

# **A monetary stabilisation project with adaptive expectations in 17<sup>th</sup>- Century Castile: Francisco Antonio de Alarcón's proposal (1642)**

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This paper is an analysis of a stabilisation project, which was presented to King Phillip IV of Spain by Francisco Antonio de Alarcón. The author was head of the Council of Finance at the time (1642).

The purpose of this work in progress is to put together an edition of the manuscript, together with its transcription and translation.

The content of this paper includes some biographical information about the author and an analysis of the monetary thought involved in the presentation of this stabilisation proposal. Special attention has been placed on the issue that his stabilisation proposal is based on the notion of “adaptive expectations”

## **Introduction**

According to a traditional approach to the history of monetary thought, the concept of adaptive expectations was introduced formally in the 1950's by Phillip Cagan, Milton Friedman and Mark Lerlove (Evans, 2001). The concept's origins

are associated with Irving Fisher's theories of the 1930's. With the conceptualisation of the idea of adaptive expectations, models were created to describe certain aspects of human behaviour during inflationary periods.

The adaptive expectations approach supposes that individuals base their expectations about the value of a variable for a given period on the most recent information available about that variable.

The notion of this aspect of human behaviour is present in Alarcón's stabilisation proposal, addressed to Phillip IV of Spain in 1642. This argument will be put into context by presenting a brief description of the monetary situation in 17<sup>th</sup>-Century Castile and by putting together some information about the author's life. The manuscript will then be analysed by focusing mainly on its monetary theory content and the stabilisation plan, which contains the notion of adaptive expectations.

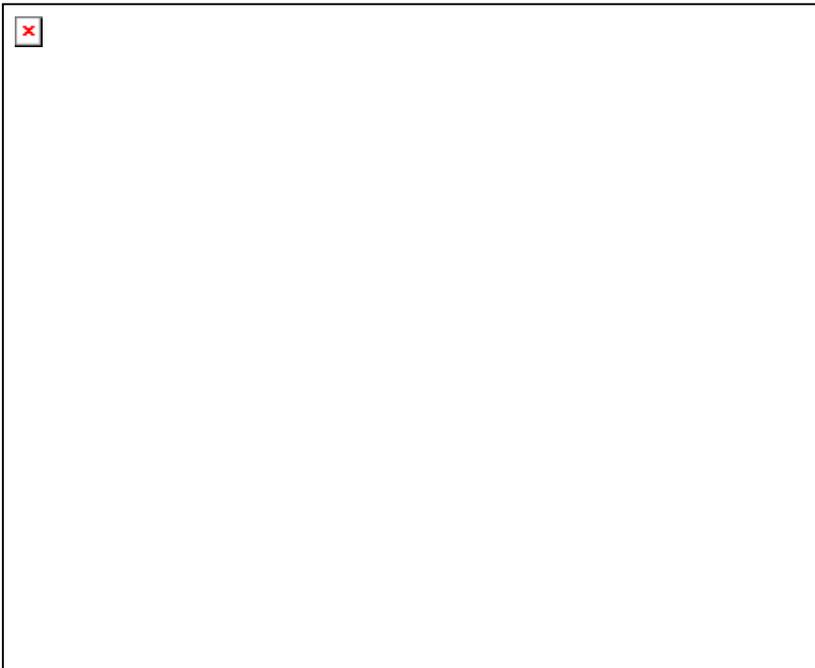
The text of this paper presents a reconstruction of the arguments and premises in Alarcón's proposal. Citations of the original text are provided in the appendix and referred to in the text. Modern Castilian orthography was used in the transcription of the original source.

## **Inflation in 17<sup>th</sup>- Century Castile, a brief story**

By the year in which Alarcón issued his manuscript, Castile had already suffered the consequences of coin debasement for many decades. Vellón, which was petty money that consisted originally of a copper- silver alloy, had been debased. The silver content of the currency had been extracted, and its nominal value multiplied. Vellón debasement had started in 1599 and by 1617, the debased money (copper) had driven the silver coins out of circulation, turning Castile's bimetallic monetary system into a monometallic one (Hamilton, 1934: 89-90, Serrano Mangas, 1996:105). Further issues of money with low intrinsic value had caused price and exchange rate increases. Devaluation expectations triggered a considerable rise in the silver premium towards 1627. (see graph 1). After a failed attempt to put into practice a stabilisation programme in 1627, a devaluation of 50% was carried out . The consequences were, as after all devaluations a drop in the real cash balances and money scarcity.

A further consequence of coin debasement in 17<sup>th</sup> –Century Castile was the increase of the transaction costs of money. The weight and volume of copper coins in terms of their purchasing power was higher than the weight and volume of the silver money that had been driven out of circulation.

This situation characterised the period between 1628 and 1648. The problems mentioned above were aggravated by devaluation expectations triggered by the crown increasing the face value of coins through re-stamping. Such measure was carried out in 1634, 1636 and 1641. In 1638, a second stabilisation plan was put into practice, unsuccessfully. As a consequence, the silver premium rose dramatically, to 120% in 1642 (see graph 1).



Source: Serrano Mangas, 1996:105

This is a brief description of the situation that Alarcón was facing when he wrote his stabilisation proposal.

The aim of Alarcón's stabilisation plan is to eliminate the effects of devaluation expectations by restoring the confidence of the individuals in the currency. The

way in which he pretended to achieve this will be analyzed after mentioning some points about his life.

### **Francisco Antonio de Alarcón**

There is very little known about Alarcón. His name is mentioned in Elliotts work (Elliott, 1984) and in some primary sources of the time (Actas). Jeanin Fayard (1979) mentions him several times in her book on the members of the Council of Castile, although there is nothing explicit about him.

Alarcón's manuscript reveals a few points about his life and personality. He shows competence in the field of jurisprudence by citing the Codex Iustinianum and other Roman law texts. (A deeper analysis of Alarcón's sources is planned).

Based on a rather small number of facts known about his life, the following biography attempt was put together:

Francisco Antonio de Alarcón was born in Madrid. His father was Luis de Alarcón, who served as member of the council of finance in Castile during Phillip III.

Francisco became a knight of the prestigious order of St. Jacob (Santiago de Compostela) (Fayard, 1979:119). As a knight, he undertook some military activity in the Basque province of Gupuzcoa.

Towards 1627, Alarcón was directly involved with the negotiations between the Castilian Towns and Crown concerning monetary problems (Actas). He witnessed the stabilisation attempt of 1627 quite closely.

In later years, He became head of the Castilian Council of finance, post he held at the time when his manuscript was issued (1642).

### **The stabilisation proposal**

#### **A. Alarcón's argument**

Alarcón argument is that it is necessary to solve Castile's monetary problems through putting into practice a stabilisation strategy. This strategy, a monetary reform should include the devaluation of the currency in circulation and the introduction of a new currency with high intrinsic value.

As a supporting premise to his argument, Alarcón points out the damage that debasement had caused to "commerce, defence and population" (appendix 1).

Alarcón puts his argument into a context by presenting numbers: nominal and real quantities of money in circulation. The table below shows the quantities of money in circulation, according to Alarcón:

Quantity of money in circulation in Castile towards 1642 according to Alarcón

(appendix 2)

Quantity of money in circulation (in ducados)	Name used in Alarcón's writing
40 million	
6 million	Real and true
34 million	fantastic

The numbers given by Alarcón differ in some degree from those obtained from the latest primary research results (Motomura, 1997). Alarcón's numbers however are important because monetary policy decisions were based on them, being Alarcón head of the Finance Council.

As it can be appreciated, Alarcón uses the word "fantastic" (referring to fantasy) to describe the difference between nominal and real quantities of money. There were 40 million ducados in circulation, out of which 6 were "real and true" and 34 million were "fantastic".

Given Alarcón's background, it would be expected that he would use the Late Scholastic terminology (Weber, 1964:93) to refer to the value of money typology:

Intrinsic or real

Extrinsic or legal

Accidental

The language he uses to present his premise could be considered as a rhetorical ploy. However, it may also be due to the familiarity he had with the problem.

The language alterations in Alarcón's discourse will be analysed in a future stage of this project, using discourse analysis methodology.

## **B. Monetary theory elements in Alarcón's premises**

Alarcón presents further premises to support his argument. His reasoning is based on the Late Scholastic monetary theory.

He focuses on the elements that determine the value of money, and considers the common estimation as the most important one. Therefore, he opposes to the alteration of the nominal value of a currency (debasement), stating it is acceptable only when backed by a consensus (appendix 3).

His presentation of his monetary thought goes beyond the premises supporting his argument. He completes his analysis on the value of money by mentioning two further elements:

He believes the element of scarcity is also a determining factor of the value of goods and money. Common estimation, which determines the value of money is determined by scarcity (appendix 4).

A further determining element of the value of money is what can be defined as productivity. Alarcón does not use the concept as such, but states that the “stability”(sic) of a country’s currency depends on the number of artisans and merchants it has. He backs his argument by comparing Castile to Holland. The first one, having a lower number of artisans and merchants than the second one, has also a weaker currency (appendix 5).

### **C. Alarcón’s stabilisation plan**

Alarcón’s plan consisted of reducing the nominal value of the currency till it converged with its real value. This meant a devaluation, which should be carried out in three different phases. In each phase, the currency should be devalued by 50%. Adding the three devaluations together, the total reduction of the nominal value of the currency would be of 87.5%

There should be a year between each devaluation in order to allow the individuals to recover from the drop in their cash balances. He believed that by carrying out a gradual devaluation the effects of a devaluation such as currency scarcity would be less harmful for the economy than with a once and for all devaluation of 80%. He acknowledges that currency scarcity would affect commerce and it would cause a decline in the estimation of gold, silver and other goods.

Monetary reform through the introduction of a currency with high intrinsic value is part of Alarcón's stabilisation plan. Since it was the Crown who had profited from coin debasement, he believes the Crown should cover the costs of the introduction of such a currency by donating 6 million ducados. The new coins would be put into circulation by exchanging them against silver and gold. He believed there were high quantities of hoarded metals in in form of bars and ornamental objects that had to be put into circulation. He considers hoarding harmful for the economy (Alarcón, fol 58r).

The inhabitants of Castile should be forced to exchange their hoarded metals against the new currency. Exceptions, however should be made for those pieces of metal necessary for the Catholic liturgy and those decorated with precious stones. Also the heirs of estates would be allowed to keep and hoard certain quantities of precious metals in order to sustain their status and "decency"(sic).

Alarcón suggests the introduction of 6 year- long bans against hoarding precious metals and against importing copper as a reinforcement to his proposal.

The urges the Crown to renounce to his minting right unless there's a consensus between the "three states" (presumably Crown, Towns and Church) supporting the mint of coins.

Alarcón stresses the importance of acting with honesty regarding currency issues. With this statement, he acknowledges the importance of recovering the trust of individuals in the currency (Alarcón, fol. 55 r).

#### **D. The notion of adaptive expectations in Alarcón's proposal**

As mentioned before, Alarcón's plan consisted of a devaluation in three stages. The devaluations would then be complemented with the introduction of a new currency with high intrinsic value.

The focus of his proposed monetary policy is the recovery of the individual's trust in the currency.

The aim of the devaluation in three stages is the manipulation of the individual's expectations of future values of the currency till they gradually adjust to the currency's real value (appendix 6).

Indicators of his plan's success would be a gradual increase in commercial activities and a decrease of gold and silver premia.

The success would then be reinforced through individuals observing an increase in the currency's estimation as its nominal value approaches its real value.

Alarcón places the individual witnessing an intertemporal phenomenon, the gradual increase of the currency's estimation.

The currency's estimation during a previous period will be lower than during a later period as a consequence of its gradual devaluation.

The individual's trust in the currency will grow parallel to the growth in its estimation.

The individual will base his expectations for a given period on the values observed during previous periods.

It can be concluded that the notion of adaptive expectations is present in Alarcón's approach.

Alarcón's ideas follow a basic adaptive expectations model:

Let  $e$  be the exchange rate, in this case, the silver premium. A gradual devaluation can be expressed by:

$$\frac{e_t}{e_{t-1}} = 1 + \delta \left( \frac{e_t}{e_{t-1}} - 1 \right) \quad (1)$$

Where  $\delta$  is the proportion in which a currency will be devalued. In Alarcón's proposal,  $\delta$  would assume the value of 0.5, since each of the three devaluations would be of 50%. From (1) follows:

$$\frac{e_t}{e_{t-1}} = 1 + \delta \left( \frac{e_t}{e_{t-1}} - 1 \right)$$

The following expression describes the relationship between the expected and actual values of the silver premium.

$$\boxed{\times} \quad \boxed{\times} \quad (2)$$

$\lambda$  represents the importance of the silver premium during previous periods as a determinant of the actual silver premium.

The difference between the variable's value in the previous period and its expected value in the previous period will be the basis of the difference between its expected value during the actual period and its expected value in the previous period.

$\boxed{\times}$  will be greater than  $\boxed{\times}$  because of the gradual devaluation. Equation (1) is given, from which follows:

$$\boxed{\times}$$

and

$$\boxed{\times}$$

The expected value of the silver premium will be lower in a later period than in a previous period.

A very important point in Alarcón's stabilisation plan is his recommendation of keeping the devaluation dates away from public knowledge. It was necessary for his plan's success that the expected value of the silver premium in a previous period would be higher than the premium in the previous period. This difference would cause the silver premium to be lower from period to period.

## **Conclusions**

Common estimation is the Scholastic monetary theory element Alarcón places the most importance on when presenting his stabilisation plan. Common estimation is the basis of his stabilisation project. The idea of adaptive expectations is also founded on the concept of common estimation.

Alarcón's proposal of carrying out a devaluation in three different phases could be seen as a method of manipulation of expectations. Alarcón supposes that it is possible to change the direction of expectations, in this case of a higher to a lower silver premium, because people base their expectations about the future silver premium, on the actual exchange rate and its relationship to the silver premia of previous periods. The notion of adaptive expectations is present in this reasoning.

## **Appendix**

1.

*“La moneda de vellón acabará de destruir la contratación, defensa y población de estos reinos si no se le baja y consume”( Alarcón, fol.52r)*

2.

*“ Y sería el ultimo descrédito imaginar más en hallar arbitrios para quitar treinta y cuatro millones de caudal fantástico y subrogarlos en el real y verdadero, suponiendo que hoy hay cuarenta millones de esta moneda y que no es posible valga su metal más de los seis de ellos” (Alarcón, fol.54v)*

3.

*“ ... el valor intrínseco, ó estimación de los metales , y monedas y la de los frutos, mercaderías y demás bienes muebles y raíces (sic) dependen de la estimación común, y no de la estimación ó voluntad sola de los príncipes, como se ha supuesto en las leyes y vandos (sic) que se han publicado en estos reinos, no ignorando ni negando aquí los efectos y justificación del justo legal, ó tasas, que los reyes pueden hacer la inclinación y obligación de consentir, cuando concurren las calidades que se requieren” (Alarcón, fol. 52v)*

4.

*“...y porque la estimación mayor ó menor del oro, plata, monedas y demás cosas en común , es comparativa a la necesidad, deseo ó estimación de las demás cosas que nos faltan ó deseamos” (Alarcón, fol. 52v)*

*“Y porque la abundancia ó falta de ellas (las cosas) hace crecer ó disminuir su estimación, como se experimentó en la antigüedad en la del mismo oro, plata y demás metales, y en la de los frutos, mercaderías, las artes y demás cosas, como consta de las leyes y escrituras antiguas y de los precios, ó cosas en que se tasaban ó estimaban, ó permutaban con el oro, y plata, cuando había menos ó al contrario” (Alarcón, Fol. 52v).*

5.

*“Las propiedades de las constelaciones, regiones, provincias y las inclinaciones de las naciones su mayor ó menor industria su mayor o menor aplicación a las artes entran también a la parte no sólo de alterar, crecer y menguar la estimación de algunas cosas en particular , sino también lo común, y su constancia y estabilidad” (Alarcón, Fol. 53r).*

6.

*“Y para multiplicar el tiempo y número de las bajas y no la cantidad es por aminorar el daño que haría su falta al cuerpo de la República y necesitar la desestimación de la plata, oro y demás mercaderías, para que los que las tienen*

*retiradas, apresuren el restituirlas al uso común viendo crecer la estimación del vellón cuanto más se fuere llegando a su término ó valor intrínseco y consiguientemente disminuir la del oro, plata y mercaderías y la posibilidad de poderse abstener de comunicarlas sin aumento del daño". (Alarcón, Fol. 56r)*

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