

# The transaction “Al Ina” and its relationship with economic growth

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**Abstract**— The sale "Al Ina" is a transaction prohibited by the Islamic religion, this article is a contribution to the mathematical-economic demonstration that this transaction aggravates the deterioration of the economy by the creation of negative added-values.

**Keywords**— Transaction “Al Ina”, Islamic, demonstration, mathematical-economic, added-values.

## INTRODUCTION

The Transaction "Al In": is that a man buys a commodity from a dealer at a deferred price and, immediately then sells it to him for less than the price in cash. There are two individuals: The first individual  $I_1$  sells the good to the second individual  $I_2$  at a deferred price  $P_1$  on a deadline, and redeems the same property immediately with a lower price  $P_2$  without actually touching the good. Thus, the difference between the two prices constitutes a usury operation. (Al-Zuhayli Wahba, 2002).

We try to show that this transaction prohibited by the Islamic religion negatively affects economic growth. For that, we first study this transaction in its simple case, ie the presence of two participants, and then we widen the study for the presence of three individuals and more

### I- Case of two participants

**In time  $T_1$ :** That is to say, when the two individuals fix the price of the sale, the sale is not authentic. Posing:

$Q$  : the quantity doing the role of the sale

$P_0$  : the purchase price of the good or its cost of production (the price with which the good is bought or produced)

$P_1$  : the non-authentic selling price of  $I_1$  to  $I_2$

Then, after this transaction, the Added-Value created is zero because:

$$VAE_1 = (0 - 0) \\ = 0$$

Therefore that in time  $T_1$ , the transaction produces nothing for the economy. This implies the cleared recipe of the transaction in time  $T_1$  is :  $RT_1 = 0$ .

**In time  $T_2$ ,** when the two individuals decide to repeat the reverse sale operation with a lower price  $P_2$ .

$P_2$  The non-authentic resale price of the good by  $I_2$  to  $I_1$ . To be able to talk about “Al Ina”,  $P_2$  must be less than  $P_1$ .

Thus, This implies the cleared recipe of the transaction in time  $T_2$  is :  $RT_2 = 0$

For this case, we can evoke two scenarios:

Scenario1: We can consider that the individual  $I_1$  applies the authentic selling price  $P_1$ .

Scenario2: We can be considered that he keeps his good with the same cost  $P_0$ .

### a) First scenario : the individual $I_1$ applies the authentic selling price $P_1$

For the first scenario, we will have:

The individual  $I_1$  receives the same good. Therefore, he commit a recipe is equal to

$$RT_1 = QP_1$$

The individual  $I_2$  receives the same good, Which implies, he commit a recipe is equal to

$$RT_2 = QP_2$$

The added-value created by this transaction is:

$$VAE_2 = QP_2 - QP_1 = [Q(P_2 - P_1)] < 0$$

As long as,  $P_2 < P_1$ , the value  $[Q(P_2 - P_1)]$  is negative. In other words, these transactions negatively affect value added. Thus, if we do not ban the sale "AL Ina", we risk deteriorating economic growth.

After these two transactions, the sum of the two added-values can be calculated as follows:

$$\sum_{i=1}^2 VAE_i = VAE_1 + VAE_2 = 0 + Q(P_2 - P_1) \\ = Q(P_2 - P_1) < 0$$

### b) Second scenario: The individual $I_1$ keeps his good with the same cost $P_0$ .

If we opt for the second scenario, we will have:

The individual  $I_1$  receives a recipe equal:  $RT_1 = QP_0$

The individual  $I_2$  receives a recipe equal:  $RT_2 = QP_2$

The added-value created by this transaction:

$$VAE_2 = QP_2 - QP_0 = [Q(P_2 - P_0)] > 0$$

As long as  $P_2 > P_0$ , the value  $[Q(P_2 - P_0)]$  is positive.

In other words, these transactions positively affect value added.

After these two transactions, the sum of the two added-values can be calculated as follows:

$$\begin{aligned} \sum_{i=1}^2 VAE_i &= VAE_1 + VAE_2 = 0 + Q(P_2 - P_0) \\ &= Q(P_2 - P_0) > 0 \end{aligned}$$

In conclusion and in any case, any "AL Ina" transaction that prohibited by the Islamic religion, strongly contributes to the degradation and deterioration of economic growth.

## II- Case of three individuals

If ever  $I_1$  decides to repeat the same transaction with another individual  $I_3$ , there would be two scenarios: Repetition with the same prices or Repetition with different prices:

### 2-1- Repetition with the same prices :

Posing:

$Q$  : the quantity sold

$P_0$  : the purchase price of the good or its cost of production

$P_1$  : the selling price of  $I_1$  to  $I_3$

$P_2$  the redemption from  $I_3$  to  $I_1$

In time  $T_1$ , The added value results from this transaction is zero:  $VAE_1=0$

In time  $T_2$ , we will have two situations, either we compare  $P_2$  at the first price  $P_0$  or at the second price  $P_1$

#### a) Comparing $P_2$ to, $P_0$ , this gives:

$$\begin{aligned} VAE_2 &= QP_2 - QP_0 \\ &= Q(P_2 - P_0) \end{aligned}$$

The price  $P_2$  is less than the price  $P_1$  but it can exceed or be less than cost  $P_0$

- If  $P_2 < P_0$ , we will have:  $VAE_2 = QP_2 - QP_0 = Q(P_2 - P_0) < 0$   
in this case, we conclude that the added value always remains negative
- If  $P_2 > P_0$  we will have:  $VAE_2 = QP_2 - QP_0 = Q(P_2 - P_0) > 0$

Thus, at this level, the added value becomes positive.

Therefore, the sum of the added values created by this second transaction "Al Ina" is:

$$\sum_{i=1}^2 VAE = VAE_1 + VAE_2$$

$$\sum_{i=1}^2 VAE_i = VAE_1 + VAE_2 = 0 + Q(P_2 - P_0)$$

$$= Q(P_2 - P_0) < 0$$

The sum of the added values after the three transactions  $I_1$ ,  $I_2$ , and  $I_3$  becomes:

✓ For the case of  $P_2 < P_0$  we will have :

$$\begin{aligned} \sum_{i=1}^3 VAE_i &= Q(P_2 - P_0) + Q(P_2 - P_0) \\ &= 2Q(P_2 - P_0) < 0 \end{aligned}$$

In this case, after these three transactions, we conclude that the degradation of value added is worsening.

✓ For the case of  $P_2 > P_0$  we will have :

$$\begin{aligned} \sum_{i=1}^3 VAE_i &= Q(P_2 - P_0) + Q(P_2 - P_0) \\ &= 2Q(P_2 - P_0) > 0 \end{aligned}$$

On the other hand, in the case where  $P_2 > P_0$ , the sum of the three added values is positive;

#### b) Comparing $P_2$ to $P_1$ , this gives:

In all cases, we have  $P_2$  superior than  $P_1$ , this implies:

$$VAE_2 = Q(P_2 - P_1) < 0$$

Therefore, the value added at this stage remains negative.

Thus, the sum of the added values created by this second transaction "AL Ina" is:

$$\sum_{i=1}^2 VAE = VAE_1 + VAE_2$$

$$\sum_{i=1}^2 VAE = 0 + Q(P_2 - P_0)$$

$$= Q(P_2 - P_0) < 0$$

Also, the sum of the added values always remains negative

And, The sum of the added values after the three transactions  $I_1$ ,  $I_2$ ,  $I_3$  becomes :

$$\begin{aligned} \sum_{i=1}^3 VAE_i &= Q(P_2 - P_0) + Q(P_2 - P_0) \\ &= 2Q(P_2 - P_0) < 0 \end{aligned}$$

After the three transactions, the degradation of the added value gets worse.

We conclude that these transactions negatively affect value added, in other words, if we do not prohibit the sale "Al Ina", we risk deteriorating economic growth.

Therefore, it is a transaction in the form of double "Al Ina", based on this double transaction, we can calculate the sum of the added values created by the four transactions made by the three individuals as follows:

We know so far that:  $P_2 < P_1$   
and  $P_0 < P_1$

However, we nothing known about the position of  $P_0$  with respect to  $P_2$ .

We return to the three cases mentioned above:

$P_0 = P_2$ ,  $P_0 < P_2$  and  $P_0 > P_2$

If  $P_0 = P_2$ , the added value is null

If  $P_0 > P_2$ , the added value is negative

If  $P_0 < P_2$ , the added value is positive

The only case where the added value is positive is the last but it is low as long as  $P_2 < P_1$

If the operation repeated for the third time with a fourth individual, we will have:

If the operation repeated for the third time with a fourth individual, we will have:

$$\begin{aligned} \sum_{i=1}^4 VAE_i &= \sum_{i=1}^2 VAE_i + \sum_{i=1}^2 VAE_i + \sum_{i=1}^2 VAE_i \\ &= Q(P_2 - P_0) + Q(P_2 - P_0) + Q(P_2 - P_0) \\ &= QP_2 - QP_0 + QP_2 - QP_0 + QP_2 - QP_0 \\ &= 3QP_2 - 3QP_0 \\ &= 3Q(P_2 - P_0) \end{aligned}$$

That is to say that for N times the added value deteriorates up to:

$$\begin{aligned} \sum_{i=1}^4 VAE_i &= \sum_{i=1}^2 VAE_i + \sum_{i=1}^2 VAE_i + \dots \sum_{i=1}^2 VAE_i \\ &= NQ(P_2 - P_0) \end{aligned}$$

## 2-2- The case of different prices:

After the first transaction, the individual  $I_1$  gained in terms of price  $P_1 - P_2$ .

We can note this unit gain  $G$ .

The management of the transaction "AL Ina" with  $I_3$  can take two forms: The consideration of  $G$  gain, or The non-consideration of  $G$  gain

If  $I_1$  takes into account the "gain"  $G$ , it means that the individual  $I_1$  fixes for the individual  $I_3$  a price

$P_3 = P_1 - G$  and recovers the good after at a price

$P_4 = P_2$  and this to safeguard the same level "Gain".

- In time  $T_1$ : the added value created is  $VAE_1 = 0$

- In time  $T_2$ :

The individual  $I_1$  receives the same good  $RT_1 = QP_4$

The individual  $I_3$  receives  $RT_3 = QP_3$

The added value created by this transaction is:

$$\begin{aligned} VAE_2 &= QP_3 - QP_4 \\ &= Q(P_3 - P_4) \\ &= Q(P_1 - G) - QP_4 \\ &= Q(P_1 - G) - QP_2 \\ &= Q(P_1 - G - P_2) \end{aligned}$$

For  $G = P_1 - P_2$ , We have:

$$\begin{aligned} VAE_2 &= Q(P_1 - G - P_2) \\ &= Q(P_1 - P_2 - G) \\ &= Q(G - G) \\ &= 0 \end{aligned}$$

At this phase, the added value is null

The sum of the two added values would be:

$$\sum_{i=1}^2 VAE_i = VAE_1 + VAE_2 = -QP_3 + 0 = -QP_3 < 0$$

Thus, the whole operation leads to a negative added value

If  $I_1$  repeat the operation without taking into account the first "gain", and if the price of the good is clear on the market,  $I_1$  is obliged to remain at the level of  $P_1$  and thus, he will proceed to the sale of the good with a price  $P_1$  and the recovered at a price  $P_4$  lower than  $P_1$ .

- In time  $T_1$ , Added value created is  $VAE_1 = 0$

Therefore, in time  $T_1$ , the transaction not produce value added to the economy.

- In time  $T_2$  The individual  $I_1$  receives the same good, i.e:  $RT_1 = QP_4$

The individual  $I_3$  receives  $RT_3 = QP_1$

The added value created by this transaction is:

$$VAE_2 = QP_1 - QP_4 < 0$$

Therefore, the transaction creates a negative added value

The sum of the two added values would be:

$$\begin{aligned}\sum_{P=1}^2 VAE_i &= VAE_i + VAE_i \\ &= -QP_4 + Q(P_1 - P_4) \\ &= -QP_4 + QP_1 - QP_4 \\ &= Q(P_1 - 2P_4) < 0\end{aligned}$$

### CONCLUSION

Through this article we have borrowed the mathematical tool to demonstrate the negative effect of the transaction Al Ina on the evolution of a given economy. Thus, this logical demonstration has shown that allowing this kind of transaction may seriously deteriorate the evolution of the economy, because any transaction "Al Ina" creates a negative added value in this economy.

### REFERENCES

**Al-Zuhayli, Wahba. (2002).** « Contemporary financial transactions». Damascus: Dar al-Fikr.