

# Aldo Amaduzzi: One of the Best Italian Scholars in the Business Disciplines

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## *Abstract*

*This study aims to provide an outline of the innovative contribution made by Aldo Amaduzzi to the business disciplines. Aldo Amaduzzi was one of the greatest Italian scholars in the last century. He was professor in business administration and in accounting and he developed contents and methods worthy of an international and wide circulation. His approach has the merit of representing business operations in a dynamic and effective way, making the accounting representation of the phenomena easier. Amaduzzi's writings are hardly known to non-Italian speaking accounting scholars because of linguistic barrier.*

*The paper has the objective of focusing on some concepts elaborated by Amaduzzi, currently adopted and taught in many Italian universities for their explanatory power. The presentation of main ideas of this important Author to an international audience helps to widen and improve knowledge in the scientific community.*

**Keywords:** *Aldo Amaduzzi, business disciplines, dynamic model, Italy.*

**JEL classification:** M10, M16, M41.

## **Introduction**

This paper seeks to contribute to literature of the comparative international management by explaining some models elaborated by Aldo Amaduzzi, a famous Italian Scholar. Aldo Amaduzzi [1904–1991] is widely recognised by Italian academic community as one of the ‘masters’ of the national tradition in accounting and business administration for his original and innovative theories.

The purpose of the present work is to spread at international level an academic approach that plays a remarkable role in national context. Indeed, the approach of Amaduzzi is an important and central reference point in the programs of business administration courses of many Italian universities, but it is little known abroad only for a language problem. Indeed all the works of Aldo Amaduzzi were published in the Italian language and have never been translated into English. Until now only a little part of his contributions has been made accessible to international academic community. For example, the paper of Melis (2007) focuses on the early works of Amaduzzi (1947, 1949), especially in relation to his concern with the contents of financial statements.

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It behoves to remember that the mentor of Aldo Amaduzzi was Gino Zappa [1879–1960], who in his turn was the most brilliant disciple of Fabio Besta [1845–1922], theorist of the so-called ‘equity-based accounting system’ (also known as ‘patrimonial or proprietorship or capital system’). Zappa deeply influenced the Italian School because he introduced the so-called ‘income system’, that differed fundamentally from that of Besta (Galassi & Mattessich, 2004). Gino Zappa (1927) founded also a new ‘science’, known as *Economia aziendale* (that is, ‘Business Administration’ or ‘Business Economics’), where the economics of the business entity is understood as complex and multifaceted topic (Canziani, 1994; Galassi, 1980, 1984; Viganò, 1998; Zan, 1994).

These revolutionary aspects explain why much attention has been devoted to Gino Zappa, who undoubtedly dominated the scene (Sergiacomo et al., 2012). The prominent figure of Zappa probably prevented the international appreciation of other Italian scholars, unjustly less well-known abroad (Mattessich, 2008). The current investigation seeks to address the omission of professor Aldo Amaduzzi.

This lack of visibility is regrettable because Aldo Amaduzzi theorised on the ‘system of capital and income’ that is an evolution of the ‘income system’ and it is most widespread accounting system today in national practice (Fiume, 2007). Italian technical colleges for business students also adopt accounting model of Aldo Amaduzzi. Therefore, Professor Aldo Amaduzzi is esteemed one of the ‘fathers’ of accounting studies in Italy and most of his works may be considered as mainstream within the Italian school of accounting (Melis, 2007).

Given the centrality of this scholar, the paper provides an overview of the key points of Amaduzzi’s theoretical model, in the hope that his thinking may be disclosed and appreciated even outside the Italian borders.

Amaduzzi’s interests were wide ranging, embracing financial and managerial accounting, financial statements, planning, governance, variability of production process, etc. Unlike his master Zappa, Amaduzzi dedicated his attention not prevalently to profit-oriented enterprises, but also to consumption entities and public institutions.

The master Amaduzzi wrote approximately 40 books and 100 articles between 1926 and 1991. He was also a remarkable painter and his artistic talent shines through its graphical representations of business activity. Aldo Amaduzzi has had many students who have preserved and developed his theories that currently are taught in major Italian universities.

This paper focuses only on some subjects theorized by Aldo Amaduzzi in the field of business administration and accounting, by reviewing basic concepts the author has discussed into two main volumes, entitled: *L’azienda nel suo sistema e nell’ordine delle sue rilevazioni* (literally translated it means ‘The business system and the order of its recordings’), published as third edition in 1978, and *Il sistema dell’impresa nelle condizioni prospettive del suo equilibrio* (literally translated it means ‘The business system and its equilibrium prospective conditions’), published in 1956. Particularly, the topic discussed here concerns the

representation of business operations that Amaduzzi simultaneously described in graphical, mathematical and accounting way.

After this necessary preliminary remark, the paper proceeds as follows. First, the notion of firm and the links between firm and markets are explained. Second, Amaduzzi's distinctions between financial and economic sectors and between circuits of funding and production are analyzed. Accounting effects of circuits are then illustrated. The final section outlines the conclusions of the study and offers suggestions for further research and widening. The investigation here presented uses an approach predominantly conceptual and qualitative. The analysis is prevalently supported by direct references to Amaduzzi's works.

## 1. The link between firm and markets

The Amaduzzi's theories are based on the systemic and open notion of firm.

Amaduzzi defined the firm ('azienda' in the Italian language) as "an economic institution designed to persist over time. It is considered as a system of 'economic forces', rather than a mass of things and people, that interacts in the production process" (Melis, 2007, p. 58).

In particular, Aldo Amaduzzi conceived the firm as an open system that interacts with the environment. More precisely, the author described the firm "as a system of economic forces, operating in continuous adaptation to the environment" (Amaduzzi, 1948, p. 11). The scholar focused his attention on the impact of internal and external variables on achievement equilibrium, always instable and changeable.

The leading author also devised a kind of 'system methodology' by employing such concepts as system, sub-system and super-system. The diagram in Figure 1 illustrates the links between the producing firm and the markets.

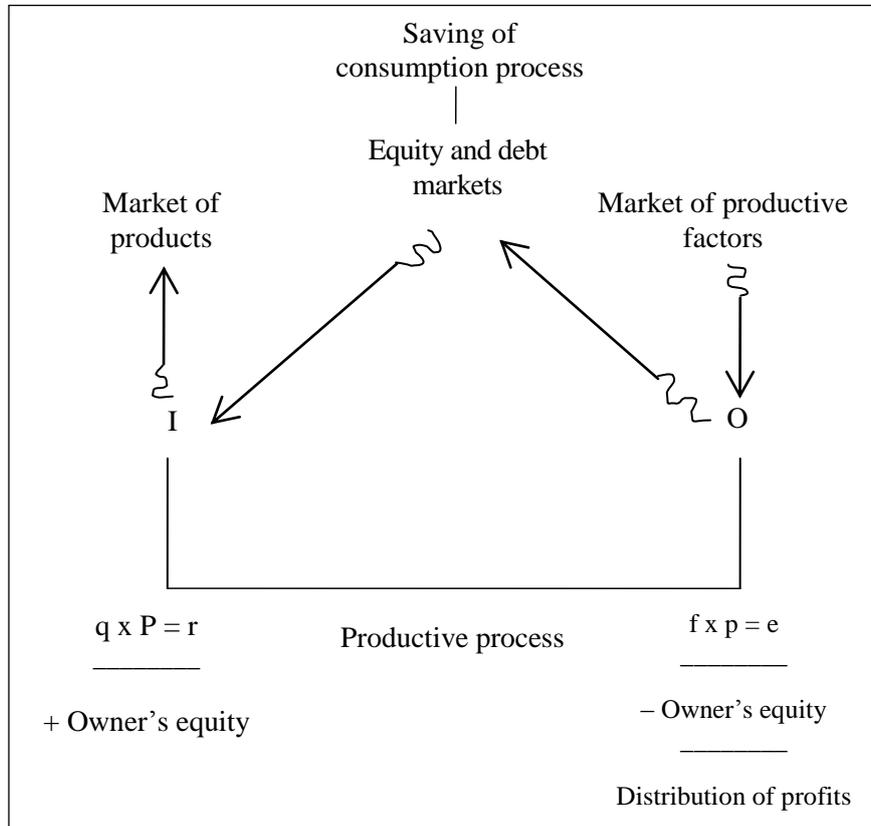
The graph shows three markets:

- 1) the 'equity and debt markets' that are the markets that give equity capital and loan capital. The savings by institutions of private consumption (typically households) converge in this market;
- 2) the 'market of products', where the firm sells its products to entities that use these products as inputs for new productions (other firms) or for consumption (households);
- 3) the 'market of productive factors', where the firm buys the factors and services (including labour) needed for the same firm, thus entering into contact with other firms and with households, whose members provide employment.

The direction of the arrows indicates the ways in which the markets feed the firm and the firm, in its turn, feeds the markets. According to Amaduzzi (1956, 1978) the scheme represented in Figure 1 is intended to indicate that:

- the equity and debt markets feed the firm's production process;
- the firm starts and feeds its production process thanks to the investment of the funds (obtained from equity and debt markets) in the factors of production that the firm buys in proper market (this phase allows selling firms to obtain financial means);

- the firm, once it has made the products, sells them into the market (thus obtaining liquid funds by buyers);
- the firm, once it has obtained liquid funds by means of the first production, invests them in new productions, but also offsets the capital with distribution (total or partial) of profits and returns received sums according to the legal constraints. In this way, the capital, at first poured into the firm, returns then to the market in due course, with due and possible compensation.



**Figure 1. Links between firm and markets**

In the scheme shown by Figure 1, the symbols have the following meaning:

I – financial inflows in a broad sense, as they also include positive movements of all kind of credits and debts;

O – financial outflows in a broad sense, as they also include negative movements of all kind of credits and debts;

f – quantity of production factor;

p – prices at which the firm purchases the factors of production in the markets in which the firm operates;  
 e – expenses, obtained multiplying the quantity of production factors (f) by respective prices (p);  
 q – quantity of products produced and sold;  
 P – prices at which the firm sells products in the markets in which the firm operates;  
 r – revenues from products sold, obtained multiplying the quantity of products sold (q) by respective prices (P).

Beginning from this conceptual framework, Aldo Amaduzzi laid the groundwork for the subsequent development of his theories on conditions of business equilibrium. Particularly, Amaduzzi built a system based on four long term equilibrium conditions, further translated into four short-term conditions. Every condition of equilibrium is expressed by a particular equation.

The four conditions of long term include: economic equation, equation of financial requirements, equation of cash flow, equation of liquid capital. In this paper we report only the formula of the first equation. Particularly, the economic equation, that expresses the long term profitability ( $\alpha$ ), is formulated by Amaduzzi in the following terms:

$$\Sigma (f_n \times p_n) + \alpha = \Sigma (q_n \times P_n)$$

Symbols have the same meaning remembered above, with the addition of ‘n’ as subscript in order to consider the series of the elements (‘n’ stands for ‘number’).

The formula indicates that in long term a firm is profitable when the difference between all revenues and expenses is positive, that is when revenues and expenses associated to the entire life of the firm allow to obtain a positive difference able to meet the expectations of risk capital holders.

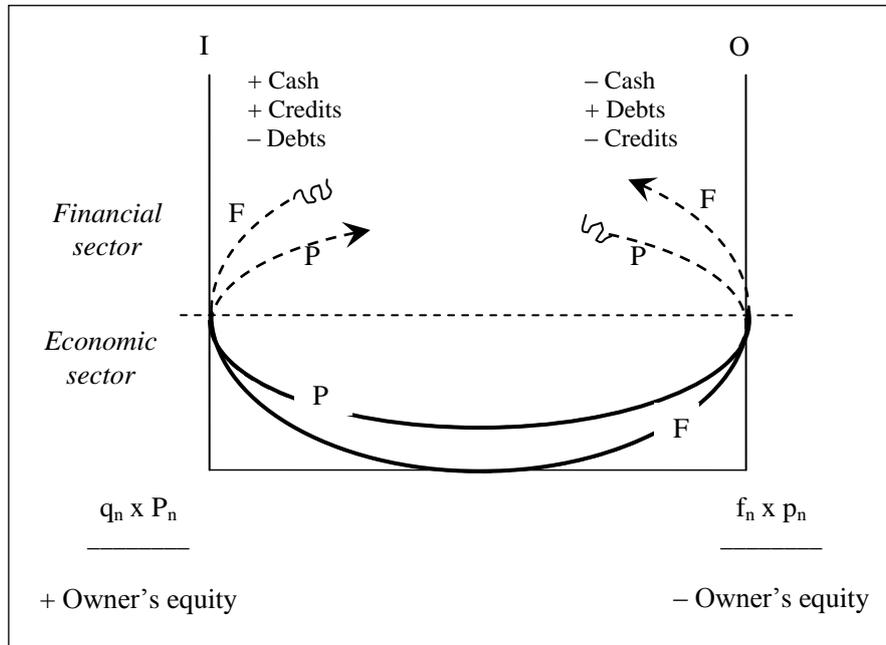
## 2. The sectors and the circuits

If Figure 1 represents activity of firm in a static way, Figure 2 illustrates activity of the firm in a dynamic way and introduces a distinction between ‘financial’ and ‘economic’ sectors of management, as well as between ‘circuit of production’ and ‘circuit of funding’.

Particularly, Amaduzzi defined ‘financial’ the aspect of the management represented by increases or decreases in cash, credits and debts; the same Author defined ‘economic’ the aspects regarding vicissitudes of owner’s equity and performance, obtained as difference between the revenues and expenses of the accounting period in accordance with the realization and matching principles. The realization principle indicates that revenues should be recorded in the accounting records when they are earned, that is when goods are sold or services are rendered to customers. The matching principle indicates that, if the revenues are recognized when they are earned, the expenses are recognized as resources when the resources are used or consumed in producing the related revenue. The matching principle

indicates that expenses should be offset against revenues on the basis of cause and effect. Thus, an expense should be recorded in the period in which the related good or service is consumed in the process of earning revenue.

The owner's equity is increased, if the difference between the revenues and expenses is net income; the owner's equity is decreased, if the difference between the revenues and expenses is net loss. The economic substance of the firm is given by owner's equity, originally invested, increased by earnings (undistributed) or decreased by losses (not covered).



**Figure 2. Circuits of funding and production; financial and economic sectors**

The financial sector is placed at the top of the graph because it is the first aspect that can be observed (original aspect). The financial aspect then allows to measure, as consequence, the economic aspect (derivative aspect). For this reason, the economic sector is placed in the lower part of the graph, as derived by financial sector.

Moreover, Amaduzzi argues that all activity of firm can be analysed through two main circuits: the 'circuit of funding' (F) and the 'circuit of production' (P).

The 'circuit of funding', characterized by counter-clockwise rotation, begins with financial inflows (I), involves economic aspect and, after a certain time, it ends up with the financial outflows (O).

The 'circuit of production', characterized by clockwise rotation, begins with financial outflows (O), involves economic aspect and, after a certain time, ends up with the financial inflows (I).

Each of the two circuits has a dotted line, which concerns the monetary effect of the operation, and a continuous curve, which relates to economic activity.

The 'circuit of funding' and the 'circuit of production' are strictly interdependent. The 'circuit of funding' feeds the 'circuit of production' and, in turn, it is fed from 'circuit of production'. In fact, the 'circuit of funding' feeds the 'circuit of production', which, resorting first to market of productive factors and then to market of products, is able to recover the funds to be returned to the proper market, in addition to compensation.

The real and dynamic life of firm is constituted by a complex sequence of circuits of funding and production.

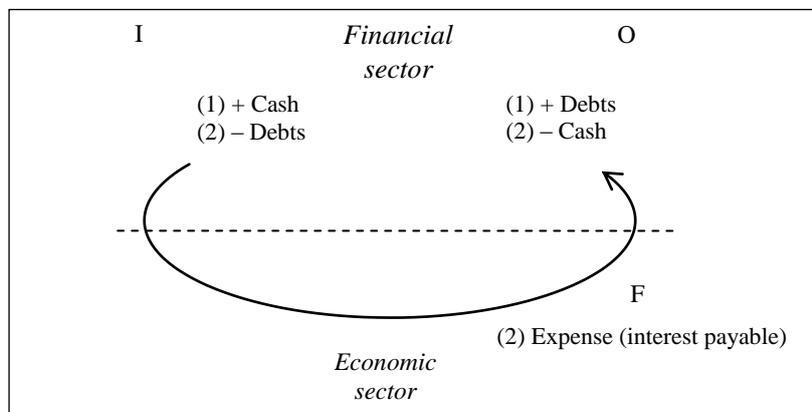
### 3. Accounting information

The framework of Aldo Amaduzzi is very useful to understand double-entry bookkeeping. To explain better this potential, two examples are shown below.

Figure 3 shows some typical entries in relation to the 'circuit of funding' and, more precisely, in the case of a loan.

When the firm borrows a sum of money (entry no. 1), from an accounting standpoint the firm records an increase in cash (+ Cash) and an increase in debts (+ Debts).

When the firm returns the sum borrowed plus interest (entry 2), from an accounting standpoint the firm records a decrease in cash (– Cash), a decrease in debts (– Debts) and an Expense (interest payable).

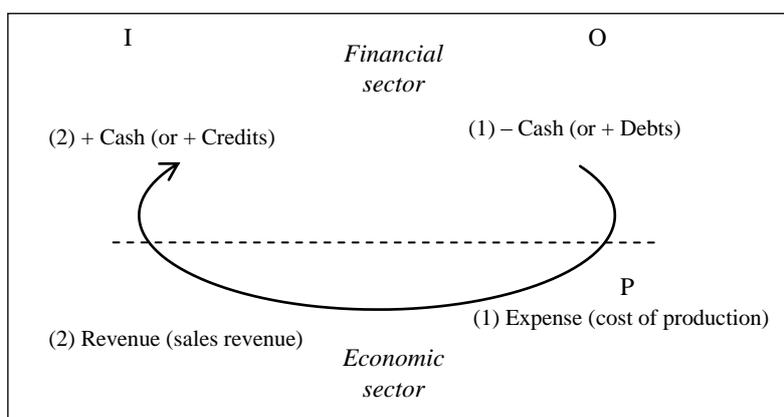


**Figure 3. Circuit of funding and typical entries**

Figure 4 shows some typical entries in relation to the ‘circuit of production’.

When the firm buys factors of production (entry no. 1), from an accounting standpoint the firm records a decrease in cash (– Cash) or, if the payment is not immediate, an increase in debts (+ Debts), and an Expense (cost of production).

When the firm sells products (entry no. 2), from an accounting standpoint the firm records an increase in cash (+ Cash) or, if the collection is not immediate, an increase in credits (+ Credits), and a Revenue (sales revenue).



**Figure 4. Circuit of production and typical entries**

The graphical representation of the operations (shown by Figures 3 and 4) automatically prepares accounting information, on condition that the following rules are taken in account to record variations of transactions in book-keeping:

- financial accounts (that is Cash, Credits, Debts in model of Amaduzzi) are debited (entry on the debit or left-hand side of ledger account) for positive variations (increase in Cash, increase in Credits and decrease in Debts) and are credited (entry on the credit or right-hand side of ledger account) for negative variations (decrease in Cash, decrease in Credits and increase in Debts);

- economic accounts (Revenues, Expenses, Owner’s equity in model of Amaduzzi) are credited (entry on the credit or right-hand side of ledger account) for positive variations (Revenues and increase in Owner’s equity) and are debited (entry on the debit or left-hand side of ledger account) for negative variations (Expenses and decrease in Owner’s equity).

### Conclusions

This paper has attempted to give Aldo Amaduzzi the credit he deserves, presenting some his important ideas to the international community and showing the relevance of his contribution to the evolution of business and accounting studies.

Aldo Amaduzzi has been an important thinker for business administration and a significant innovator in accounting. He had a deep influence on management theory and an unquestionable impact on the improvement of accounting knowledge and practices in Italy.

The eminent Author had the merit of developing a theoretical model which well encapsulates the dynamic complexity of firms.

The value of his model is to describe the operations and conditions of equilibrium in a graph, mathematical and accounting language.

The methodological consistency of its analysis makes his approach valid for scientific and educational purposes.

In an increasingly globalized economy it is important to have a common language of business or, at least, to know the main theoretical models of business administration used in different countries.

The presentation of Amaduzzi's main ideas to an international audience helps to widen knowledge in the scientific community. The comparative perspective contributes to improve the understanding of business phenomena.

In conclusion, the aim of the present paper was to share a theoretical model very appreciated in Italian context, overcoming the language barrier that limits the development of business economics and providing the stimulus to deepen the numerous writings of Italian Master.

Future reflections and investigations on effectiveness and modernity of Aldo Amaduzzi's approach can enrich the discussion and promote an important cultural exchange.

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