

The Digitalization of History: A Comparison between the English Economy in the Reign of Henry VI in Europa Universalis IV and the Historical Events in Reality

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Abstract: Henry VI, one of the most disputed kings in the history of England, lost almost everything gained during the reign of Henry V including the interest in France. In the Europa universalis 4, which is a grand strategy game developed by Paradox Development Studio, he is known as the “Three Zero King.” That is to say, he is rated zero (the lowest) in three aspects including execution, diplomacy and military as a leader of a nation. What happened in the reign of Henry VI? In the first part, the author will analyze the economic situation during the reign of Henry VI in the aspect of the Great Slump of England which took place in the 15th century, the role of wars, and the crown’s income and outcome in the history. In the second part, the author will collect data from the game and compare them to the data in history. We can conclude that the digitalization of history can simplify the events in history. However, when digitalizing the economic situation of a time of turbulences, we may overlook multiple aspects and simply compare the incomes and outcomes. In the last part, this article proposes to take a comprehensive perspective to analyze the history, and to better understand the applications of digitalization of history in real world.

Keywords: Europa universalis; Digitalizing; Strategy games

1. Introduction

Europa universalis IV as one of the most popular grand strategy games in the 21st century has the reputation of stimulating real events in real time. By placing the players in the decision-making process of different nations from 1444 to 1821A.D., this game uses a system to digitalize the military power, economy, politics and diplomacy of a nation. How does the system work? Is it historically accurate? This article will discuss the advantages as well as disadvantages of the system based on the analysis of the economic situation of England during 1444-1471, the reign of Henry VI. The following methods will be applied. First, literatures on the relevant topics will be discussed. Based on previous researches, the domestic policies and economic strategies of Henry VI will be analyzed. Second, the historical data such as population, GDP and RPGDP of England in the 15th century will be collected and used to compare with the data in Europa universalis IV. Third, the data in EU4 will be collected, with the focus on the English economy and the great slump in the 15th century. These values are critical to investigate into the economic situation during that period and to discuss whether Henry VI was a wise ruler or not.

By comparing previous research outcomes and historical data with the data collected in EU4, we can better understand whether the data in the game are accurate or not, and whether the digitization of the war or even the history are possible. We can then apply the technology of digitization more deliberately and successfully. Through this article, we can have a deeper understanding of history, the digitization of historical events, and the improvement of A.I. technology in strategy games.

2. Literature Review

In the article Gold, Credit, Mortality: Distinguishing deflationary pressures on the late medieval English economy by Pamela Nightingale, the author uses the evidence of coins, prices and wages to discuss the gold coinage effect. It is argued that gold-dominated coinage reduced the volume of credit, and also changed the mortality rate. (Nightingale 1081-1104) The author discusses these findings of the economic and social changes of the 15th century of the England.

In another article Growth and Recession in the Fifteenth-Century Economy: The Wiltshire Textile Industry and the Countryside by J.N. Hare, the writer discusses the

regional and chronological variations within the later medieval economy. This article is based on the fact that in the late 14th century, the clothing industry grew rapidly until it was hit by the Great Slump which happened in the middle of the century. The industrial growth and recession affected the agriculture. (Hare 21-15) In a word, this book discovered the subjective influence of the wars to the economic situation.

On the other hand, another book called *The Reign of King Henry VI: The exercise of royal authority, 1422-1461* by Ralph Alan Griffiths, the writer discusses the structure of politics during Lancastrian England and the exercise of royal authority during the reign of Henry VI. The author talks about the problem of the nature of government and why Henry VI collapsed, so completely that the whole country fell in hands of others. Such questions describe the characteristic of the reign of Henry VI.

In the passage *Introduction to English Economic History and Theory* by William James Ashley, the author thoroughly discusses the economic history of England in the middle of medieval time. Another book called *English*

Medieval of Industries Craftsman Techniques Products discusses the way craftsman worked, the technique they used and their impact on economy. In conclusion, the works above show the relations between the economic situation and the factors of the reign of the crown and the subjective background.

In this essay, the author is going to collect data relating to economy from the game and compare them from the statistics in reality. The differences can give us insights when digitalizing the historical events in video games and other fields such as the teaching of history.

3. The English Economy between 1444-1471: Did Henry VI Fail in Economic Development

Before analyzing the economic situation during the reign of Henry VI, it is necessary to take a look at the income and expenditure of the crown in the 1430s, which is before the period that we need to discuss.

Table 1. The income and expenditure of the english crown in 1430s

Resources	Income	Expenditure	Profit (Deficit)
Shire, town, and other farms	£9290	£6752	£2539
Feudal revenues	4698	159	4539
Administrative	3131	23009	(19878)
Duchy of cornwall	2789	2638	151
Principality of wales	2238	1176	1062
Chester	765	720	45
Duchy of lancaster	4953	2544	2409
Miscellaneous	208	----	208
Scottish border	----	4817	(4817)
Royal household	----	14035	(14035)
Total	58794	59605	(811)
Ireland	2340	5026	(2686)
Gascony	808	4138	(3330)
Calais	2866	11931	(9065)
Grand total	64808	80700	(15892)

Ralph Alan Griffiths investigates into the financial status of the crown in his book. *The Reign of King Henry VI: The exercise of royal authority, 1422-1461*. (Griffiths 108) We can see from the table that the crown spent a great amount of money on households and administrative issues. Although the crown increased the taxes and costumes to a relatively high level, the crown's economic situation was still unpromising. Plus, the detrimental influence from Ireland and Gascony, the economic situation was even worse, reaching an expenditure of more than 15,000 pounds. That explains why Henry VI faced a deteriorating economic situation in the 1440s.

The wars during that period also played an important role in the industrialization and the economy of England. During the Hundred Years War, England lost all its territory in Europe. It also caused a severe economic loss to England, so was the War of the Roses, as illustrated

above. On the other hand, however, England, aside from gaining pain and recession from the war, won something. In *The English and French Hundred Years War and the Origin of the Modernization of England*, by Yan' Gang Zhang, the author states that the war stimulated the capitalistic development in England in the fifteenth century. With the stimulation of politic and economic factors, the English crown altered their commercial policy. They supported the local businessman and developed production heavily. Cities with textiles flourished. As a result, the civil class who supported the crown appeared and grew, which was good for England to develop (Zhang 97-99).

At the end of the War of the Roses, the Circle Movement appeared. It was a complete reform of the management and production of agriculture. Zhang argues that with the market of labor decreased due to the infection of bubonic

plague, the rent of the land decreased and the wage increased. Thus, the general living standard improved. (Zhang 98) Some farmers leased more lands and managed to start small businesses. With the decrease of agricultural investment and the increase of wages, the aristocrats began to face difficulty. They were forced to engage the capitalistic ways of farming instead of traditional ones. All the factors paved the path for the rise of England and its newly developed industries in the following decades.

As illustrated in the book Introduction to English Economic History and Theory, the first half of the 15th century was a century with prosperity and growth. (Ashley Chap. 4) The exports had reached a peak at that time. However, in the following decades, the exports fell a half. There are many reasons: The embargo made by Hanseatic League played a significant role in ruining the German and Baltic market. Also, the resumption of the French war and the continuing conflict between England and France had destroyed the French market. In general, this was a period during which England lost a great amount of overseas markets. These losses generated difficulty in domestic industry and economy. As a result, the rate of unemployment increased, together with the decrease of wages, which deepened the depression. Not until the 1470s did the recovery seemed to take place. We can conclude that the economy grew rapidly before the Great Slump and then was hit heavily and then recover in the end of 15th century.

4. A Comparison with the Statistics in EU4 and Those in History

Europa universalis IV as a strategy game heavily relies on the algorithm of data of different countries in historical events. The more accurate the data are, the better the game experience is. When it comes to the economic situation of England in 15th century, a time of turbulence and development, it is necessary to analyze the data to see if they are historically accurate.



Figure 1. The comparison between the English economy and french economy from 1444-1471 in europa universalis iv

The author entered the game as a role of an observer and simulated the process and development of England in the

time period of 1444-1471 and collected the above economic data graph from Europa universalis IV.

From the data, we can see that the economy of France (blue line) is generally equivalent to that of England (red line) before the Hundred Years War, and then there are two significant slumps in the graph of the economic situation of England. According to the history, the first slump is mainly caused by the failure in the Hundred Years War with France. As France took back the territories that England occupied on the continent, a great amount of damage was caused to the English economy. As a result, it is possible to explain the first slump. As for the second one, it may be the result of the Rose War, a civil war between the Lancastrian family and the York family, who both wanted to seize control of the crown. It also caused a great damage which required decades to recover. It is known as the “Great Slump,” which posed challenges to the players of England in this game. But after all the economic trends of England and France were approximately both to grow continuously, as the data illustrate.

In the history, the English economy continued to grow in the first period from 1444 to the Great Slump. Then. It was hit by the slump heavily. After that, the economy began to recover. In the game, the economy does show a similar trend. As the income of a country in EU 4 only concerns the data of tax and trade, and does take complicated crisis or accidents, for example, the lack of purchasing power or the disadvantages of many capitalists (which are responsible for average economic crisis), into consideration. This game does not mark the significant role played by the Great Slump, which means it has not yet developed an algorithm to analyze the consequences of economic crisis. The trend of economy is only correlated with the expenses of the war. So, the game should add more real historical events like the Great Slump, and try to make the data of economic development a more comprehensive variable.

On the other hand, the game rates Henry VI as a “Three Zero” king. Is it reasonable to evaluate the king who lost all the European territories of England in such a way? First of all, Henry did fail to defend what his father gained and lost his reign of France. Secondly, he had mental diseases which may prevent him from governing the country effectively. However, we should take more points into account. For example, in his reign, the Great Slump took place, posing severe threats to the government and the king as well. The deteriorating economic situation of England can easily make people believe that the ruler should be blamed, but the causes of the crisis are under discussed. Thus, it may be wiser to look at the bigger picture and decide whether the king is capable or not. Henry VI was born in the period of turbulences and changes, so he should shoulder greater responsibilities to rule two countries. He collapsed under the heavy pres-

sure, and yet it does not mean that his ability can be rated as "three zero".

5. Conclusion

As the world embraces a digital age, the digitalization of history seems to be more and more important. It can convert the complex historical events into digits in order to understand them more comprehensively and easily. However, we should pay attention that when applying the statistics, we should consider the correlations among different factors instead of only comparing these digits. We should think more of what happened in the reality when dealing with digitalization. If the digitalization of history can be applied in education and the prediction for future events, it will exert further influences than it does now in grand strategy games. Based on the analysis in the article, to digitalize country's economic situation during a specific period is possible. In future studies, how to build a

more comprehensive model of a historical event can be discussed and the model can be a predictor for the future.

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