁵. This index was compiled by during the 1950's. It is certainly dated but they use a consistent "Bagful" of products ranging from wheat, textiles, fuel, cheese and wine itself. The index has certainly had its criticisms but still remains the best index available to the modern historian.

The **Cost of living** and **Purchasing power** are both given by Bowden¹⁶. Since these are used to demonstrate net demand from income changes they are, in many respects, the most tenuous of figures since they relate to agrarian workers. The sixteenth century, as is well documented, showed a significant polarisation of wealth. With this in mind the figures relating to Agrarian farmers seem to only show one half of the situation. But Rogers argues that this was the same for artisans and Husbandman¹⁷ using Chester as a casestudy. This is addressed later however it seems wine was consumed by a wider section of society that just the aristocracy and therefore conclusions on the effects of a reducing disposable income based on Bowden's agrarian calculations should be at least in part representative of changes in demand.

Barley is also included in the graph. However the figures are used to a lesser extent in the project. Since Barley since only one component of beer and the volatility of harvests, particularly due to various famines, means that the conclusions are difficult to make from these figures¹⁸.

¹⁵ E.H. Phelps Brown and S. Hopkins "Seven Centuries of the price of consumables" (*Economica*, Vol. 23, No. 92 (Nov 1956), p. 296-314

¹⁶ Peter Bowden "Agricultural Prices, Farm Profits, and Rent" in Joan Thirsk *The Agrarian History of England and Wales Volume IV 1500-1640* (Cambridge 1967)

¹⁷ Thorold Rogers *Six Centuries of Work and Wages: the History of English Labour* (London, 1886)

¹⁸ Peter Bowden "Agricultural Prices, Farm Profits, and Rent" in Joan Thirsk *The Agrarian History of England and Wales Volume IV 1500-1640* (Cambridge 1967)

1550 to 1568

In the first years after the tax increases there is a fall of around 58%¹⁹ to 64%²⁰ in the quantities declared to Customs officials (**Graph 1**). However when this is correlated to **Graph 2** it is noted that between 1550 and 1568 there is very little change in the price of wine, especially when the level of inflation is considered. A reduction in supply, particularly of this scale, all other things being unchanged should force the price up due to the scarcity of the good. While Elizabethan market mechanisms may not have been as swift at deriving a clearing price as modern times it is unreasonable to suggest that suppliers would not have realised that they could charge greater prices due to the scarcity, especially when the longevity of the shortage is considered. Indeed Smythe's Ledger shows that he was acutely aware of the way he could alter demand in times of shortages. For instance in 1545 during an embargo on trade with France significantly lower imports were registered (693 tuns) Smythe sold 2 h'd of Gascon Wine for around £4²¹ whereas once this ban had been lifted and supplies returned to their normal level of about 1500 tuns/year in 1547 prices seem to have fallen by a quarter²², a similar level to before the embargo. Economically the fall in supply seen after 1558 without a change to the price suggests one of two things, either significant reduction in the demand or no change in net supply.

Graph 2 shows a constant purchasing power and cost of living. These two factors are perhaps the best way of demonstrating changes in demand. If purchasing powers were to fall people would in effect not be able to buy as many goods as they had in previous times, a problem compounded by the increased rents. This would mean that there would be a fall in the amount of goods bought, wine included.

¹⁹ Jones *Illicit*

²⁰ As calculated earlier using rolling averages to fill missing data.

²¹ £4 to William Powell, 34 William Northe and 3 16s 8d to T Web from Vanes *Smythe's Ledger* p267-8

²² 2 16s8d to Sir Edward Gorge and £3 to Master Wekes and William Smoothing from Vanes *Smythe's Ledger* p291

These statements does hinge on a number of underlying assumptions, most importantly the income elasticity of wine²³. Should wine be perceived as income elastic we would expect to see a significant fall in consumption from a fall in disposable income. A recent study of wine price elasticity in the UK between 1870-1983 produced an elasticity of 1.08 about a like for like reduction by price. Income elasticity is harder to determine, with estimates varying widely between countries, however it seem that wine producing countries are inelastic while those that purely import are elastic²⁴. These two elasticity's can not be compared to Elizabethan Bristol since modern times present a very different situation to a consumer. But despite all the obvious limitations of an analysis of these elasticity's the fact that price and income elasticity's are elastic suggests that changes in price and income should derive a change in consumption of some sort or another.

Going back to **graph 2** there is very little change in either the purchasing power or cost in living throughout the year 1550-68. This suggest that there would be little reason for a change in demand as a result of changing incomes. Similarly there was little population change, the fertility rate of 20 years ago²⁵ compared with the mortality rate at the time show minimal population change²⁶ and therefore we cannot explain reduced demand through reduced numbers. And it seems unlikely that this year could have represented the first case of a city turning its nose up to wine on grounds of taste since its first introduction by the Romans! All in all there is little to suggest a reduction in the demand for wine suggesting that supply was similarly unchanged. The economics supports Pitt's claims as to the extent of wine smuggling in the years following the tax increases that fall in quantity, of some 64%²⁷ or 58%²⁸ represents roughly the amount of trade now being run illegitimately.

²³ As disposable incomes fall if elastic demand should falls at a higher proportion.

²⁴ W.C. Labys, "An international comparison of price and income elasticities for wine consumption." *Australian Journal of Agricultural Economics* 20, 33-36.(1976)

²⁵ Since the drinking age would have been at around this age and therefore it is not accurate to compare fertility and mortality rates in the same years.

²⁶ from J Cornwall "English Population in the Early Sixteenth Century" *The Economic History Review, New Series, Vol. 23, No. 1* (Apr., 1970)

²⁷ Ten year average before and after 1558 Vanes *Documents*

²⁸ T.N.A., E190/1128/15; E190/1129/3 in Pitt "Wine"

This is further supported since, as Jones notes, although Wine smuggling before 1558 was sporadic it was present²⁹. The use of Welsh ports to avoid prisage did occur and it would seem likely that merchants could revert to this technique with great ease. Similarly the 1570-71 "Particular" accounts documents by Pitt indicates a high level of "ullage" (20%) and "corruption" (16.5%) in wine imports³⁰. This is compared to an average of 8% lost by Smyth³¹ and 10% lost to the London Merchant in 1528³². During the 1570's corrupt wine used in the pickling industry and paid just 2s 4d poundage, this was a tax of around 1.2%³³ and leaked paid nothing. It was therefore highly desirable for merchants to have good wine declared corrupt, leaked or ullage to avoid the heavy tariffs levied on net wine. Pitt has uncovered another technique used by smugglers that could have amounted to 26.5% of total imports and an economy worth roughly £1500³⁴. And finally the well documented topography of Bristol³⁵, with the powerful Severn tides, pills and tributaries, proximity to Wales and away from London as well as a long tradition of smuggling all mean that an immediate shift to the illegitimate importing of wine would not be hard to imagine. This evidence and the economics suggest Pitt's claims hold some considerable weight for the decade following the tax increases.

²⁹ Jones *Inside*

³⁰ Pitt "Wine"

³¹ John Smyth's Ledger cited in Pitt "Wine"

³² Vanes *Documents*

³³ Pitt *Wine*

³⁴ If we assume a realistic level of 10% ullage, the level recorded in Smythe's ledger from Jones *Inside*

³⁵ A. Crawford *Bristol and the Wine Trade* (Bristol, 1984); E.M. Carus Wilson, "The overseas trade of Bristol" in E. Power & M.M. Postan (eds.), *Studies in English Trade in the Fifteenth Century* (London, 1933); D.H. Sacks *The Widening Gate: Bristol and the Atlantic Economy 1450-1700* (California 1991) ; E.T Jones *Illicit* and C Pitt "Wine".

1568 onwards

The reasoning behind splitting the era in to two separate studies is that they both seem to represent very different results. The year 1568 has been chosen as the split since this is the year that the price of wine begins to grow at a greater rate than inflation. The price of wine rises steadily from here until at least the 1580's where it cost around 150% more than in 1558³⁶. Although inflation can certainly account for some of this since on average goods seemed to have nearly doubled in the same time frame³⁷ there is still a significant, unaccounted for, rise in price.

One reason for this may have been because the price of Spanish wine tended to be slightly higher than French, Pitt notes a shift from French to Spanish wine throughout the century and this could have resulted in a slight shift. However Gascon wine seemed to be consistently £2³⁸ less than Spanish, with wine during the 1570's costing around £12 this means there was a less than 10% difference in cost³⁹, with the proportion of wine coming from Spain increasing from 56% Spain and 42% France in 1570-71 to 78%/21% in 1573-4, and the real price of wine increasing by over 50% throughout the 1570's⁴⁰, this can only account for a small increase in the price of wine⁴¹.

What is more there is little to suggest that this rise in price was related to increased demand, in fact the evidence would suggest the opposite. **Graph 2** demonstrates some of the economic problems faced during the Elizabethan era. It was a time infamous for economic mismanagements, with inflation and rents high and wage stagnation. The fall of the Purchasing Power, which fell to only 60% of its earlier level demonstrates how significant the economic problems were. Similarly the cost of living more than doubled. The

³⁶ Simon Wine

³⁷ Phelps Brown and Hopkins "Seven"

³⁸ As explained earlier in *analysis*

³⁹ Simon Wine

⁴⁰ Table 2 from Larkin *Proclamations*

⁴¹ Pitt Wine

combination of these two effects would have been a significant reduction in what one could buy. Disposable incomes throughout this time would have seen a sharp decline. The rather tenuous link given earlier between modern income elasticities as the Elizabethan era is almost irrelevant, whether elastic or otherwise the significant fall in real disposable incomes should have represented a fall in demand resulting in a fall in price. Whether this would be proportionate to the fall in income or not is a bigger question and one that we are unlikely to ever be able to predict with any degree of accuracy.

One factor that may put to question whether this apparent fall in demand is justified come with the polarisation of wealth seen throughout the era⁴². While agricultural workers and peasants saw their living cost rise the gentry and land owners reaped the rewards in terms of rent. The question arises as to whether Wine was the drink of the upperclasses, as latter stigma's would suggest, and if so then what relevance does the economic conditions of agrarian workers have? while little can be devised as to who was buying the wine from Simon's study since if focuses on only institutional buying, Smythe's ledger sheds more light. Although the larger orders do seem to have been to other merchants and established figures, Antony Stanbanck and Robert Tyndall are regular names for example and while many names are unidentifiable others have listed professions, William yong *Grocer*, Phillip Symonds *Tanne*, Nicholas Kellway *Hoper* or William Syms *sopemaker*⁴³ all suggest that wine was not purely restricted to the upper classes. These men tended to buy quantities too greater to assume purely personal consupion but it is more plausible to suggest they were passing it on to the lower sections of society. Similarly wine supplied by taverns would be bought when desired by an array of people and the costs suggests that Beer would not have been significantly cheaper than wine, at 30s per tun to compared to around £4-£6 per tun of wine in 1558⁴⁴. Modern times see bottom end wine (Since this is what the sixteenth Century wine would have been) costing around £4 and 750ml of beer costing around £1.50 in supermarkets, and at £3/pint compared to £12/bottle of wine in Pubs there seems to be an almost exact ratio⁴⁵ between modern day and Elizabethan Wine to Beer costs. Nowadays

⁴² S. J. Lee *The Reign of Elizabeth I* (London 2007)

⁴³ Vanes Smythe

⁴⁴ T S Willan *A Tudor book of rates* (Manchester 1962)

⁴⁵ Based on prices from Sainsburys Online www.sainsburys.co.uk

there seems to be little stigma between Wine being the Drink of the rich, beer of the poor something that probably grew up through the eighteenth and nineteenth centuries and therefore it is quite possible that Elizabethan England viewed wine as a more global drink. While the question, who drank wine? remains one of the biggest weakness in this project It would be very interesting to evaluate further which sections of society were drinking wine so as to support the line of argument that falling disposable incomes resulted in falling demands but unfortunately at present there seems to be far too few tools available to decipher this problem.

The customs figures show a rise in the imports of wine until in the mid 1580's the levels seem similar to those reached before the tax rise. So why is it that this rise in imports and apparent fall in demand result in an increase in the price of wine, at a rate greater than inflation? The answer would be explained by a reduction in the amount of unregistered trade starting from the end of the 1560's.

Throughout the 1570's it would have be plausible to have expected a fall in imports. Pitt identifies Spain and France as the most important suppliers of wine through analysis of the particular accounts. In 1570-71 56% came from Spain and 42% France and in 1573-4 79% Spain and 21% France⁴⁶. France at this time was in the midst of the bloody wars of Religion which after the St Bartholomew's Day massacre in 1572 caused widespread violence to spread to the wine producing south. In particular the port of La Rochelle was involved in an arduous Siege from March the following year. Pitt's work indicates that while Iberian imports remained at a similar level between 1570-1 and 1573-4 French imports fell by 60%⁴⁷. It must be noted here that trade with Spain had been outlawed between 1569-73 as a result of on going disputes over English attack on Spanish ships. Pauline Croft produced a document, "Trading with the Enemy" within which she demonstrates significant levels of trade with Spain after another ban had been placed following the outbreak of war in 1585⁴⁸.

⁴⁶ Pitt *Wine*

⁴⁷ Pitt *Wine*

⁴⁸ P. Croft, 'Trading with the Enemy, 1585-1604', in *The Historical Journal*, 32, 2 (1989) pp. 281-302

Pitt finds no evidence to suggest Bristol merchants saw this ban in any way differently to the later one documented by Croft⁴⁹. Indeed if merchants were willing to trade in time of war they were certainly likely to breach this embargo. However, since legal or illicit merchants would have been viewed in the same way outside England this 60% fall in French wine imports would presumably have had a similar effect on illicit trade. Therefore this shortage in French wine could represent the beginning of a reduction in the industry as a whole, unlike the years immediately following 1558. It seems internal politics was a greater problem for merchants to breach than foreign relations. However problems abroad were not the only difficulties to face the illicit trader through these years. The Crown had been caught off guard by the ease at which Bristollians had managed to evade customs, they were unprepared and did not have the right prevention measures in place. They soon began to realise that the vast sums of revenue lost justified tighter measures in and around Bristol.

Complaints about the Smugglers evading taxation began in 1561⁵⁰ where Chepstow was highlighted as the port of choice for smugglers. Wales was at this time controlled by a separate customs system. This had been a previous technique used by Smugglers to avoid prisage (Supporting the claim that Smuggling techniques were well known and therefore easily used for Wine in the years following 1558). To reduce this the Crown appointed an official to South Wales in 1562⁵¹, but despite this complaints still continued with another complaint in 1563⁵² followed by a Royal survey of the Port and another specific to smuggling in 1565⁵³.

It seems unlikely that the Crown would leave these complaints unnoticed or that it would commission a survey that highlighted the vast amounts of revenue being lost and not act on it. It is therefore more than plausible to suggest that the risks would have become more and

⁴⁹ Pitt *Wine*

⁵⁰ Bristol Merchants Evading Customs at Chepstow, 8 August 1561 Transcribed by E. Jones (2006) TNA SP12/19

⁵¹ Jones *Trade*

⁵² Bristol Merchants Landing Wine at Chepstow, 1564 in Vanes Documents

⁵³ Survey of Smuggling in Bristol, 15 May 1565 Transcribed by Evan Jones (2003) PRO E 159/350

more intimidating to a smuggler and possibly represent the beginning of a reduction. This was only compounded by the revoking of the Merchant Venturers patent in 1571, which as indicated by the complaint of the tuckers, brought about a collusion of merchants who had manipulated local and national jurisdiction to ensure the safeguard of their illicit trade. Indeed a new customs official was appointed to Cardiff in 1573, the same year as the siege of La Rochelle. Although Cardiff had been incorporated within the jurisdiction of the Bristol since 1564 Jones argues that this the official *"proved willing to allow merchants to conduct all sorts of illicit activities provided they offered him sufficient compensation"*⁵⁴. This would have meant South Wales would have *"reached the, not very high, standards of the English ports"*. This, as well as the redefining of the illegitimacy of this technique, would have cut of the most prosperous traditional smuggling technique.

The combination of reduced trade with France and increased risks both occurring during the time of the greatest rise in the cost of wine can be no accident. When this is considered along side the apparent fall in demand, and the fact that port books indicated increased supply, it seems there a significant fall in the illicit trade was likely.

Pitt argues that the rise in incidence for wine smuggling, 1509-58 saw 15 incidents whereas 1558-1603 saw 24, is evidence for greater smuggling. With new an array of new measures in place to stop smuggling after 1558-a new customs official in Wales, an end to the debate over the legitimacy of landing Wine in Chepstow and the obvious interest the Crown had in the matter suggests increased government efficiency rather than increased smuggling. There was more in place to catch smugglers and therefore this evidence has little value in suggesting greater levels of illicit trade. It does, however, demonstrate the greater risks the smugglers faced.

⁵⁴ Jones *Trade*

With all this evidence suggesting a fall in the net supply of wine but Customs records recording increased supply we can only assume a dramatic fall in the illicit trade. While Jones does note this, Pitt does not. Similarly the economics suggest that this began to occur earlier than has previously been argued. Pitt claimed a reduction in smuggling as late as the 1580's as a result of the lack of profitability caused by the price rise. Arguing that the price rise meant that tonnage, levied at 50s 4d, now only represented 17% tax reduced the incentives to smuggle. However this neglects the effects of inflation on prisage. Merchants were still only compensated £1 per tun for the two tuns lost to prisage. While in 1564 this had represented 17.5% compensation⁵⁵ in 1580 this represented only 7.5% compensation, equivalent to an extra loss of £14. Considering cases of prisage avoidance had been present pre 1558⁵⁶ when the incentives were much lower than in the 1580's it seems that the increased risks were more of a disincentive than the reduce financial gains. Since this levels or risk had been increasing from before 1570 this further supports the argument that the illicit trade was on the decline from the 1570's causing the price rise rather than in the decline after the 1580's as a result of the price rise, as Pitt has argued.

⁵⁵ Based on the pretence that wine cost £6 6s 8d in 1564 and £13 in 1580 from Hughes and Larkin
Proclamations

⁵⁶ *JoneWine*

CONCLUSIONS

The analysis of whether the claims made by Catherine Pitt are economically credible has provided some interesting results. Primarily it would be logical to suggest that the decline in the illicit trade came about much earlier than she estimates and was the cause of rather than result of the dramatic increases in Wine prices throughout the 1570's, although the increase in price would produced a further disincentive to reduce the illicit trade. Here claims that the industry was not in decline seem off the mark, even throughout the latter half of the century quantities are not consistently at the same levels seem throughout the earlier century. When this is considered within the economic environment that surrounded the era it seems likely that there would have been diminishing demand for wine, this alone suggests the demise of the industry. Similarly it seems that the increased risks provided a greater disincentive than she has given credit for. However it is almost certain that in the decade following the increase in taxes that the illicit business could have constituted as much as half of net wine imports. This came about by a certain level of naivety by the crown, raising taxes without having proper defences in place to reduce smuggling was not an inspired decision on their part. But as the authorities began to realise the extent of their lost revenue measures were taken to reduce the loss and the illicit trade was reduced.

The technique of this project, as well as supporting the credibility of Jones work and to a lesser extent Catherine Pitt's, shows that a microeconomic study of the industry can show with some success the presence or otherwise of illicit trade. The facts laid down by Pitt regarding the initial years and Jones regarding the latter are supported by the economic analysis. However it still comes to rely to heavily on the personal accounts such as Smythe's Ledger for justification, for instance in demonstrating price sensitivity due to changes in supply or in demonstrating the tendency to regard the taste of wine as all but homogenous. And this maybe forms one of the major criticisms. Smythe's ledger was 50 years out of date for this study it can be used to support evidence but its by no means infallible. Similarly the figures used are tentative, the reliance on the accuracy of other historians and the ability to apply them out of context, such as by using agrarian costs of living and wages, provides a

significant short falling. For this reason the results are suggestions rather than verifiable conclusions.

But this study was not suppose to be a watertight conclusive study. As Jones and Pitt concede a study to quantify illicit trade is "*impossible*"⁵⁷ and one can only produce hypothesis based on logic and what ever evidence is available. The sad truth is that studying something as complicated as smuggling without contemporary accounts of the ilk of Smythe's Ledger these hypothesis become more and more tenuous. The latter half of the century will remain harder to understand until documents similar to this are uncovered. But Despite all of these limitations the technique has produced some interesting results, maybe not as ground breaking as first thought, but it certainly has some relevance in a study of English trade.

One great disappointment in the study come with the inability to find conclusive evidence as to what proportion of wine was drank by whom, and the arguments based on the demand side factors are greatly weakened by this. Similarly the problems that became apparent from a study of barley to represent beer meant that a closer analysis of substitutes is lacking from this project. But the study does show relevance and could be used best to demonstrate how the mechanics of economics can be used by a historian to show social changes.

⁵⁷ Jones *Illicit* and Pitt *Wine*

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