

# ΑΡΧΕΙΟΝ ΟΙΚΟΝΟΜΙΚΗΣ ΙΣΤΟΡΙΑΣ

Τόμος VIII Τεύχος 1-2 Ιανουάριος - Δεκέμβριος 1997

# ARCHIVES OF ECONOMIC HISTORY

Volume VIII No 1-2 January - December 1997

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ΑΘΗΝΑΙ - ATHENS, 1997

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## THE EXOCENOUS MONEY SUPPLY ASSUPTION IN MONETARY THEORY AND POLICY\*

SHEILA C. DOW

*University of Stirling*

### 1. Introduction

It is conventional in macroeconomic theory to assume that the domestic supply of money is exogenous. When this assumption is incorporated within general equilibrium models, the money supply becomes exogenous not only in the theoretical sense but also in the causal sense; it is only changes in exogenous variables which can cause motion. But much of the applied monetary literature casts doubt on the realism of the theoretical assumption : either the monetary authorities choose to let the private sector determine the money supply or, more strongly, they are unable to prevent the private sector from doing so. These arguments are independent of the possibility of money supply changes induced by international capital flows. The implication is that the money supply is not exogenous in the control sense. Finally, although the concept of exogeneity has undergone refinement in the econometrics literature, the statistical realism of the money supply exogeneity assumption in macroeconomic theory has not been categorically established, far less its causal role.

Yet general equilibrium macroeconomic theory has generated conclusions which follow from the exogenous money supply assumption and which have been implemented in monetary policy ; in particular the mon-

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\* This paper has benefited from comments from Victoria Chick, George Evans, John Foster, Jim Malley and Rod St. Hill.

etary authorities have explicitly attempted to manipulate the money supply in order to reach inflation targets. The difficulties encountered in putting this policy into practice have reinforced the view that the money supply is endogenous in the control sense, not because the authorities have allowed it to be so, but because it is in the nature of modern banking systems that it be so. This view was put forward by the Governor of the Bank of England (Leigh - Pemberton, 1986) and has been given further authoritative expression by JCR Dow and Saville (1988). Accordingly, the money supply has now given way to the rate of interest and the exchange rate as the declared policy instruments in the UK. Nevertheless, although more general monetary targeting has been abandoned, monetary aggregates are still monitored both as indicators of the tightness of monetary policy and as (causal) indicators of inflationary pressure. Meanwhile a return to monetary targeting is again on the policy agenda and institutional change is planned for Europe to tie monetary policy directly to inflation control. The underlying presumption, that money is at least correlated with inflation, is reinforced by the fact that, throughout, most macroeconomic theorists have persisted in retaining the exogenous money supply assumption, modified only in the case of fixed exchange rates to take account of the effect of changes in foreign exchange reserves.

The issues raised by considering the exogeneity or otherwise of the money supply are complex : the structure and significance of theory, the relationship between theory and policy, and the capacity of statistical techniques to identify exogeneity and, ultimately, causality. The purpose of this paper is to attempt to unravel some of this complexity. This requires semantic discussion with respect to the terms 'exogeneity', 'endogeneity' and 'money supply', in the next section within the context of theory, then in section three within the context of policy. In the fourth section, recent developments in econometrics are considered for the light they can shed on the matter. The fifth section represents an attempt to understand the theoretical compulsion to persist in assuming the money supply to be exogenous when the applied literature suggests that it is not. The penultimate section considers the current relevance of the persistence of the exogenous money supply assumption.

## 2. Exogeneity, endogeneity and the money supply : A semantic discussion

Exogenous' and 'endogenous' in their dictionary sense, signify growing from the outside, and growing from within, respectively; the important question for the economic use of the terms is outside what, and within what? The answer is more straightforward for theory than for practice, so we deal with that first. Within a theoretical system the values of some variables fully or determine the values of other variables; the system may be expressed formally or informally. The determining variables which have their own values determined outside the theory's system are the exogenous variables. In the reduced form of the theory, the variables whose values are determined by the exogenous variables are the endogenous variables. (This relationship may be made more complex by the inclusion in the system of predetermined and expected values of endogenous variables.) Thus the theoretical system itself entails in its own specification which variables are exogenous and which endogenous; the allocation of variables between the two depends on what the theory is and is not intended to explain (see Chick, 1973, chap 5 and Dow, 1988a).

The causal role of exogenous variables depends on the type of theoretical structure of which they are a part; the crucial distinction is between general and partial theoretical systems, where general systems are closed and partial systems are open. The type of theoretical system in which the assumption of a exogenous money supply predominates is the closed general system of general equilibrium theory. Here the classification of variables as endogenous or exogenous is mutually exclusive and has universal application within the body of theory, ie it is dualistic. Exogenous variables are causal in the narrow sense that, for a given theoretical, structure, and aside from stochastic elements, endogenous variables can change if and only if exogenous variables change. VAR system deliberately avoid specifying exogenous variables other than predetermined values of endogenous variables, so that motion can only arise from shocks or perturbations to error terms; but then these become the exogenous elements in the system. General equilibrium theory, rather, is constructed as a complete formal deductive system built on a set of axioms. Yet the aim here too is to endogenise as many variables as possible so that they can be derived

ultimately from the axioms. Only those variables which cannot be so derived remain defined as exogenous. It is thus almost by default that these variables acquire their causal role. (See Dow, 1985, chap 3 and Dow, 1990b for elaborations of these points). Further this causality refers to the theory (which is simultaneous) but not necessarily to the reality it is designed to represent (which evolves in historical time by means of causal processes).

With open partial theoretical systems, endogeneity and exogeneity are not dualistic categories, and exogeneity accordingly loses its uniquely causal role. A theory which attempts to explain only part of the economic system must, like a general theory, classify variables according to whether or not they are to be explained. Thus as far as that theory is concerned there are exogenous variables, of which the money supply could be one. But the exogenous variables may well be endogenous theory. So, while they may play a causal role in one part of the system, they may in turn be explained in another part of the system. (Thus, for example, the money supply may be explained by a labour market analysis combined with an institutional analysis of bank behaviour.) Further, since it is processes, rather than some ultimate exogenous variables, which produce motion in the system, endogenous variables even within partial systems are also regarded as causal. Indeed, if processes are regarded as evolutionally over time, then they may that different variables will be chosen as exogenous for analysing different historical periods. Thus, the money supply may be exogenous in a partial system applied to one period, but endogenous when applied to another (see Chick, 1986 and Desai, 1987). There is then a symbiosis between the partial and historical approaches.

A general system approach would attempt to combine partial systems in order to integrate the various interdependencies between variables and, as a by-product, identify those variables which remain independent, ie exogenous. But outside general equilibrium theory there is a deliberate adoption of the partial approach as an alternative way of dealing with the the complexities of economic systems. The general, interdependent system is deliberately partitioned for the purposes of theorising, in order to identify causal processes. In particular, this alternative approach, which is exemplified by Keynes's work, includes a recognition of the limitations to formalism. Thus different parts of the economic system are more amenable to study by formal methods than others. Accordingly, a variable

may be exogenous within one partial theoretical system expressed in formal terms. But its value may be explained in another system by means of other methods. Thus, for example, institutional analysis of banking (such as Radcliffe, 1957, chapter 6) concluded that monetary controls induce innovation long before the lengthy formal analysis surrounding ‘the case of the missing money’ arrived at the same conclusion (see Goldfeld, 1976).

Although general equilibrium theory clearly identifies causal variables, it is inhibited from fully dealing with causal processes by the requirements of formal axiomatic theoretical structures : for example, it is difficult to incorporate indeterminate, irreversible evolution of behaviour and institutions on the basis of the axioms of rational individual behaviour (see Hodgson, 1988). Identification of causal of this kind (rather than causal variables) requires its own major simplifications : in particular, by deliberately not aiming to explain the values of all economic variables simultaneously. The system is segmented as an abstraction arrived at by isolating particular possible causal processes for attention.

It is notable, for example, that Keynes offered no definitive conclusions as to ‘ultimate’ independent variables. Keynes’s treatment of the money supply in the **General Theory** provides a good example. Thus, in summarising the argument so far, in chapter 18, he states:

*"we can sometimes regard our ultimate independent variable as consisting of (1) the three fundamental psychological factors ... (2) the wage-unit ... and (3) the quantity of money as determined by the action of the central bank... But these again would be capable of being subjected to further analysis, and are not, so to speak, our ultimate atomic independent variables".*

(Keynes, 1973a, pp. 246-7)

Keynes drew the distinction between ‘given factors’ which may be treated as fixed, and ‘independent variables’ in which the changes are found in practice to exercise a dominant influence on our **quaesitum**. (Keynes, 1936, p. 247). While the distinction cannot, he argued, be established in any absolute sense, the ‘present object is to discover ... the factors whose changes **mainly** determine our **quaesitum**. Keynes’ realism, in the sense of his desire to make assumptions which are abstractions rather than fictions (see Lawson 1989), is evident in the conclusion to this passage:

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*“Our final task might be to select those variables which can be deliberately controlled or managed by central authority in the kind of system in which we actually live”.*

(Keynes, 1973a, p. 247)

Keynes thus chose to treat the money supply as exogenous in the **General Theory** as an abstraction from the possibilities for monetary policy at that time. He was well aware of the processes by which the banks actually determine the money supply (see Keynes, 1971 and 1973b, pp. 215-23). It is unlikely that he would regard the abstraction as appropriate under modern monetary policy conditions given the realist criterion quoted above.

Friedman (1953) sparked of the realism of assumptions debate by arguing that successful theories (defined as theories which predict well) generally have unrealistic assumptions. Predictive success of the monetarist model, then, indicated nothing about the accuracy of the exogenous money supply assumption; a strong correlation between the money supply and nominal income neither confirmed nor denied the realism of the assumptions. (See Caldwell, 1984, chapters 3 and 4 for a flavour of the ensuing debate). In contrast, the realist approach to theorising (see Lawson, 1989a), concerns itself with causal processes; while prediction is an important goal along with explanation, the prediction refers to tendencies of processes rather than prediction of events (like the precise change in the rate of inflation in a particular period). It is important then that the assumptions are chosen carefully to conform with stylised facts about the process, while abstracting necessarily from the detail. (See Lawson, 1989b).

Theory partitions reality into subsystems. But ultimately it is hard to deny the possibility that all reality is in some sense interconnected and thus endogenous; only Acts of God can be appealed to for evidence of exogeneity. (Monetary theory is full of imagery which attempts to portray a money supply increase as an Act of God : Hume’s miracle is easier to accept in these terms than Friedman’s helicopter; see Clayton **et al**, 1971, p. 6). But we are rescued up to a point from the circularity of interdependence by historical time; the relative absence of exogenous variables is only a problem for simultaneous theoretical system. As soon as we allow for the passage of time, the possibility opens up that the past can be regarded as exogenous to the present, ie recourse may be made to predetermined variables. In the particular case of the monetary system, past expe-

rience with the system, and particularly with the behaviour of the central monetary authority, can be said to provide the exogeneity or outsideness necessary to the continued successful functioning of the financial system. (See Chick, 1973, chap 5.) Kaldor (1982) is noted for arguing that the responsiveness of the monetary authorities in accommodating bank's demand for reserves underwrites the necessary confidence in the entire banking system. In other words, past experience of money supply endogeneity provides the necessary exogenous element in the monetary system in subsequent periods.

Following this line of reasoning, the most straightforward way in which theory can partition reality for the purposes of considering the exogenous money supply definition is to distinguish between the public and private sectors. Then the question of the exogeneity of the money supply by a particular definition becomes a straightforward one : in spite of all the interdependencies in the economy as a whole, can the monetary authorities control the money supply? Regardless of his stated views on realism of assumptions, Friedman (1968, 1980) made clear his perception of the potential, if not actual, controllability by the monetary authorities. Yet the impact of the literature investigating the institutional feasibility of money supply control is heavily weighted towards the view that the money supply is not controllable, ie that the money supply is endogenously determined within the private sector, albeit influenced by the monetary authorities. The disparity between these views has profound implications for monetary policy, to be considered in the next section.

### **3. The money supply as a policy variable**

The application of economic theory to policy provides one test of the usefulness of theoretical abstraction. The assumption of an exogenous money supply in the control sense has a long-standing history in modern macroeconomics. Both Keynes and the Chicago School of the 1940s discussed the feasibility of using expansionary policy to reduce unemployment (see Walker, 1989 and Tavlas, 1977). But it was Friedman (1960) who first gave that assumption policy significance in the modern era respect to controlling inflation. At no time has Friedman questioned the fea-

sibility of holding growth in the money stock at a steady rate. Rather his argument was directed at the aim of monetary control. He argued that the monetary authorities had in the past manipulated the money stock as part of a misguided stabilisation policy; the result however had been increased instability and rising inflation. The period in which he judged the money stock in the US to have been mismanaged (from 1919 to the 1960s) did not involve any monetary targeting as we now know it. In general, interest rates were, if anything, the consciously manipulated policy variable; money stock changes were simply by-products. But Friedman presumes that monetary authorities can have a marked impact on the money stock. In his comments on the UK debate over monetary base control, Friedman (1980) argues that the most efficient mechanism of monetary control is control of the money base. The subsequent failure of the Bank of England to meet its monetary targets, then, simply reflected the failure to employ the most efficient means of doing so (Friedman, 1983, pp. 13-5).

There is now a well-developed literature elaborating the argument that monetary authorities in general cannot directly control monetary aggregates. Some of the literature pre-dates attempts to do so (like Radcliffe, 1959). But more recent studies explicitly address the failure to control monetary aggregates even when this is the stated goal of monetary policy (see Wojnilower, 1980, 1989 and Wray, 1990, on the US experience and J.C.R. Dow and Saville, 1988, Arestis and Driver, 1988, and Foster, 1992 on the UK experience). Abstracting from the detail on particular instruments of control in particular institutional structures, the argument that the money supply is not ultimately controllable regardless of political will refers to causal processes and to the institutional structure of capitalist economies.

First it is argued that Friedman has reversed the causal process by starting comparative static exercises with a hypothesised excess supply of money. Yet in general it is not clear how such an excess could arise, since money is not normally created without a (initial at least) willingness to hold it. A windfall income gain financed by printing money is extremely unusual, and even then usually the result of timing problems with respect to international payments, or government revenue and expenditure. The money supply can normally only increase in response to some other change. The closest to the monetarist account would be an exogenous change in the monetary authorities' discount rate; but even then the effect

on the money stock is not a deterministic one. Similarly, an open market purchase or sale can only occur with the accompaniment of a change in interest rate, but the required change depends on current market conditions, and the money supply outcome cannot be predicted with full confidence.

Second, even if the money base could be controlled, and monetary aggregates were a stable multiple of this base, such control can only be achieved at the cost either of enhancing the money-ness of other assets outside these aggregates (and thus defeating the object of monetary control), or of bringing about collapse of the financial system. The first danger is encapsulated in Goodhart's Law, that financial innovation allows demand for credit to evade monetary controls specified in terms of only one type of credit. The second draws on Kaldor's argument that modern financial systems function successfully precisely because they facilitate the expansion of credit relative to aggregate demand. This argument shares with Friedman a concern for the dangers of financial instability. But in contrast to Friedman it is argued that it is attempts at monetary base control which pose the greatest risk of instability.

Endogenous money supply theory has been most forcefully expressed (by Kaldor 1982, and Moore, 1989), in its 'horizontalist' form, as a theory of complete accommodation of the demand for credit at an interest rate established by the central monetary authority. Their contributions are based on a rich understanding of the money supply process. On the face of it, it would seem that horizontalism could be incorporated in existing models by replacing the money supply by the short-term interest rate as the relevant exogenous variable for policy purposes. This would appear to represent a theoretical advance, in that it mirrors the pattern of thinking in policy circles following the apparent failure of attempts to control monetary aggregates. The implication might be drawn that aggregate demand, and thus inflation, may be manipulated by interest rate control.

But this line of reasoning must be qualified in three respects. First, it is not the case that all credit demand is met at a going interest rate. Only demand perceived to be credit worthy is met. The credit-rationing literature (see Fazzari et al, 1988, for a review) focuses on micro (unsystematic) risk. But the banks' perceptions of what is credit-rationing literature (see Fazzari et al, 1988, for a review) focuses on micro (unsystematic) risk. But the bank's perceptions of what is credit-worthy also depend on mac-

roeconomic conditions (systemic risk) and on their own liquidity-preference. The banks' supply of credit can thus be seen to vary procyclically (see Minsky, 1976, Dow, 1986-87, Dow and Dow, 1989). Indeed, Chick (1986, 1988 and forthcoming) argues that bank credit is becoming progressively supply driven; the attendant increase in credit to finance speculative behaviour and the increasing tendency of firms to internalise financial services is now weakening the link between aggregate bank credit and the cycle in economic activity.

Second, there is considerable evidence that investment and consumption spending, and the demand for credit, are not directly sensitive to interest rates on new loans. The impact of interest rates is felt more on disposable income, where interest earnings on savings are variable, and where loans already contracted bear variable interest charges; for consumer spending, mortgage interest rates are the most significant. Demand management by interest rate control is thus a blunt instrument, with marked distributional implications which differ from the conventional account of the effect being felt primarily through new borrowing. Indeed, the consequences of high interest rates may be increased (distress) borrowing, as experienced in the UK in the early 1980s. Minsky (1982) provides an analysis of the differing impact of interest rate changes as the financial structure of firms changes over the cycle.

But, finally, the monetary authorities' capacity to influence market rates of interest is not unlimited. Financial innovation can operate to avoid high-interest sources of credit. But even more powerful is the interdependence of international financial markets in constraining the scope for independent interest rate policy, which precludes control over domestic interest rates. Any attempt to change domestic interest rates has an impact on the money supply if exchange rates are fixed, or else on the exchange rate itself. Conventional models incorporate this impact deterministically. Yet in practise institutional impediments, exchange rate expectations formed under conditions of uncertainty and bank lending behaviour render the relationships much less deterministic (see for example Wihlborg et al, 1991). Were this not so, there would be little need for further measures in Europe to liberalise capital markets and change monetary policy arrangements within Europe in order to achieve monetary integration.

Thus, although the interest rate appears to be a preferable policy tool

compared with the money supply, it is not clear that replacing the money supply by the interest rate as the exogenous monetary variable in a general equilibrium system would provide an adequate foundation for conclusions with respect to monetary policy. A less ambitious but more realist approach would recognise the complexity of the causal processes into which the monetary authority interjects its influence and regard exogeneity, where it is employed for theoretical purposes, as a partial rather than a general concept. (This approach was advocated by Radcliffe, 1959 and J.C.R. Dow and Saville, 1988.)

The implications for macro-modelling are quite extensive. If theory is to generate useful conclusions with respect to monetary policy, it should explicitly explain the process by which the money supply and/or interest rates are generated, and the routes of influence available to the monetary authorities, rather than relegating them to a black box. The demand for and supply of credit and liquidity preference require explicit attention to explain private sector financial conditions, and the interdependence of these conditions with economic activity. However, it is not altogether clear how far such a project is compatible with general equilibrium theorising (see Dow, 1988b).

#### **4. The econometric identification of exogeneity**

The correspondence between theory and reality is the subject-matter of econometrics, and it might be hoped that econometrics could settle the issue of whether or not it is reasonable to adopt an exogenous money supply assumption. Indeed some important developments have been addressed to the issue of identifying exogeneity.

The rise of monetarist models which brought the exogenous money supply assumption to prominence coincided with the Cowles Commission approach to econometrics. According to this approach, the selection of exogenous and endogenous variables stems from theory; econometric testing is applied to the relationship between those variables, not their prior classification. From this period arose what seems simply to have become a habit, of classifying the money supply as an exogenous variable.

The specific application of this approach to monetarist models sparked

off a debate as to the direction of causation between the money supply and nominal income (see Desai, 1981). Friedman and Schwartz's (1963a) historical study indicated that the relationship between money and money income ran in both directions. But subsequently, Friedman (1971) changed to an assumption of money supply exogeneity, which he claimed could be established by reduced form equations tested over long periods (see also Johnson, 1975 and Fisher and Sheppard, 1974). Granger (1969) accordingly developed a particular econometric set of criteria for causality which were subsequently refined by Sims (1972). These criteria were based on the principle that the future cannot cause the past. Granger-causality in fact simply means predictability; it does not preclude the possibility of a common cause; planned spending for example may be said to cause the increase in the money supply which precedes the increase in retail sales at Christmas. (See Davidson and Weintraub, 1973, for an elaboration of this argument.) Further, the causal process may crucially include an omitted variable, so that the assignment of causality may similarly be incorrect. The Granger approach does however allow for some identification of processes which are Granger-causal, in that he specified the conditions for feedback between the dependent and independent variables. While the early results supported the interpretation that the money supply is Granger-causal, later work based on a four-variable model suggested rather that the money supply is Granger-caused by interest rate (see Sims, 1980).

Subsequent developments in econometrics were addressed directly to the question of exogeneity. Engle, Hendry and Richard (1983) developed a classification system which distinguished between three types of exogeneity. In the bi-variate case, weak exogeneity requires that the independent variable can be treated as fixed, even if it is generated by a stochastic process. Although it is difficult to test for weak exogeneity, it is regarded by many as a necessary condition for unbiased estimation, ie it is an internal requirement of econometric theory, rather than a requirement stemming from questions of realism of exogeneity assumptions.

Strong exogeneity in addition requires that there be no feedback from the error term to future values of the independent variable. In terms of the money supply, if credit (and thus the money supply) grows in response to inflation, then the money supply is not strongly exogenous with respect to the price level. (This could be explained either by an in-

ability of the monetary authorities to control the money supply, or by a positive decision to accommodate inflation.)

Superexogeneity requires both weak exogeneity, and an absence of feedback between the independent variable and the coefficients. In terms of the money supply, this requires that changes in the money supply do not change behaviour or institutional structure, ie that they do not induce a change in preferences, or expectations, or financial innovation. In other words, the demand for money must be stable in the face of supply changes. If superexogeneity is satisfied, then so is the Lucas critique (Lucas, 1976). From the rational expectations perspective, Lucas had pointed out that behaviour might adapt to expectations changing as a direct result of monetary policy changes. Rational expectations models internalise these expectational changes, implying a justification for retaining the money supply exogeneity assumption. But other sources of behavioural and institutional change are not addressed. Laidler (1989, pp. 157-8) argues that the Lucas critique has accounted for the impossibility so far of demonstrating empirically the existence of a structurally stable transmission mechanism between money and income.

Cointegration techniques have been developed to identify sources of instability in the demand for money function; it is possible to interpret breaks in the function as episodes of financial innovation following discrete interest rate changes. Combined with VAR models which start with no priors at all as to exogeneity, there appears to be some scope for further refining our empirical identification of the interrelationships between monetary policy, the demand for money, and other variables. But all major contributors to the literature on exogeneity in econometrics are quite explicit that exogeneity in econometric terms does not prove anything about causality in the sense of causal processes. As in closed-system theory, so in econometrics, 'causal' takes on a special narrow meaning.

While the question of exogeneity has become a major focus of the econometric literature, the continued practise of treating the money supply as exogenous has not been justified econometrically; the main focus as far as money is concerned has been on determinants of demand (see for example Hendry and Ericsson, 1991). This is important for assessing the monetarist transmission mechanism, but not address the exogenous money supply assumption itself. (These exercises too have been fraught by debates over the specification of the demand for money function, provoked

partly by its recent instability; see Goodhart, 1991.) There has nevertheless been a series of studies demonstrating that the money supply is endogenously determined through the demand for or supply of credit (see Arestis and Driver, 1988, Forman, Groves and Eichner, 1985 and Moore, 1988 and Foster, 1992). The focus has been on establishing the direction of causation, which cannot in fact be done categorically using empirical techniques (see Wray, 1990, chapter 8). Further these studies suppress the demand for money; the Cooley and LeRoy (1981) problem remains as to how to identify the demand and supply functions if both are endogenous, responding to common factors.

Finally, a question which has not been adequately addressed is the particular definition of money to be employed in econometric estimation. The theoretical definition of money is an asset which has certain attributes, but the identification of an empirical counterpart is potentially problematic, and yet crucially important (see Gilbert, 1953, for an early treatment and Davidson, 1977). The most extreme position is taken by neo-Austrians, who claim that a macroeconomic aggregate like the money supply has no meaning and in any case no empirical counterpart, since it is the summation of subjective individual perception of potential for exchange. Hayek (1972) was particularly critical on these ground of Keynes's use of aggregate concepts, and the presumption that there were simple and constant functional relationships between them. (Keynes in fact was acutely aware of the dangers in econometrics of assuming fixity of structure; see his references to Tinbergen's work, Keynes, 1973b, pp 306-20.) A less extreme position than that of the neo-Austrians was taken by Radcliffe (1959), that the operative variable was the total of liquidity, which was meaningful, but nevertheless could not be defined in terms of an empirical counterpart. In practice, the money supply has been identified by a wide range of measures designed to provide an empirical counterpart to the theoretical definition but which require frequent review and revision.

One approach, then, would be to select the empirical money supply variable considered to conform most closely to the theoretical requirements and discuss its exogeneity or endogeneity both in theory and statistically. The money supply may be theoretically exogenous, in the sense of being controllable in principle, while being identified (insofar as this is possible) as statistically endogenous because the monetary authorities choose to follow feedback rules in money supply determination (see

Rousseas, 1986, chap. 3). The other approach is to identify an empirical counterpart which shows the money supply to be exogenous (necessarily in a statistical sense), ie to give priority to the exogeneity of the money supply as a theoretical requirement. It is the latter approach which has predominated in the general equilibrium literature (see Laidler, 1969). Friedman does weakly justify money supply exogeneity theoretically by arguing that there are technical, political and psychological conditions which make the money supply independent of the demand for money (Friedman, 1969, pp 109-10). But, in his empirical work, he chooses the empirical counterpart which exhibits the most exogeneity.

The econometrics literature has thus taken the lead in selecting money supply definitions which might conform with a structurally-stable money-income relationship. Policy-makers have accordingly adopted their choice of target monetary aggregates. But the failure even then to find relationships which were robust under an active monetary policy regime has been instrumental in the abandonment of monetary targetting.

## 5. The exogenous money supply assumption

Meanwhile, most macroeconomic theorists persist with the exogenous money supply assumption, frequently without specifying which definition of money is being employed. Why should the money supply have persisted for such a long time as a key exogenous variable in general equilibrium theory? Given the aim of endogenising as much as possible, and given the evidence of private sector determination of money supply creation, the persistence of the assumption is remarkable. While Tobin (1963) constructed an influential argument for the bank multiplier to be a function of the rate of interest, it has not impinged on the exogenous money supply assumption.

It would seem that the interest rate would have provided a natural substitute as the appropriate exogenous variable; it is more directly under the control of monetary authorities than the money supply. Indeed Poole (1970) initiated a discussion of the relative merits of the money supply and the interest rate as alternative policy instruments in terms of the relative size of the variance of random shocks to the IS and LM curves. Simi-

lar reasoning has been applied to basing the choice of instrument on a trade-off between output and price variability in a rational expectations framework (see Taylor, 1975).

But criteria internal to general equilibrium theory preclude this option. Sargent and Wallace (1975) for example demonstrate that the price level is indeterminate in a rational expectations model with an interest rate rule. More generally, fixing a price (the interest rate) precludes the market for loanable funds from clearing. Open economy macro models are forced to recognise the implications of capital mobility for interest rates; as a result the exogeneity of the world interest rate must be incorporated. But then the clearing of the loanable funds market must occur at the global level, with international capital flows meeting national saving and investment at the world interest rate. The interest rate is thus not available as a policy tool either because of international capital mobility, or else because it would create excess demand or supply in the domestic loanable funds market which could not be satisfied by international capital flows. A fixed domestic interest rate is thus unsustainable within a general equilibrium framework.

Within a general equilibrium system, the identification of a variable as exogenous is potentially extremely important, even if that identification is seen simply as a failure to endogenise, because of the causal role thus ascribed to exogeneity. Temporary equilibrium theory can generate perpetual motion in the system as exogenous changes in information arise with the passage of time (in the absence of complete futures markets). But the result is not systematic motion as displayed in the business cycle, or secular changes in the rate of inflation, for example. Now the business cycle is predominantly explained by the repercussions of real shocks or misinformation. (Gordon, 1984, for example, explains apparent instability in the money market in terms of real supply shocks.) But for a significant period, changes in the money supply were identified as the shocks which caused business cycles (see Friedman and Schwartz, 1963b) as well as inflation.

The money supply exogeneity assumption was necessary for this latter view to make money a causal variable. But exogeneity is not sufficient for significant causality; the variable must in turn have a stable relationship with the dependent variables, ie there must be a transmission mechanism. Thus of equal importance was the monetarist theory of a stable (or

predictable) demand for money. This potentially further complicated the issue of the empirical counterpart of the theoretical money supply (see Laidler, 1969).

Logical contradictions persisted : as Hicks (1939) had demonstrated, the stock demand for money for transaction purposes was ill-conceived (see Chick, 1981 and 1990). Tobin's (1958) attempt to reformulate Keynes's speculative demand such that it could be incorporated into a general equilibrium framework likewise cannot logically be sustained (see Chick, 1983, pp. 213-8). Hahn (1983, p. 1) has concluded that general equilibrium theory 'cannot find room for' money. Laidler (1988) has since invoked market imperfections and the resulting precautionary demand for money to rescue money's significance in a general equilibrium framework. Yet the stable demand for money function has persisted regardless of a lack of internal logic (or empirical confirmation), along with the exogenous money stock assumption.

These assumptions were retained by rational expectation theorists. Indeed the most powerful early result was the policy impotence result : given a stable demand for money, the monetary authorities could not instigate significant short-run deviations of unemployment from the natural rate by means of exogenous money supply changes; these would simply be transmitted directly into corresponding changes in price and money wage levels. Meanwhile, monetarists had adjusted the policy implications of their theory in the light of the capacity of markets to change the money-ness of assets in order to evade an activist monetary policy specified in terms of a particular definition of money. While it was then legitimate to continue to refer to 'money' in theory, there was no point in specifying policy in terms of particular monetary aggregates.

The resulting diversion of attention from the money supply was reinforced by the refinement of the REH, particularly in terms of microfoundations, which pointed to the likelihood of multiple equilibria which in turn reduced the scope for general macroeconomic proposition. Further, the extension of the particular REH rationality assumption to the public sector (see Barro, 1984) implies that, whatever the money supply is, it is established 'rationally'; yet, in spite of the emergence of public choice theory no satisfactory theory has emerged to explain what that means. Further, if rational behaviour would be to adopt a reaction function, then the money supply would be endogenous. Yet, still, even in rational expect-

tations models, it is conventional to treat the money supply as exogenous. Just as in monetarist models, the money supply still plays a causal theoretical role, if only in determining the price level, despite the fact that a statistical or policy rationale is lacking. The justification must remain as the internal logical requirements of general equilibrium macro-modelling.

The exogenous money supply assumption has not always characterised mainstream theory. Wray (1990, vii-viii) for example demonstrates that, in the classical period, a perception of the endogeneity of the money supply was quite common. Before the emergence of all-embracing general equilibrium formal systems, in any case, theoretical exogeneity would only apply within partial systems and accordingly had much less force. But it is noticeable that the recent period of attempts to exogenise the money supply through monetarist policies coincides with the domination of theory by general equilibrium models incorporating an exogenous money supply assumption.

The current state of mainstream macroeconomic theory can thus be characterised by the retention of the exogenous money supply assumption because of theoretical imperatives, but a much reduced willingness to use that assumption to explain the business cycle or as a basis for monetary policy prescription. This follows the increasing recognition of money supply endogeneity in practice, and from unresolved disputes with respect to the demand for money function. Unfortunately, along with this goes an inability to use the monetary sector in explanations of economic processes or to make monetary policy recommendations (see Goodhart, 1991).

Two choices seem to be available. One is to judge that the benefits of general equilibrium theorising outweigh its weak treatment of the monetary sector, and to observe modesty with respect to monetary policy prescription. The other is to adopt a partial, open system approach to theorising which opens up (among other things) the possibility of incorporating money supply endogeneity; this would allow money to enter (partially into the explanation of cycles and inflation and would also allow recommendations for monetary policy.

In their influential macroeconomics textbook, Blanchard and Fischer (1989, pp. 478-89) discuss in some detail the possibility of money supply endogeneity, and indeed the fact that, because of credit rationing, 'the interest rate is not a reliable indicator of the impact of financial variables on aggregate demand'. (Blanchard and Fischer, 1989, p. 479). Yet they

proceed elsewhere in the text to discuss monetary policy in terms simply of control of the money supply, on the monetary sector will be incorporated in general equilibrium theory). The criteria by which Blanchard and Fischer judge alternative theories to be well enough developed are naturally the criteria of the closed general equilibrium system and all that entails; this does not preclude the possibility that alternative theories are already well developed by the criteria of partial equilibrium, open theoretical systems (see for example Davidson, 1972, Earl 1990 and Wray, 1990). In any case, when it comes to pressing policy issues, policy-makers only have access to such theory as is available. The choice of theoretical treatment of the monetary sector has particular bearing on the question of European Monetary Unification; we address this issue in the next section.

## 6. The case of european monetary unification

We have been considering so far the situation in which the money supply is generally agreed to be generated endogenously as part of the inflationary process; monetary policy takes the form of manipulation of the nominal interest rate in response to monetary signals of changes in the inflation process. Insofar as inflation is not seen as caused purely by monetary factors, monetary policy is only one part of anti-inflation policy. The discussion so far has thus focused on the question of whether representing monetary policy by money supply control as a proxy for interest rate control, in models where long-run inflation is represented as a purely monetary phenomenon, is acceptable.

European Monetary Unification (EMU) changes the nature of the question. The proposals for European Monetary Unification involve the setting up of an independent European Central Bank (ECB) with the primary goal of controlling inflation. This design mirrors key features of textbook macroeconomic models: the separability of monetary policy from other areas of policy, the capacity for monetary control, and a causal relationship (however indirect) between money and inflation. EMU is thus intended to change reality from a situation in which monetary control to one in which it can. Curry (1992) highlights the change in likely of policy shocks, and the issue of policy credibility, as the key features of this

institutional change. No change is perceived in the underlying process; far from considering a change from money supply endogeneity to exogeneity, and from non-monetary inflation to monetary inflation, the whole issue is evaded in some models by the assumption that the inflation rate itself is the instrument of monetary policy, with or without EMU (see for example Curry, Levine and Pearlman, 1992).

Curry (1992, p. 252) suggests that 'economics has most to offer in analysing the steady state, systemic properties of regimes, rather than regime changes, as a result of deliberate choice of methodology. But we are contemplating here a change of regime which it is hoped will increase the capacity for monetary policy to control inflation. Some approaches to economics choose a methodology which focuses on evolution of process, and are thus better equipped to consider whether this would be the likery result. Much of this literature would suggest on theoretical grounds that the ECB could not control monetary aggregates and in turn inflation. The empirical literature has not been able to settle the issue; Laidler's (1989) optimism that it can do so is unsubstantiated.

First, the endogenous money literature suggest that the volume and distribution of credit is increasingly determined by the private sector (capital adequacy ratios throw the ultimate responsibility on the stock market); there is nothing in the design of the ECB to alter that situation. Second, the interest rate does not seem to be an adequate proxy, in that its relationship with monetary aggregates is not in general stable (see Goodhart, 1991). Third, the direction of causation between monetary aggregates and inflation has not been established. Even in Germany it is not impossible that it is low inflation which has kept growth of monetary aggregates low; the reputation of the Bundesbank may well have helped to keep inflation low, but that does not mean that, if inflationary processes gain force, the Bundesbank could necessarily contro them. If the ECB were to start off with high credibility as an inflation-control device then that might successfully control inflationary processes (and thus monetary aggregates). But credibility, *if* it were based on a falsehood, would be a flimsy basis on which to rely; one serious non-monetary inflation might be sufficient to destory that credibility.

The grounds for assuming that the ECB could control monetary aggregates and inflation are open to question; the policy debate is incomplete if the contrary is simply assumed to be the case. For example, if nominal in-

come is only partially influenced by interest rate policy, then it is important to consider the other influences and how they will be affected by European integration. In particular, it may be important to consider financial structure. The nature, degree and consequences of credit rationing vary between countries because of differing regulatory and behavioural environments. The macroeconomic significance of these factors has been persuasively established by Davis (1993); he demonstrates for example the greater propensity for financial instability in Britain than in Germany. These differences would persist under EMU, since the ECB's activities are in effect to be restricted to money supply or interest rate control. The impact of European monetary policy on different member countries would vary with financial structure. These differences would compound the differential impact of monetary policy for reasons already well-rehearsed in the regional economics literature (see for example Dow, 1990a, pp. 130-8).

Second, if monetary variable only impinge partially on the inflationary process, it may not be advisable to introduce an institutional divide between monetary policy and other elements of policy. While it has been argued in the literature that central bank independence would ensure a more single-minded resolve to control inflation, the empirical literature has not satisfactorily established a correlation between degree of central bank independence and inflation (see Eijffinger and Schaling, 1993). This suggests that some consideration be given as to whether anti-inflationary policy should not rather take the form of a more co-ordinated set of policies (referring to labour relations, taxation, industrial structure, etc as well as financial variables).

What all this suggests is that it is a matter of urgency to debate the nature of the causal processes into which monetary policy is inserted; the issue of the exogeneity or otherwise of the money supply is the tip of a theoretical iceberg. The danger of basing theory on an assumption (that monetary policy can control inflation) which is arguably false rather than simply an abstraction, is most evident in discussion of EMU, where a change in process is contemplated.

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## 7. Conclusion

Serious anomalies between theory and reality, according to Kuhn (1962) can bring about scientific revolutions. There has certainly been an anomaly between the assumption of money supply exogeneity in theory and the failure to control money in practice. There has been a change in the policy arena in that explicit, general monetary targeting in the UK, for example, has been dropped. At the theoretical level too attention has been deflected from the money supply, by rational expectations theorists and by persistent logical problems relating to money's role in general equilibrium theory. Yet, neither change can be described as revolutionary. It is still the case that most macroeconomic models and textbooks persist in taking the money supply to be exogenous. Further, it is still the case that, both in theory and in policy, inflation is viewed as being caused by changes in the money supply (whether or not that has a definable empirical counterpart).

An attempt has been made in this paper to explain the theoretical requirements of general equilibrium theorising : the necessity in particular to identify at least one exogenous variable in order to generate a solution, as well as to explain change in the solution. The alternative (which would be closer to the practice of the monetary authorities) of an exogenous in two ways. First, such an assumption involves simplifications which are potentially serious for undermining the value of the type of policy recommendations which could be generated; these are simplifications which follow partly from using a general equilibrium framework where exogeneity is itself a general concept. But, more decisively, general equilibrium macro models cannot, (except under very special assumptions) generate a unique equilibrium solution if a key price (the interest rate) is fixed.

The theoretical tail has thus been wagging the policy dog. The money supply was assumed (universally) exogenous for purposes of theoretical convenience. Friedman then raised the assumption to the status of an active policy variable, without questioning its realism. The fallacies in this reasoning have been exposed by the Thatcher Monetarist Experiment, but still the exogenous money supply assumption persists. The issue has become particularly urgent in the context of European Monetary Union; here an arguably false assumption made for theoretical reasons is under-

pinning proposals for major institutional change. To form a view of this institutional change, we need to focus much more on the processes by which the monetary authorities influence monetary variables, and how these interact with real variables.

## Abstract

SHEILA DOW : *The Exogenous money supply assumption in monetary theory and policy*

There is an apparent disparity between the assumption in most macro models of money supply exogeneity and the scope in practice for monetary control. This paper explores the meaning of exogeneity, first in its more powerful form within closed formal systems, then in its more muted form within partial, evolutionary theoretical systems. The reasonableness of the money supply exogeneity assumption for policy purposes is then considered; it is concluded that the assumption has unduly hampered design of monetary policy. The refinements of the concept of exogeneity in the econometrics literature are then considered for the light they can shed on the issue. An attempt is made to understand the theoretical compulsion to assume the money supply to be exogenous. Finally, discussion of monetary policy for Europe is considered in the light of the preceding argument.

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## ΠΕΡΙ Τ'Ν ΥΦΕΣΣΕ'Ν ΚΑΙ ΤΟΥ ΠΛΗΘ'ΡΙΣΜΟΥ ΑΠΟ ΤΟΥ Α' ΠΑΓΚΟΣΜΙΟΥ ΠΟΛΕΜΟΥ ΜΕΧΡΙ ΤΟΥ ΕΤΟΥΣ 1990

ΛΑΖΑΡΟΣ Θ. ΧΟΥΜΑΝΙΔΗΣ

*Ομότιμος Καθηγητής Πανεπιστημίου Πειραιώς*

1. Ο καθηγητής Ch. Kindelberger εις δύο εργασίας του : *The World in Depression 1919 - 1939* (1973) και *International capital movements and foreign exchange market in crisis : The 1930s and the 1980s*, Berne 1986 (Ανακοίνωσις εις το 9ον Διεθνές Συνέδριον Οικονομικής Ιστορίας, Βουδαπέστη) επισημαίνει το ξέσπασμα της κρίσεως, όταν αι τιμαί και τα κέρδη έχουν προσεγγίση το αποκορύφωμα της επιδόσεως και αι προσδοκίαι των επιχειρηματιών μειώνονται ένεκα απαισιοδοξων μελλοντικών εξελίξεων και της αναμενομένης πτώσεως των τιμών. Και η προσέγγιςις αύτη δεν αφορά μόνον εις τα ανωτέρω έργα του Kindelberger αλλά και εις το *Maniacs, Panics and Crashes* (1978), καθώς και εις έτερα έργα του.

Κατά τον καθηγητήν Kindelberger, οι περισσότεροι των Αμερικανών συγγραφέων ακολουθούν την άποψιν ότι η Μεγάλη Ύφεσις (1929) ενεφανίσθη το πρώτον εις την Αμερικήν και εν συνεχεία εξηπλώθη ανά τον κόσμον. Διαφωνών ούτος προς την γνώμην αυτήν φρονει ότι η παγκόσμιος κρίσις ήτο φαινόμενον, το οποίον προήλθεν επί διεθνούς πεδίου και άνευ κοιτίδος της. Ημείς θα συμφωνήσωμεν με την πρώτην άποψιν συμπληρώνοντες ότι και αι συνθήκαι επεκτάσεώς της ήσαν ήδη ώριμοι προς τούτο. Συνεπώς καθ' ημάς η παρακολούθησις των οικονομικών γεγονότων της Μεγάλης Υφέσεως εκκινεί κυρίως εξ Αμερικής.

Ο Kindelberger υποστηρίζει ότι η αιτία της Μεγάλης Υφέσεως (1929-1933) ωφείλετο : α) Εις τας μεταβολάς των τιμών επί εμπορευμάτων

και ενεργητικών (assets) β) εν τινι εις το arbitrage και την εμφάνισιν δύο αγορών : α) Μιας εμπορευμάτων και β) μιας ενεργητικών, αι οποίαι αμφοτέραι υπέκειντο εις συνεχείς ανατιμήσεις γ) εις ψυχολογικούς λόγους αφορώντας εις την αισιοδοξίαν και εις την κατόπιν επακολογησασαν απαισιοδοξίαν των επιχειρηματιών και δ) εις νομισματικούς και συναλλαγματικούς λόγους οφειλομένους εις τον περιορισμόν της ροής κεφαλαίων και διακινήσεως χρυσού, ως και των αποθεμάτων συναλλάγματος παραλλήλως με την διόγκωσιν της νομισματικής κυκλοφορίας. Ενταύθα θα ηθέλαμε να προσθέσωμεν ότι ο Kindelberger όχι ορθώς, δεν αναφέρεται εις την βασικήν αιτίαν -καθ' ημάς- της Μεγάλης Υφέσεως, την υπερπαραγωγήν και δη όσον αφορά εις την γεωργίαν.

Είναι γεγονός -ισχυρίζεται ο Kindelberger- ότι η έξοδος της Γερμανίας από την παγκόσμιον αγοράν, κατά κάποιον διάστημα χρόνου, μετά την λήξιν του Α' Παγκοσμίου Πολέμου, προεκάλεσε την παρότρυνσιν των Βρετανών επιχειρηματιών εις επί πλέον επενδύσεις επί χάλυβος, άνθρακος, ναυπηγήσεως πλοίων και υφαντουργικών ειδών. Υπό τας συνθήκας ταύτας αι τιμαί των εμπορευμάτων και των ενεργητικών ηυξήθησαν μεταξύ 1919-1920. Η επέκτασις δε αύτη των επενδύσεων επεξετάθη και εις τον υπόλοιπον κόσμον. Εις ΗΠΑ η τεχνολογική πρόοδος και η εκ του πολέμου ροπή προς μεγαλυτέραν παραγωγήν προεκάλεσαν την έντονον αύξησίν της, ιδίως εις την παραγωγήν αυτοκινήτων δια να συνοδευθή αύτη, από της μιας πλευράς με την από κοινού προσφοράν -δια να χρησιμοποιήσω τον γνωστόν όρον του Alfred Marshall- εις μέταλλα, ελαστικά, βενζίνην και από της άλλης εις ραδιόφωνα, ψυγεία κ.λπ.

Η μετακίνησις ένεκα του πολέμου πληθυσμών και εργατικού δυναμικού προεκάλεσε την διάνοιξιν νέων οδών και βελτίωσιν υπαρχουσών τοιούτων, ως επίσης και την οικοδόμησιν κατοικιών. Συγχρόνως, ενώ αι ΗΠΑ μέχρι του Α' Παγκοσμίου Πολέμου εδανειοδοτούντο εξ Ευρώπης, ώστε το προς αυτήν χρέος να ανέλθη εις 600 εκατομ. δολλλάρια, μετά τον Α' Παγκόσμιον Πόλεμον ήτο η χώρα αύτη η οποία, θα εδανειοδότη την Ευρώπην αρχής γενομένης όμως εκ του Καναδά, ενώ η Γερμανία υίοθέτει τον πληθωρισμόν ως μέσον εξοφλήσεως των επανορθώσεων. Υπό τας συνθήκας ταύτας η Παγκόσμιος Οικονομία ευρέθη (1925) εις το απόγειόν της, οι δε Βρετανοί υπερτίμησαν την λίραν. Επίσης εις Γαλλίαν η οικονομική ανάνηψις συνεχίσθη μέχρι το έτος 1926, οπότε ο Poincaré υπερτίμησε το φράγκον και το εσταθεροποίησεν εις επίπεδον

ευνοϊκόν δια την επαναφοράν των κεφαλαίων εις την χώραν του. Και ενώ η κορύφωσις της οικονομικής επιδόσεως ανά τον κόσμον εσημειώθη το 1925-1926, και αι τιμαί συνέχισαν την άνοδόν των μέχρι το έτος 1928, αι υπερεπενδύσεις όμως επί της General Motors, της General Electric Radio Corporation of America και το σκάνδαλον της χρεωκοπίας της Τραπεζης του Insall προξένησαν την αρχην της κατιούσης εις τον οικονομικόν κύκλον της χώρας αυτής. Συνεπώς η από του 1925 κατιούσα των ανά τον κόσμον τιμών δεν υπήρξεν ανεξάρτητος με αυτήν των εις ΗΠΑ, χώραι δε ως η Αυστραλία, η Αργεντινή εξήντλουν τα εις συνάλλαγμα αποθέματά των, ενώ η Αυστρία υπέφευρεν και αύτη εξ απωλείας συναλλάγματος.

Όσον αφορά εις το Τραπεζικόν σύστημα της Αγγλίας, τούτο παρουσίασε επικινδύνους κραδασμούς δια να συνταραχθή και η William Deacons Bank του Manchester, αλλά και η ιταλική λιρέτα υπετιμήθη. Τον Ιούλιον του 1926 συνήλθον εις σύσκεψιν (Long Island) οι Διοικηταί των Κεντρικών Τραπεζών ΗΠΑ, Γαλλίας, Αγγλίας και Γερμανίας προς τον σκοπόν όπως βοηθήσουν την Βρετανίαν, η οποία απώλεσε χρυσόν εν Γαλλία.

Και ενώ εκ του εξωτερικού εισήρχετο εις ΗΠΑ χρήμα με αποτέλεσμα να απισχνούνται αι αγοραί της Ευρώπης, τον Ιούνιον του 1929 τόσον το εισόδημα όσον και το προϊόν των ΗΠΑ ήρχισαν βραδέως να ελαττούνται. Το έτος 1929 εχρεωκόπησε εν Γερμανία η Frankfurt Insurance Company, ενώ η Γαλλία ήρχισε να αποσύρη τα εις χρυσόν αποθέματά της εκ Λονδίνου, εις δε την αυτήν πόλιν η Clarence Hatry δεν ηδύνατο, τον Σεπτέμβριον του 1929, να πληρώση τόκους. Τα βρετανικά κεφάλαια, επίσης απεσύρθησαν, από Νέας Υόρκης εις Λονδίον, με αποτέλεσμα να αυξήση η στενότης δανειοδοτήσεως εις την αγοράν των ΗΠΑ. Το έτος 1930 επισυνέβησαν αι υποτιμήσεις των εθνικών νομισμάτων Αυστραλίας, Νέας Ζηλανδίας και Αργεντινής (1930).

Ο Kindelberger πάντως προέβη εις διαπιστώσεις, αι οποίαι συνοπτικώς δύνανται να διατυπωθούν ως εξής :

α) Η Μεγάλη Ύφεσις ωφείλετο εις λόγους αφορώντας εις παγκόσμιον κλίμακαν και ουχί εις μόνας τας ΗΠΑ εκ των οποίων επαναλαμβάνομεν -καθ' ημάς- προήλθεν αύτη και εξηπλώθη είτε ανά τον κόσμον.

β) Εις λόγους αφορώντας εις κακούς χειρισμούς επί του συναλλάγματος και ελλείψεως συντονισμού επί του παγκοσμίου νομισματικού συστήματος, άποψις η οποία -καθ' ημάς- είναι ορθή.

γ) Εις λόγους κερδοσκοπίας περί των οποίων συμφωνώμεν επίσης και ημείς.

Ο Kindelberger προχωρών εις την έρευνάν του αναφερόμενος εις τα μέχρι του 1980 οικονομικά γεγονότα ομιλεί και πάλιν περί οικονομικής υφέσεως χρησιμοποιών δύο χρονολογίας την του 1970 και την του 1980.

2. Ο Rostow από της ιδικής του σκοπιάς, όσον αφορά εις την από του 1932 και κατόπιν περίοδον, παρατηρεί ότι από του 1932-1952 υπήρξεν άνοδος εις το παγκόσμιον εμπόριον, το όποιον όμως εξέπεσεν μετά το 1973, όσον αφορά εις την εξαγωγήν πρώτων υλών, και η κάμψης αύτη εξεδηλώθη, αφού ήδη είχεν εκκινήσει από του έτους 1970. Ενταύθα θα ηθέλαμεν να παραθέσωμεν ότι η ύφεσις από του έτους 1973 ωφείλετο και εις διαρθρωτικάς αιτίας. Η διαφορά όμως είναι, ως παρατηρούν οι Pedro Fraile και Hernandez Andreu, [1986 op. cit. σ.σ. 335 κ.επ.] ότι, η θεωρία της εξαρτήσεως δεν έχει γενικών χαρακτήρα, διότι αφορά εις γεωγραφικήν ζώνην. Εν τούτοις η ιστορική μέθοδος την οποίαν εφαρμόζουν οι F και A δεν επαληθεύει την υπ' αυτών υποστηρικθείσαν άποψιν, ως τούτο υποστηρίζουν οι δύο συγγραφείς αντλούντες παραδείγματα εκ της Ευρώπης του 19ου αιώνος και της Βραζιλίας, Ταϊβάν και Ν. Κορέας.

Αι ομοιότητες μεταξύ των δύο υφέσεων -της Μεγάλης Υφέσεως και της των από του 1970- συνοψίζονται τελικώς υπό των F και A εις τα εξής:

α) Υψηλά ποσοστά ανεργίας β) συρρίκνωσις του ακαθαρίστου εθνικού προϊόντος, γ) επανεμφάνισις ενός οιονεί προστατευτισμού όμού μετά της εξάρσεως περί αυταρκείας, δ) εφαρμογή μακροοικονομικής πολιτικής, ε) μεγάλοι κρατικάί δαπάναι εις εξοπλισμούς, στ) κακή αντίληψις ότι προκειμένου περί εφαρμογής οικονομικής πολιτικής δυνάμεθα να την εξετάσωμεν ανεξαρτήτως θεσμών και λειτουργιών (κοινωνικών, πολιτικών, πολιτιστικών, θρησκευτικών). Το έτος 1973 η πληθωριστική πολιτική, η οποία ηκολουθήθη από του 1960, και ίδια από του έτους 1970, συνεχίσθη μέχρι του 1979. Κατά την κρίσιν όμως του 1929 η πληθωριστική πολιτική ήτο μεγαλύτερα από την από του 1960 συγκρατημένην, ενώ χώραι ως η Ισπανία, η Αργεντινή, αλλά και η Αυστραλία υιοθέτησαν την πληθωριστικήν πολιτικήν των προ της υφέσεως. Οι F και A επίσης βασιζόμενοι επί οικονομετρικής αναλύσεως απο-

δέχονται ότι εις τας ανεπτυγμένας χώρας η βιομηχανική παραγωγή, μεταξύ 1950-1980, παρουσίασε διακυμάνσεις εις το εμπόριον ειδών διατροφής, πρώτων υλών ή και ενεργείας, αντιλήψεις αι οποίαι γειτνιάζουν και συμπίπτουν με εκείνας των Lewis, Kindelberger και Rostow.

3. Αι εμπλακείσαι εις τον Α' Παγκόσμιον Πόλεμον χώραι της Ευρώπης, μετά την λήξιν του, προσεπάθουν να ανασυγκροτηθούν και να αντιπαλαίσουν επιτυχώς εις τα προβλήματα των, ενώ αι ΗΠΑ συνέχισαν την βιομηχανικήν των άνοδον κατά το 1/4 πλέον εκείνης της προ του Πολέμου, δια να αυξηθή η οικονομική δραστηριότης και η νομισματική κυκλοφορία. Παρά την οικονομικήν δραστηριότητα όμως ενεφανίσθη και η σχετική αδράνεια ωρισμένων κλάδων βιομηχανίας, ως η πολεμική βιομηχανία, ενώ ηυξήθησαν υπερβολικώς αι πιστώσεις των Τραπεζών.

Από του 1920 έως του 1921 η επίδοσις της οικονομίας ανακόπτεται δια να ακολουθήση η πτώσις των τιμών κατά 34%, και η ανάσχεσις των επενδύσεων και η πτώσις της παραγωγής παραλλήλως με την ανεργίαν, ώστε οι άνεργοι να ανέλθουν εις 4.750.000 και πολλά επιχειρήσεις να χρεωκοπήσουν. Η ύφεσις όμως αυτή ώφειλομένη εις την αμέσως, μετά τον πόλεμον περίοδον, ήτο παροδική μολονότι ήτο και προμήνυμα της επακολουθησάσης Μεγάλης Υφέσεως δια να σημειωθή το κρραχ.

Η οικονομία των ΗΠΑ, μετά το τέλος του Πολέμου, ήρχισε να συνέρχεται δια να αυξηθούν αι τιμαί αλλά και οι δασμοί, οι οποίοι μέχρι του 1921 και κατόπιν ανήλθον, από 21% εις 30%, και ολίγον κατ' ολίγον μέχρι 38% δια την χρονικήν περίοδον, μεταξύ των ετών 1923-1929. Συγχρόνως προς αποφυγήν της ανεργίας επεβλήθησαν περιορισμοί δια την προς ΗΠΑ μετανάστευσιν, δια δε την συγκράτησιν των τιμών εφηρόσθησαν ορθολογικάί μέθοδοι εις την παραγωγήν προς μείωσιν του κόστους αυτής. Και εις τούτο συνετέλεσεν ο Henry Ford και αι διάφοραι άλλαι μέθοδοι και συστήματα ψυχοτεχνικής της εργασίας και οργάνωσεως της παραγωγής [G. Luzzatto 1960, σελ. 512], του Henry Ford επιτυχόντος ρεκόρ πωλήσεως αυτοκινήτων, των οποίων η παραγωγή, από του 1922 μέχρι του 1929, ανήλθεν εις 5.358 εκατ. Επίσης ο αριθμός των βιομηχανιών ανήλθεν από 185.000 εις 206.700 δια το μεταξύ 1925-1929 διάστημα, ενώ η βιομηχανική παραγωγή από δείκτην 67 το 1921, τον Ιούλιον του 1928 ανήλθεν εις 110 και τον Ιούνιον του 1929 εις 126. [Galbraith 1975, σελ. 31]. Επίσης ηυξήθη και η ηλεκτρική ενέργεια κατά 100% και η παραγωγή πετρελαίου κατά 80%, ενώ η του χάλυβος ανήλ-

θεν εις 41 εκατ. τόννους και η της χημικής βιομηχανίας επιπλασιάσθη. Και αι αξίαι όμως εις το Χρηματιστήριο της Νέας Υόρκης ανήλθον. Τα ενεργητικά το 1927 έφθασαν εις την αξίαν των 1460 εκατ. δολλαρίων, το δε 1928 ανήλθον εις 2900 εκατ. και το 1929 εις 5868 εκατ. Αι τιμαί των μετοχών επίσης ανήλθον από 100 το 1922 εις 580 το 1929.

Την ανωτέρω όμως επίδοσιν διεδέχθη η αναφερομένη Μεγάλη Ύφεσις, οπότε μεταξύ 8ης Οκτωβρίου 1929 και 1ης Νοεμβρίου του ίδιου έτους απωλέσθησαν εις τίτλους 32 δισεκατομμύρια δολλάρια και δη κατά την "Μαύρη Τρίτη" (29 Οκτωβρίου 1929), και το 1930 επηκολούθησεν απότομος πτώσις όλων των τιμών. [Luzzatto : σελ. 513]. Η Wall Street υπέστη καταστρεπτικόν σεισμόν και η επελθούσα κατάρρευσις των χρεωγράφων και τιμών επεξετάθη εις ολόκληρον τον κόσμον. Εις Σικάγον το bushel του αλεύρου το 1929 ετιμάτο 148 cents και το 1932 44.5 cents. Ο βαμβαξ εις Ν. Υόρκην επωλείτο 18.5 cents η λίβρα, δια να εκπέση εις 5.18 cents, και το ελαστικόν από 20 cents εις 2.49 cents, ενώ ο χαλκός από 21cents εις 5.16 cents κατά τας αντιστοίχους αναφερομένας χρονολογίας [G. Luzzatto, 1960 σ. 515 κ.επ.].

Επίσης η παραγωγή περιορίσθη. Με βάσιν το 100 το 1932 αύτη εξέπεσεν εις 71 εις Γαλλίαν, 60 εις Βέλγιον, 67 εις Ιταλίαν, 62 εις Πολωνίαν. Η παραγωγή χάλυβος συγκεκριμένως από 120 εκατ. τόννους μειώθη εις 50 εκατ. τόννους και η των αυτοκινήτων από 6.130.000 εις 1.979.000, του δε άνθρακος από 1322 εκατ. τόννους εις 960 τόννους.

Όσον αφορά εις τους άνέργους ο αριθμός τούτων εις ολόκληρον τον κόσμον το 1932 ανήλθεν εις 30 εκατ. ήτοι εις 12 εκατ. δια τας ΗΠΑ, εις 6 εκατ. δια την Γαλλίαν, εις 3 εκατ. δια την Αγγλίαν, και πλέον του 1 εκατ. δια την Ιταλίαν, ενώ πλείστοι των απασχολούμενων δεν ειργάζοντο ειμή 30 ώρας εβδομαδιαίως.

4. Με την σημειωθείσαν Μεγάλην Ύφεσιν το παγκόσμιον εμπόριον επίσης εκάμφθη και αι διάφοροι χώροι προσεπάθησαν να επιτύχουν την αυτάρκειαν και την προστασίαν των βιομηχανιών των δια δασμών έναντι των ευθηνών τιμών των πλέον ανεπτυγμένων βιομηχανικώς χωρών. Αύται με την σειράν των επεξήτησαν και την ιδίαν των προστασίαν δια τας βιομηχανίας εκείνας δια τας οποίας απητείτο προστασία έναντι του διεθνούς ανταγωνισμού, ως και τον περιορισμόν της εισαγωγής ωρισμένων αγαθών χάριν της εξισορροπήσεως του εμπορικού των ισοζυγίου και φυσικά του ισοζυγίου πληρωμών των. Την κρίσιν ταύτην είχεν προβλέψη εις παραμελημένος κοινωνιολόγος-οικονομολό-

γος, ο Thorstein Veblen, ιδρυτής της καθαρώς Αμερικανικής Οικονομικής Σχολής, των Θεσμικών.

Την ιστορίαν των παρεμβάσεων ή μη εις το εξωτερικόν εμπόριον παρακολουθώμεν, από του 19ου αιώνας, οπότε υιοθετήθη η πολιτική του ελευθέρου εμπορίου, χωρίς να εξαφανισθή όμως και ο προστατευτισμός. Εάν παρακολουθήσωμεν τας δύο αυτάς αρχάς οικονομικής πολιτικής θα παρατηρήσωμεν ότι γενικώς εν τη οικονομική ιστορική εξέλιξει η μία διαδέχεται την άλλην, ενώ παρουσιάζεται και το φαινόμενον να έχωμεν και σύγχρονον εμφάνισίν των αναλόγως της εμπορικής πολιτικής των διαφόρων χωρών.

Το πρώτον ήμισυ του 19ου αιώνας αφορά εις το ελεύθερον εμπόριον ενώ το δεύτερον ήμισυ εις τον προστατευτισμόν, το πρώτον ήμισυ του 20ου αιώνας αφορά εις τον προστατευτισμόν, ενώ το δεύτερον ήμισυ του ιδίου αιώνας παρουσίασε τάσιν και εφαρμογήν ελευθέρου εμπορίου ακόμη και παρά την κατ' αυτού αντίστασιν από μέρους του προστατευτισμού.

Η Γερμανία μετά το Zollverein (1833) προωθήθη προς το ελεύθερον εμπόριον, η Αγγλία μεταξύ 1860-1880 υιοθέτησε το ελεύθερον εμπόριον και η Γαλλία την ηκολούθησεν με την Αγγλο-Γαλλικήν συμφωνίαν του 1860 (Cobden). Η ύφεσις όμως του 1873-1879 επανέφερεν συν τω χρόνω τον προστατευτισμόν και τας παντοειδείς παρεμβάσεις εις το διεθνές εμπόριον ούτως ώστε και η Ρωσία, η οποία το 1876 ηκολούθη τας ΗΠΑ εις το ελεύθερον εμπόριον, από του 1880 εγκατέλειψε τούτο δια να προσαρμοσθή εις τον προστατευτισμόν.

Ο προστατευτισμός διευτώθη κυρίως λόγω της ανάγκης της αναπτύξεως της εθνικής οικονομίας και δη της βιομηχανίας, ενώ το ελεύθερον εμπόριον υιοθετήθη χάριν των χαμηλοτέρων τιμών και των ευχερειών εις το διεθνές εμπόριον. Και αι δύο πολιτικά παρουσιάσθησαν με επιχειρήματα ισχυρά ιδιαιτέρως ενώπιον γεγονότων, τα οποία δικαιολογούν την εφαρμογήν των. Όταν λ.χ. η Ευρώπη του Ναπολέοντος ανέπτυξε την βιομηχανίαν της και την παραγωγήν της οι έμποροι ανεζήτησαν τας εκτός αυτής αγοράς ώστε ο Say, με την 2αν έκδοσιν του "Traité" το 1814, να λάβη σαφή και κατηγορηματικήν θέσιν εναντίον του "τυράννου" Ναπολέοντος. Και όταν η Αγγλία ηναγκάσθη να περιορίση τας εξαγωγάς των αγροτικών της προϊόντων ο παρεμβατισμός δια την προστασίαν των εγχωρίων παραγωγών εθεωρήθη αναγκαίος, παρά την αρχήν του ελευθέρου εμπορίου, η οποία μέχρι τότε εκυριόραχει.

5. Τόσον κατά την παραμονήν του Α' Παγκοσμίου Πολέμου όσον και μετά την λήξιν του τα εμπορικά ισοζύγια των εμπολέμων δυνάμεων ήσαν παθητικά, με αναλόγους επιπτώσεις εις το ισοζύγιον πληρωμών των. Ανεξαρτήτως δε εάν ωρισμένοι έμποροι εις Κάτω Χώρας, Σκανδιναυίαν και Ισπανίαν επέτυχον να δημιουργήσουν μεγάλας περιουσίας, αι εμπόλεμοι χώροι οικονομικώς υπέφερον. Και μόνον η Ιταλία -δια μικρόν όμως χρονικόν διάστημα- αντεστάθη εις την οικονομικήν κάμψιν [Day, 1951, σελ. 60]. Παρά ταύτα η ανάπτυξις της παραγωγής, η βελτίωσις των αγορών, η πύκνωσις του συγκοινωνιακού δικτύου και η έντονος αντίδρασις εις τας πληγάς του Πολέμου εβοήθησαν την οικονομίαν των χωρών η οποία ανεκόπη μόνον το 1929. Τότε εδόθη μεγαλυτέρα σημασία εις την νομισματικήν κυκλοφορίαν και το εξωτερικόν εμπόριον, το οποίον η μεταπολεμική Ρωσία κατέστησε μονοπώλιον του Κράτους. Και αι λοιπαί χώροι όμως έθεσαν περιορισμούς εις το εμπόριον με δασμούς και φόρους χάριν της ίδιας των βιομηχανίας, ως η Αγγλία με την Safeguarding of Industries Act (1921). Συνεπώς κατά τον Μεσοπόλεμον ο κόσμος εισήλθεν εις περίοδον νεομερκαντισμού παρ' όλον ότι το *damping*, το οποίον ενεφανίσθη ως πολιτική εμπορικής επικρατήσεως και πολιτικής Διεθνούς ισχύος συνωδεύθη παραλλήλως και με το *clearing*. Η εφαρμογή όμως των δασμών και των ποσοτικών περιορισμών (ποσοστάσεων-quotas), αφ' ενός μεν υπενόμειυσε την ιδέαν του ελευθέρου παγκοσμίου εμπορίου, αφ' ετέρου δε ετόνωσε την νοοτροπίαν της αυταρκειάς και της απομονώσεως με συνέπειαν την ελάττωσιν των εμπορικών ανταλλαγών. Αι εξαγωγαί λ.χ. της σοκολάτας της Ελβετίας από 45 το 1930 εξέπεσαν εις 1 το 1935, το ίδιον δε φαινόμενον κάμψεως παρουσιάσθη και εις άλλας χώρας· και τούτο εμφανίζεται εκ του κατωτέρω παρατιθεμένου Πίνακος υπό του Day εις αξίαν χρυσού δια το μεταξύ 1900-1935 διάστημα [Day, 1951, σ. 631].

Χώραι	1900	1913	1925	1930	1935
ΗΒ	18.7	15.2	14.9	13.4	13.9
ΗΠΑ	11.5	11.2	14.3	12.6	10.8
Γερμανία	12.6	13.1	8.0	9.7	8.6
Γαλλία	8.7	7.8	6.9	6.7	6.1

Η Μεγάλη Ύφεσις συνεπώς επέφερεν την εφαρμογήν του προστατευτισμού ακόμη και εις χώρας δια τας οποίας το ελεύθερον εμπόριον εθεωρείτο ως απαραίτητον, όπως η Μ. Βρετανία, η οποία επι πλέον υπετί-

μησε το νόμισμά της κατά 40% εν σχέσει προς τον χρυσόν (1934). Από δε του 1932 εφημερόσθη μία γενική ταρίφα χάριν της βρετανικής βιομηχανίας ποσοστού 10% ad valorem με την ευχέρειαν της κυβερνήσεως να μεταβάλη το ποσοστόν τούτο [Day 1951, σελ. 640].

Η άνοδος της οικονομικής δραστηριότητος από του 1896, είχε ως φυσικόν επακόλουθον την μεταβολήν των προσδοκιών με την πρώτην δόνησιν της παγκοσμίου οικονομίας ώστε αύται από αισιόδοξοι να καταστούν απαισιόδοξοι.

Είναι άξιον σημειώσεως να αναφέρομεν ενταύθα ότι ο Garraty [1986] υποστηρίζει την θέσιν ότι η γεωργία έπαιξεν μέγαν ρόλον κατά την Μεγάλην Ύφεσιν, θέσις η οποία μας ευρίσκει συμφώνους προς αυτήν. Ο Garraty παρατηρεί ότι, μεταξύ του 1925 και 1929, η τιμή των αγροτικών προϊόντων εξέπεσε δια να υποστούν ζημίας οι παραγωγοί βάμβακος, καφέ, τέιου και ετέρων προϊόντων ώστε να υποφέρουν εκατομμύρια αγροτών. Αιτία ήτο ότι η Ευρώπη ένεκα του Α' Μεγάλου Πολέμου υπέστη κάμψιν εις την γεωργίαν της δια να αναθαρρύνουν αι ΗΠΑ, ο Καναδάς, η Νότιος Αμερική και η Αυστραλία προς επαύξησιν της παραγωγής των. Μετά το πέρας του Πολέμου όμως αι ευρωπαϊκαί χώραι επροστάτευσαν τους ιδιοκτήτας γης από τον ανταγωνισμόν επιβάλλοντας ταρίφας δια να περιορισθούν αι εισαγωγαί εξ άλλων χωρών. Τούτο όμως είχεν φοβεράς επιπτώσεις επ' αυτών αλλά και επί της αγοράς βιομηχανικών προϊόντων, ώστε μεταξύ 1925-29 να ριφθή το σπέρμα της Μεγάλης Υφέσεως, η οποία ενεφανίσθη, κατ' αρχήν, με την πτώσιν της τιμής του σίτου. Εννοείται ότι η τεχνολογία και η χημεία συμμετείχον εις την τοιαύτην κατάστασιν διότι ενίσχυσαν υπερβαλλόντως την παραγωγήν. Πέρα όμως τούτων και η ανακάλυψις του ρεγίων επέδρασεν επί της τιμής του βάμβακος και του ερίου.

Η τοιαύτη κατάστασις είχεν συνέπειας και επί της ενεργού ζητήσεως βιομηχανικών προϊόντων με αποτέλεσμα να περιορισθή η παραγωγή του τομέως τούτου προς συγκράτησιν των τιμών. Βεβαίως η τοιαύτη κατάστασις είχεν και τας συνέπειας της επί της ζητήσεως εργασίας και της περαιτέρω υποκαταναλώσεως. Κατά συνέπειαν βασική αιτία της Μεγάλης Υφέσεως ήτο καθ' ημάς η υπερπαραγωγή της γεωργίας και δη εις ΗΠΑ, με επίπτωσιν και επί της βιομηχανίας, η οποία ωφείλετο αφ' ενός μεν εις την επαύξησιν του προϊόντος της γεωργίας των πρώην εμπολέμων χωρών της Ευρώπης και εις την τεχνολογίαν, η οποία εβελτιώθη.

Όθεν, η υπερπαραγωγή τόσοσιν εις την γεωργίαν όσοσιν και εις την βιομηχανίαν, ιδία των ΗΠΑ, δεν ήτο άσχετος και με την επαύξησιν της παραγωγικότητος και δη εις ΗΠΑ εις την οποίαν εφηρομόζοντο συνεχώς τελειοποιημένα μεθόδοι παραγωγής. Κατωτέρω θα συνοψίσωμεν τας, καθ' ημάς, ετέρας αιτίας της Μεγάλης Υφέσεως.

6. Αι ΗΠΑ δεν εγνώρισαν τον Πόλεμον εις το έδαφός των δια να υποστούν καταστροφάς, ενώ εκινητοποίησαν κατά την διάρκειαν του Α' Παγκοσμίου Πολέμου τους πλουσίους πόρους των προς εφοδιασμόν όχι μόνον των ΗΠΑ, αλλά και των συμμάχων των. Ένεκα τούτων η γεωργία των ΗΠΑ, καθώς επίσης και λόγω των μετά την λήξιν του πολέμου ηυξημένων αναγκών των χωρών εις αγροτικά προϊόντα, εξηκολούθησε με πλέον ταχύν ρυθμόν την αύξησιν της παραγωγής των.

Πλην όμως των αιτιών τούτων δέον να ληφθή υπ' όψιν και η άνδρωσις των ολιγώτερον βιομηχανικώς ανεπτυγμένων χωρών κατά την διάρκειαν του Πολέμου, καθώς και τα προστατευτικά υπέρ της βιομηχανίας των μέτρα.

Παραλλήλως όμως με την υπερπαραγωγήν ηύξηθη και η υποκατανάλωσις και η ανεργία. Εις ταύτην συνέβαλεν ο περιορισμός των αγορών, η μπολσεβοποίησις της Ρωσίας, και η πτώσις της απορροφητικής ικανότητος αγαθών από μέρους της Κίνας και των Ινδιών, χώρας εις τας οποίας εξέπεσεν η αξία του αργύρου χρησιμοποιουμένου εις αυτάς ως νομισματικού κανόνου.

Έτερος παράγων της παγκοσμίου υφέσεως ήτο και η κερδοσκοπία, καθώς και η κακή κατανομή του χρυσού εις τον υπόλοιπον κόσμο, ως επίσης και η ανεπάρκεια τούτου προς τας ανάγκας της οικονομικής ζωής· δηλαδή επήλθεν ανάγκη ετησίας αυξήσεως αποθεμάτων χρυσού 5% έναντι 3% αυξήσεως παραγωγής του, ως ο Σουηδός οικονομολόγος Gustav Cassel υπεστήριξεν. Πλην όμως των αιτιών τούτων όχι ολιγώτερον συνέβαλεν και ο περιορισμός της πίστεως και αι χρεωκοπίαι μεγάλων Τραπεζών ως η Darmstädter εν Γερμανία και η Kredit Anstalt εν Αυστρία, η οποία ήλεγχεν το μεγαλύτερον μέρος των Τραπεζών και βιομηχανιών της χώρας δια να επεκταθούν αι συνέπειαι της χρεωκοπίας της εν Γερμανία, Ουγγαρία και Ρουμανία [G. Luzzatto : 1960 σελ. 515, κ.επ.].

Θα ηδυνάμεθα επίσης εις τας αιτίας ταύτας να προσθέσωμεν και την μείωσιν του εισοδήματος, μετά τον Α' Παγκόσμιον Πόλεμον, η οποία συνήργησε δια την ελάττωσιν της ενεργού ζητήσεως, ενώ η κακή οργά-

νωσις της διεθνούς αγοράς και ο υψηλός τόκος -συνέπεια της πολιτικής ασταθείας και της απωλείας κεφαλαίων- συρρίκνωσαν την διεθνή πίστιν.

Εις ΗΠΑ προς αντιμετώπισιν της κρίσεως δεν ηκολουθήθησαν ριζοσπαστικά μέτρα διότι οι Ρεπουμπλικάνοι, των οποίων ηγήτο ο Χούβερ, δεν εδέχοντο να απομακρυνθούν της χαραχθείσης υπ' αυτών οικονομικής πολιτικής. Τα μόνα μέτρα τα οποία επέβαλεν ούτος ήσαν η ίδρυσις της Reconstruction Finance Corporation με κεφάλαιον 500 εκατ. δολλαρίων προς τον σκοπόν συγκρατήσεως των τιμών και η επιβολή των τελωνειακών προστατευτικών δασμών των Hawley-Smoot που ανεβιάσθησαν από 26% εις 50% [Luzzatto 1960, σελ. 517]. Με τα μέτρα ταύτα όμως δεν ηδύναντο να απορροφηθούν τα εκατομμύρια των ανέργων, ένεκα τούτου την κυβέρνησιν των Ρεπουμπλικάνων διεδέχθη η των Δημοκρατικών με ηγέτην τον Φραγκλίνον Ρούζβελτ. Ούτος κατεπολέμησε τα μονοπώλια, ενίσχυσε την υδροηλεκτροκίνησιν, εθνικοποίησε υπηρεσίας κοινού συμφέροντος, και ωργάνωσε συσσίτια δια τους ανέργους. Συγχρόνως υιοθέτησε πολιτικήν σημοσίων έργων προς απασχόλησιν. Ο Ρούζβελτ προς εφαρμογήν της πολιτικής του αυτής ουχ ήττον εδέχθη την επίδρασιν της Σχολής των Θεσμικών. Την 19ην Απριλίου 1933 ο Ρούζβελτ εγκατέλειψε τον χρυσούν κανόνα δια να καθωρίση νέαν τιμήν του δολλαρίου (30 Ιανουαρίου 1934) εις το επίπεδον 59.16% της παλαιάς του αξίας. Με την πολιτικήν αυτήν, αι τιμαί - και με την ενίσχυσιν της καταναλώσεως και με την εν γένει νομισματικήν πολιτικήν - υψώθησαν και δη κατά 22% έναντι εκείνων της προ της 19ης Απριλίου 1933 δια να τονωθούν αι προσδοκίαι των επιχειρηματιών δια κέρδη και να παροτρυνθούν ούτοι προς επενδύσεις. Παραλλήλως ο Ρούζβελτ ηκολούθησε φιλεργατικήν πολιτικήν δια τας περιπτώσεις ατυχήματος, γήρατος και ανεργίας δαπανήσας προς τον σκοπόν τούτον, από του 1933 μέχρι και του 1938, πσόν 25 δισ. δολλαρίων. [Luzzatto, 1960, σελ. 518].

Μετά το τέλος του Α' Παγκοσμίου Πολέμου η Μεγάλη Βρετανία δεν ήτο δυνατόν να προσαρμοσθή αμέσως εις τας δομικάς μεταβολάς, αι οποίαι επηκολούθησαν. Προσέτι ενώ ωρισμένα χωράι επανήλθον εις τον χρυσούν κανόνα είχαν τα αποθέματα ενεργητικών των εις Λονδίνον και Νέαν Υόρκην. Τα αποθέματα ταύτα ηδύναντο να μετατραπούν εις χρυσόν, χωράι δε ως η Ιαπωνία, η Πολωνία και η Γαλλία επανήλθον εις τον χρυσούν κανόνα εις ποσοστά τα οποία υπετίμησαν το

νόμισμά των, ώστε να αυξηθούν αι εξαγωγαί των χωρών τούτων εις βάρος της Αγγλίας. Επίσης χώραι ως η Ιταλία, το Βέλγιον και η Γαλλία εσταθεροποίησαν τα νομίσματά των εις υψηλάς εγχωρίους τιμάς ώστε οι βιομήχανοί των να προστατεύσουν τα εκ του πληθωρισμού κέρδη των επί χαμηλών πραγματικών μισθών, η δε πτώσις γενικώς των τιμών επί παγκοσμίου βάσεως, μετά το έτος 1925, κατέστησαν τας εξαγωγάς των προϊόντων δυσχερείς, [Clay 1929, σελ. 76, Pollard : 1973 σελ. 223]. Επί πλέον όμως δι' όσον αφορά εις την αγγλικήν βιομηχανίαν αύτη υπέστη κλονισμόν και ένεκα της νομισματικής πολιτικής ώστε, όταν αι τιμαί ήσαν υψωμένοι δεν ηδύνατο να προβή εις εξαγωγάς των προϊόντων της. Διότι δέον να σημειωθή ότι κατά το τέλος του 1920 παρετηρήθη εν Αγγλία ύψωσις των τιμών, των κερδών και γενικώς των εισοδημάτων. Όταν λοιπόν επήλθεν η πτώσις των τιμών τα κέρδη και αι λοιπαί αμοιβαί συρρικνώθησαν, ώστε να επέλθη εκ της ανεπαρκούς ζητήσεως μεγίστη ανεργία αλλά και απογοήτευσις εις το Χρηματιστήριο του Λονδίνου, οπότε και ενετάθη η κερδοσκοπία δια να προκύψη ύφεσις η οποία ενετάθη με το επελθόν εις ΗΠΑ κραχ. Ο κατωτέρω Πίναξ δεικνύει την κάμψιν μεταξύ 1929 και 1933 εις την Μεγ. Βρεταννίαν. [Pollard : 1973 σελ. 225].

<b>Έτη</b>	<b>Τιμαί χονδρικής πωλήσεως 1929-1930</b>	<b>Ποσοστόν ανεργίας</b>	<b>Δείκτης βιομ/κής δραστηριότητος</b>
1929	100	10.4	118.7
1930	87.5	16.1	107.4
1931	76.8	21.3	86.8
1932	74.9	22.1	81.1
1933	75.0	19.9	89.3

Με την επελθούσαν Μεγάλην Ύφεσιν και η Αγγλία δεν έμεινε αδρανής αλλά όπως και αι άλλαι χώραι προέβη εις αναλόγους χειρισμούς κατά της κρίσεως, η οποία έπληξε το εμπορικόν ισοζύγιόν της και τους ναύλους δια να υποτιμηθή κατά 30% η λίρα στεργλίνα (21 Σεπτεμβρίου 1931). Υπό τας συνθήκας αυτάς εις Ottawa απεφασίσθη (Import Duties Act) να θεσπισθούν μέτρα οικονομικής αλληλεγγύης μεταξύ των μελών της Κοινοπολιτείας,εφ' όσον η τελωνιαική ένωσις τούτων καθίστατο αδύνατος. Δια της συμφωνίας της Ottawa, εβοηθήσαν αι εξαγωγαί, ώστε αύται μεταξύ 1933 και 1939 να αυξηθούν αρκούντως, χωρίς όμως

να επανακτηθή το έδαφος το οποίον απώλεσαν αι βιομηχανίαι της Αγγλίας.

Ήδη κατά το τέλος του 19ου αιώνας ο Alfred Marshall είχε υποστηρίξει την σημασίαν της πίστωσης και της ζητήσεως χρήματος, έρευναν την οποίαν συνέχισεν ο διαδεχθείς τούτον εις Cambridge A.C. Pigou, ο δε R.G. Hawtrey σύμβουλος τους Βρετανικού Θησαυροφυλακίου υπεστήριξεν (1928) ότι "είναι περισσότερο ορθόν να λέγεται ότι η αξία του χρυσού οφείλεται εις την μετατρεψιμότητά του εις πίστιν παρά ότι η αξία ταύτης οφείλεται εις την μετατρεψιμότητά της εις χρυσόν". Και τας ιδέας αυτάς από διαφορετικής σκοπιάς ενεκολπώθησαν οι Robertson και Keynes. Τούτων ο δεύτερος κατεκρινεν τον χειρισμόν των επί της Γερμανίας επιβληθεισών επαναρθώσεων και το έτος 1930 προέβαλεν την σημασίαν του τόκου ως κυριαρχούντος εισοδήματος. Εντός του κλίματος τούτου της Μεγάλης Υφέσεως και των επιστημονικών του αναζητήσεων εδημοσιεύθη και το έργον του "The General Theory of Employment, Interest, and Money" (1936), ως άλλοτε ο Karl Marx ενεπνεύσθη το έργον του Das Kapital εκ των συνεπειών της Βιομηχανικής Επανάστασεως (1760-1830), των οικονομικών κρίσεων και των εργατικών εξεγέρσεων.

7. Ο Α' Παγκόσμιος Πόλεμος εσήμαινε την επαύξησιν των κρατικών δαπανών και του εκ τούτου πληθωρισμού. Το 1926 αντί 1 δολλ. = 19.25 Ιταλικές λίρες, τούτο ήτο 1 δολλ. = 28.8 λίρες εις Ιταλίαν. Με την λήξιν του Πολέμου και η Αυστρο-Ουγγρική κορώνα υπετιμήθη τόσον ώστε ηκολούθησεν εις την πτώσιν της το μάρκον.

Το ρωσικόν ρούβλιον έχασεν επίσης το 27% της αξίας του και βραδύτερον με την Μποσλεβικήν Επανάστασιν κατέστη assignat, ώστε το 1918 1 λίρα στεργλίνα ισούτο προς 150 ρούβλια και εν συνεχεία εις την διεθνή αγοράν το ρούβλιον εξισώθη προς το μηδέν.

Η Μ. Βρετανία ήρξατο πρώτη τα αντιπληθωριστικά μέτρα αυξήσασα τον προεξοφλητικόν τόκον εις 10% και προσέφυγεν εις την επ' αύξησιν της φορολογίας προς τον σκοπόν όμως αντεπεξέελθη εις την ύψωσιν των τιμών χονδρικής πωλήσεως κατά 140% και του κόστους ζωής κατά 120%-125%, από της εκρήξεως του Πολέμου. Εις τα άλλα εμπόλεμα κράτη ο πληθωρισμός υπήρξεν περισσότερο απειλητικός, ενώ προέβησαν και εις εσωτερικόν δανεισμόν, ιδιαίτερος όμως εξ όλων των εμπολέμων χωρών εις τον πληθωρισμόν προσέφυγεν η Γερμανία δια να αυξήση η ποσότης του κυκλοφορούντος χρήματος της προς αντιμετώ-

πισιν των δαπανών πολέμου. Ενώ δε κατά τας αρχάς του Πολέμου η ποσότης του κυκλοφορούντος χρήματός εν Γερμανία ανήρχετο εις 2.9 δισ. χρυσά μάρκα, το 1913 ανήλθεν εις 22.1 δισ. μάρκα. Ένεκα τούτου το 1923 τα 1000 δισ. μάρκα ισούντο προς 1 χρυσούν μάρκον του 1914, συμφώνως προς την ισοτιμίαν, όταν καθωρίσθη η τιμή του μάρκου (Reichsmark) την 30ην Αυγούστου 1924.

Και τα μη εμπόλεμα κράτη όμως δεν υπέφερον ολιγώτερον εκ του πληθωρισμού, παρ' όλον ότι η διεθνής κοινή γνώμη επίστευεν ότι με το τέλος του Πολέμου η αγοραστική αξία των νομισμάτων θα απεκαθίστατο και πάλιν και ότι ψυχολογικώς θα υφίστατο ευνοϊκόν κλίμα προς αντιμετώπισιν του πληθωρισμού. Εξ' όλων των χωρών, όμως, μόνον η Μ. Βρετανία και αι ΗΠΑ αντιμετώπισαν τον πληθωρισμόν δια να ακολουθήση περίοδος πολιτικής αντιπληθωρισμού.

Εάν ο αγγλικός πληθωρισμός δύναται να θεωρηθή ανασχετικός (réfrénée) [Piettre, 1971 σ. 145] ο γερμανικός υπήρξεν καλπάζων (galopante). Υπό τας συνθήκας ταύτας μισθοβίωτοι και συνταξιούχοι υπέφερον αφαντάτως. Ενώπιον αυτής της καταστάσεως τα Εμπορικά Επιμελητήρια εξώδωσαν τραπεζογραμμάτια (Notgeld) κληθέντα "νόμισμα αναγκαιότητος" όπερ όμως είχεν ως αποτέλεσμα να ενταθή το νομισματικόν χάος. Υπό τας συνθήκας αυτάς ιδρύθη υπό του Δρος Schacht (15 Οκτωβρίου 1923) η Rentenbank, η οποία και εξέδωσε το Rentenmark επί τη βάσει εθνικών αγαθών (σιδηροδρόμων, οδών κ.λπ.). Περί το τέλος της περιόδου του πληθωρισμού εξεδόθη και νέον χαρτονόμισμα το Reichsbanknote αξίας 200 δισ. μάρκων [Piettee, 1971 σ. 161].

Και τα μη εμπόλεμα κράτη όμως δεν υπέφερον ολιγώτερον εκ του πληθωρισμού, παρ' όλον ότι η διεθνής κοινή γνώμη επίστευεν ότι με το τέλος του Πολέμου η αγοραστική αξία των νομισμάτων θα απεκαθίστατο και πάλιν και ότι ψυχολογικώς θα υφίστατο ευνοϊκόν κλίμα προς αντιμετώπισιν του πληθωρισμού. Εξ' όλων των χωρών, όμως, μόνον η Μ. Βρετανία και αι ΗΠΑ αντιμετώπισαν τον πληθωρισμόν δια να ακολουθήση περίοδος πολιτικής αντιπληθωρισμού.

Η Μ. Βρετανία επέστρεψε το έτος 1925 εις τον χρυσούν κανόνα δια να δημιουργήση εμπιστοσύνην εις το νόμισμά της και να δυνηθή να στηρίξη την πίστιν και την κυκλοφορίαν του νομίσματός της κατά τρόπον, ο οποίος της επέτρεψε να σταματήση την αύξησιν των τιμών και να αναπτύξη την παραγωγήν. Η τοιαύτη όμως πολιτική δεν ηκολούθηθη υπό της Γαλλίας εις την οποίαν ηυξήθη -με τα μέτρα του Poincaré-

το δημόσιον χρέος. Η Γερμανία αντιθέτως επί πλέον υιοθέτησε την πολιτική του πληθωρισμού του Schacht προς ελάττωσιν του Δημόσιου Χρέους της.

Ο γαλλικός πληθωρισμός τελών υπό την λανθασμένην αντίληψιν ότι ο πόλεμος θα ήτο βραχύς εις διαρκειαν αντιμετώπισθη κατ' αυτόν με δημοσιονομικήν μεταρρύθμισιν δια των φόρων επί του εισοδήματος (1914-1917). Ο πληθωρισμός όμως κατέστησε ανώμαλον την αύξησιν των κανονικών εισπράξεων και προέτρεψεν ουσιαστικώς εις την εκ του Δημοσίου βραχέος χρόνου και μακρού χρόνου δανειοδότησιν μέσω ομολογιών εθνικής αμύνης (τριών μηνών), καθώς επίσης με προκαταβολάς εις την Τράπεζαν. Υπό τας συνθήκας ταύτας τα μετρητά της Τραπεζής ηυξήθησαν δια να εξαναγκασθούν οι ιδιώται να ζητούν εκ της Κεντρικής Αρχής έναντι του χρυσού τον οποίον κατείχον επ' ανταλλαγή ομολογίας ή επί δανείω τίτλων. Η Τράπεζα από της πλευράς της θα εφωδίαζεν τον κάτοχον με πανομοιότυπον απόδειξιν. Η τοιαύτη όμως αύξησις του αποθέματος χρυσού περίπου 2 δισ. και ήμισυ φράγκων δεν ήτο δυνατόν να καλύψη τον όγκον των εκδοθέντων τραπεζογραμμάτων και ούτω ο πληθωρισμός εγκλώβισεν την Γαλλίαν [Piettre, 1971 σ. 145].

Ενταύθα επίσης θα πρέπει να αναφέρωμεν και ωρισμένας πληθωριστικάς πιέσεις, αι οποίαι εσημειώθησαν μεταξύ 1921-1925 εις Γερμανίαν, Πολωνίαν, Τσεχοσλοβακίαν, Φινλανδίαν και Αυστρίαν άνευ αυξήσεως της χρηματικής κυκλοφορίας, ενώ εις ωρισμένας περιπτώσεις αύτη ανελθούσα (Αυστρία μεταξύ 1922-1923, κατά παρατήρησιν του Aftalion) δεν επηρέασεν ποσώς τας τιμάς.

Όσον αφορά εις την Ελλάδα μέχρι της 2ης Μαΐου του έτους 1920 το κυκλοφορούν χρήμα ανήρχετο εις 300.000.000 δραχ. την 21ην Σεπτεμβρίου 1920 και 400.000.000 δραχ. την 31ην Μαρτίου 1921 εις 500.000.000 δραχ. την 17ην Φεβρουαρίου 1922 εις 550.000.000 δραχ. και την 29ην Οκτωβρίου 1922 εις 600.000.000 δραχ.

Από του έτους 1916 η Ελλάς ετέλει υπό πληθωρισμόν ο οποίος μέχρι του έτους 1922 κατέστη καλπάζων. Και τούτο ωφείλετο εις τους εξής λόγους:

α) Εις την από του έτους 1916, αδυναμίαν συγκεντρώσεως φόρων ένεκα της ελλείψεως του καταλλήλου μηχανισμού προς τον σκοπόν αυτόν, ενώ η συνεχής απελευθέρωσις πατρίου εδάφους εσήμαινεν και αύξησιν των κρατικών δαπανών, περα των εσόδων, με την ελάττωσιν τό-

σον της παραγωγής όσον και της αποδόσεως των υπηρεσιών.

β) Την επαύξησιν της δανειοδοτήσεως από μέρους τρίτων προς το Ελληνικόν Κράτος το οποίον δι' αυτών εκάλυπτεν κυρίως πολεμικάς δαπάνας.

γ) Την αδυναμίαν ανταποκρίσεως προς τας εκ δανείων υποχρεώσεις, καθώς και εις την εξ αιτίας του γεγονότος τούτου δημιουργίαν νέων δανείων προς εξόφλησιν παλαιών και την εξόφλησιν τοκοχρεωλυσιών.

δ) Την επαύξησιν των φόρων δι' εμμέσων φόρων, οι οποίοι ενέτειναν τον πληθωρισμόν με τας επιπτώσεις των επί των τιμών, ενώ τα τέλη μειώθησαν συνεπεία του πολέμου μέχρι το 1919 και κατόπιν με τον Ελληνο-Τουρκικόν Πόλεμον. Επίσης εις την πληθωριστικήν πίεσιν συνετέλεσεν και ο διαχωρισμός των ταριφών, καθώς και ο ρυθμός των συνεχώς επαυξανομένων τιμών, και η μείωσις των εισαγωγών, η οποία επέφερεν στέρησιν αποταμιευτικών πόρων διά το Κράτος.

Η τιμή της λίρας επίσης ηυξήθη, από 35 δραχ. τον Οκτώβριον του 1920 εις 97 δραχ. τον Σεπτέμβριον του 1923 εις 426 δραχ. [Ανδρεάδης, 1927 Δ' σελ. 524 κ.επ.]. Την ανάγκην αντιμετώπισεως δαπανών Μικρασιατικού Πολέμου, επί κυβερνήσεως Δ. Γούναρη, προσεπάθησεν δι' εφυιούς τρόπου να αντιμετωπίση ο υπουργός Οικονομικών Π. Πρωτοπαπαδάκης (Νόμος 25ης Μαρτίου 1922), ο οποίος προέβη εις διχοτόμησιν των τραπεζικών γραμματίων. Δια την τοιαύτην ενέργειάν του, ο Πρωτοπαπαδάκης, το μέν ήμισυ εκ του κοπέντος χρήματος άφησεν εν κυκλοφορία, το δε έτερον αντήλλαξεν υποχρεωτικώς με τίτλους εσωτερικού δανείου επιτοκίου 6 1/2% και κερδοφόρους λαχνούς μέχρι του ποσού των 8 εκατομ. Ούτως ηλαττώθη η κυκλοφορούσα ποσότης του χρήματος από 3.100.000 δραχ. εις 1.300.000 δραχ. αφηθέντος ποσού προς όφελος της Εθνικής Τραπέζης. Αύτη υπεχρεούτο να φέρη εις πίστωσιν του Κράτους ποσόν ίσον προς το ήμισυ των γραμματίων, τα οποία edικαιούτο να έχη εν κυκλοφορία. Ως δε παρατήρησεν ο Ανδρεάδης να εκδώση τραπεζογραμμάτια ίσης αξίας προς το από της κυκλοφορίας αποσυρθέν ποσόν τραπεζικών γραμματίων. Η Τράπεζα όμως κάτοχος γραμματίων 750.000 δραχ. εθίγετο εκ του υιοθετηθέντος μέτρου. [Ανδρεάδης, op. cit. σσ. 54,55 Χουμανίδης 1996 σελ. 523]. Η εξόφλησις του δανείου καθωρίσθη όπως συντελεσθή εντός 29 ετών. Δυστυχώς ένεκα της εθνικής τραγωδίας και της γενικωτέρας πολιτικής της τότε κυβερνήσεως το σχέδιον τούτο ανετράπη συγχρόνως δε απώλεσαν τας αποταμιεύ-

σεις των και αι πτωχαί μάζαι του πληθυσμού και δη οι έχοντες τότε μικρόν εισόδημα αγρόται, καθώς επίσης ανεστάλησαν τα εξ Αμερικής προερχόμενα εμβάσματα των ομογενών [Ανδρεάδην, Δ' σελ. 58 Χουμανίδης, 1996 σελ. 527].

Η ιταλική λίρα διήλθεν περίοδον υποτιμήσεων από του έτους 1927. Με την εφαρμοσθείσαν όμως αντιπληθωριστικήν πολιτικήν η Ιταλική λίρα εν σχέσει προς την αγγλικήν λίραν επανέκτησεν αξίαν, ήτοι 1:92 αντί της πρότερον ισοτιμίας 1:150. Το έτος 1923 είχομεν νομισματικές μεταρρυθμίσεις εις Αυστρίαν, Ουγγαρίαν και Πολωνίαν, ως επίσης και εν Ρωσία με το νέον μπολσεβικόν ρούβλιον. Η δε Αγγλία κατά την διάρκειαν της παγκοσμίου υφέσεως εγκατέλειψεν, ως ελέχθη, τον χρυσούν κανόνα, το ίδιον και η Ελλάς.

Το 1931 υπετιμήθη η Ιταλική λίρα κατά 41% εν σχέσει προς την πραγματικήν της αξίαν, το Γαλλικόν φράγκον κατά 30%, το Βελγικόν κατά 28% και το Ελβετικόν κατά 20%. Το 1936 το Ρωσικόν ρούβλιον υπετιμήθη κατά 77%. Την σεισμικήν δόνησιν της Μεγάλης Υφέσεως ηκολούθησαν αι μετασεισμικαί τοιαύται της θυέλλης των νομισματικών υποτιμήσεων, του μπολσεβισμού, και της εγκαθιδρύσεως των ναζιστοφασιστικών συστημάτων. Και ας μη παρηγορούμεθα ότι ο Β' Παγκόσμιος Πόλεμος υστέρησεν εις τα ως άνω γεγονότα, διότι και αυτός είχαν τας συνεπείας του με την κρίσιν του Βερολίνου, τας επεκτάσεις και συνεχείς κρίσεις του μπολσεβισμού, τον ψυχρόν πόλεμον, τους τοπικούς πολέμους και την επικράτησιν διαφόρων ταχυδιωκτών εις πλείστας όσας χώρας. Έτι δε και σήμερον -παρά την κατάρρευσιν του κομμουνιστικού καθεστώτος- η κρίσις εξακολουθεί εις τας πρώην υπο σοβιετικήν επικυριαρχίαν χώρας. Διότι αύτη δεν είναι μόνον οικονομική αλλά και ηθική. Πέρα τούτων, εις τας πρώην υπό κομμουνιστικήν ηγεσίαν χώρας τα μέλη του κομμουνιστικού κόμματος δεν παύουν να έχουν τον πρώτον λόγον αφίνοντες τον λαόν να πιστεύη ότι θα επανέλθουν και τότε εν τη Δευτέρα Παρουσία αυτών θα κριθή έκαστος κατά τας πράξεις του. Συγχρόνως δε δεικνύουν την σκληρότητα της αγοράς, η οποία, ειρησθω, ουδέποτε ως έπρεπε εφηρομόσθη. Τούτο μεν ένεκα των παλαιών δομών, τούτο δε ένεκα της μη δυνατότητος εφαρμογής συστήματος ειρήνης, τάξεως και κοινωνικής δικαιοσύνης. Και εις τον Δυτικόν Κόσμον όμως ο καπιταλισμός δεν έχει ανθρωπινον πρόσωπον μολονότι καταβάλλονται προσπάθειαι προς αυτήν την κατεύθυνσιν. Η τούτη προσπάθεια ήρχισεν υπό του υποφαινομένου και του καθηγητού κ.

Anghel Rugina από διαφορετικής οδού δια να ιδρυθή προς τον σκοπόν αυτόν υπό του δευτέρου η I.S.I.N.I. (International Society for the Inter-communication of New Ideas). Μέχρις ότου όμως αι αναφερθείσαι αντινομίαι αύται εξαλειφθούν από την Οικουμένην, δυστυχώς η οικονομία θα υπόκειται εις κραδασμούς εσωγενείς και εξωγενείς. Ας επανέλθωμεν όμως εις τα καθωρισμένα πλαίσια του θέματός μας.

8. Προς σταθεροποίησιν των ισοτιμιών των νομισμάτων το έτος 1944 (22 Ιουλίου) συνήλθον εις Bretton Woods αντιπρόσωποι 44 χωρών με εξαίρεσιν την τότε ΕΣΣΔ και τας τότε δορυφόρους χώρας της, καθώς επίσης η Κίνα και η Ελβετία. Κατά την συνάντησιν εκείνην, ότε και υπεγράφη η συμφωνία της 20ης Ιουλίου του αυτού έτους, ιδρύθη το International Monetary Fund προς επίτευξιν σταθερών συναλλαγματικών ισοτιμιών.

Με την εν λόγω συμφωνίαν δημιουργήθη απόθεμα κεφαλαίων από τας συμφωνησάσας χώρας κατ' αναλογίαν εισφοράς 1/3 εις χρυσόν και 3/4 εις εθνικόν νόμισμα εκάστης χώρας, καθωρισθη δε η σχέσις δολλαρίου προς χρυσόν 1 δολλ. = 888,671 mg χρυσοῦ· επίσης και ότι η διακύμανσις ισοτιμίας μεταξύ δύο νομισμάτων να μη υπερβαίνει το 1%. Καθήκον δε των Κεντρικών Τραπεζών ήτο η διατήρησις αυτής της ισοτιμίας.

Το σύστημα όμως του Bretton Woods, το οποίον επίσης απέβλεπεν εις την ενίσχυσιν του διεθνούς εμπορίου διελθόν από περιπετείας ένεκα λόγων κερδοσκοπικών και ελλειμμάτων ισοζυγίου πληρωμών κατέληξεν εις την χρεωκοπίαν του, αφού κατέρρευσεν προηγουμένως και το Special Drawing Rights (Στοκχόλμη, 1968) και η ακολουθήσασα συμφωνία της Washington (1971) προς σωτηρίαν της συμφωνίας του Bretton Woods.

Μετά τον Β' Παγκόσμιον Πόλεμον αι τεράστια κρατικά δαπάναι και η έλλειψις ειδών προεκάλεσε μεγάλην αναστάτωση των τιμών, ενώ αι ΗΠΑ όπως αποφύγουν την γεωργικήν υπερπαραγωγήν και αντιμετώπισιν της ελλείψεως των αναγκαίων ειδών, έναντι μιας επικινδύνου εξαπλώσεως του κομμουνισμού, υιοθέτησαν το Σχέδιον Marshall (1947). Παρά ταύτα ο πληθωρισμός και ο επακολοθησας στασιμοπληθωρισμός, του οποίου τα αίτια οφείλονται εις την στρέβλωσιν του συστήματος, παλαιόντος προς επιβίωσιν, μεταξύ φискаλισμού και μονεταρισμού, και της υφισταμένης κερδοσκοπίας -πλην της ανίσου κατα-

νομής του χρυσού -προεκάλεσαν την σημερινήν ύφεσιν περί της οποίας ήδη ανεφέρθημεν.

9. Με την έκρηξιν του Β' Παγκοσμίου Πολέμου η Αγγλική λίρα υπετιμήθη δια να την ακολουθήση το Γαλλικόν φράγκον και να υποτιμηθή κατά 17% εν σχέσει προς το δολλάριον η Ισπανική πεσέτα, και κατά 6% το Πορτογαλικόν εσκούντο. Το 1954 η λίρα στεργλίνα υπετιμήθη εν σχέσει προς το δολλάριον, από 4.02 δολλ. εις 2.80 δολ., και το 1961 υπέστη και νέαν τοιαύτην, από 2.80 εις 2.40. Το Γερμανικόν μάρκον ενώ το 1949 ανήλθεν εις αξίαν, κατά το 1961, η Γερμανία προέβη εις ανατίμησίν του από 3.2 το δολλ. εις 4 δολλ. μεταξύ δε 1973-1976 η ισοτιμία τούτου ανήλθεν κατά 22.65%, αφού ανετιμήθη (1950) και το ρούβιον κατά 30%.

Μεταξύ 1975 η αύξησις του Α.Ε.Π. των Η.Π.Α. ηύξανε με ετήσιον ρυθμόν 2.7% και των χωρών της Δ. Ευρώπης με 3.8%, ενώ μεταξύ 1960-1970 ήτο 3.8% δια τας ΗΠΑ και 4.6% δια την Δ. Ευρώπην. Μεταξύ 1975-1970 ο ρυθμός οικονομικής αναπτύξεως δια τας ΗΠΑ, ήτο 3% και δια την Δ. Ευρώπην 1.9%, ενώ δια την Ιαπωνίαν, μεταξύ 1960-1970, ήτο πλέον του 10%, δια να κατέλθη μεταξύ 1974-1978 εις 3.6%. Το 1979 παρατηρήθη άνοδος του ρυθμού οικονομικής αναπτύξεως δια τας χώρας της Ε.Ο.Κ. εις 3%, ενώ των ΗΠΑ κατήλθεν εις 1.6%. Βεβαίως τα ποσοστά αυτά είναι λίαν χαμηλά, δέον όμως να λάβωμεν υπ' όψιν και την οικονομικήν ωριμότητα των χωρών τούτων. Συμφώνως προς έκθεσιν του Διεθνούς Νομισματικού Ταμείου (IMF) ο ρυθμός ανόδου των Η.Π.Α. Ιαπωνίας, Δ. Γερμανίας, Μ. Βρετανίας, Καναδά, Γαλλίας και Ιταλίας κατά το 1982 εξέπεσεν εις 0.8% από 1.2% του 1981, προεβλέπετο δε -εάν το διεθνές κλίμα εβελτιούτο- να ανελθη το 1983 εις το επίπεδον του 2.5% ένεκα της μειώσεως των επιτοκίων και της εκμεταλλεύσεως των βιομηχανικών επενδύσεων.

Όσον αφορά εις την Ελλάδα [Χουμανίδης, 1991 σελ. 613] μεταξύ 1963-1973, ο ρυθμός αναπτύξεώς της ήτο 7.7% δια το 1965-1978 περί το 5.5% δια το 1979 ήτο 3.9% και δια το 1980 σχεδόν μηδενικός.

Η Ελληνική δραχμή, από του αναφεροθέντος πειράματος του εφνιούς Πρωτοπαπαδάκη, δεν υπέστη έτεραν νομισματικήν διαταραχήν με την βραδείαν ύφωσιν των τιμών μέχρι του έτους 1940.

Κατά την διάρκειαν της μαρτυρικής κατοχής (Απρίλιος 1941- Οκτώβριος 1944) η δραχμή απώλεσεν την αξίαν της και η χρηματική κυκλοφορία, από Απριλίου του 1941 έως τον Οκτώβριον του 1944, ανήλθεν

εις δυσθεώρητα ύψη. Υπό τας συνθήκας αυτάς εσημειώθη πληθωρισμός απιθάνων διαστάσεων, ώστε με την εξυγίανση της δραχμής, το 1944, μία δραχμή να ισούτο προς 50 δισ. δραχμών κατοχής.

Ήδη η κατά τον Αλβανικόν Πόλεμον (Οκτώβριος 1940 - Απρίλιος 1941) ηυξήθη εν Ελλάδι η χρηματική κυκλοφορία κατά 72%, ενώ ο δείκτης του πληθωρισμού εσημείωσε επίπεδον καλπασμού 12%. Και το επίπεδον τούτο ένεκα των συνθηκών του πολέμου δεν ήτο υπερβολικόν ένεκα των εξής λόγων :

α) Της εμπιστοσύνης των Ελλήνων εις το νόμισμα των β) της ελαττώσεως της κυκλοφορικής ταχύτητος του χρήματος γ) της αυξήσεως του αποθησαυρισμού δ) της σταθερότητος της συναλλαγματικής αξίας της δραχμής εις όρους χρυσου.

Μεταξύ 1944-1948 ο Κυριάκος Βαρβαρέσος προς αντιμετώπισιν του πληθωρισμού επέβαλεν έλεγchon επί των τιμών και των ποσοτήτων των αγαθών, υιοθέτησεν βαρύτεραν φορολογίαν του εισοδήματος περιορίσεν τας εισαγωγάς και ανεξήτησεν γενικώς οδον νομισματικής σταθερότητος, οπότε και επήλθεν ανακούφισις εις την οικονομίαν.

Κατά το έτος όμως 1964 επεβλήθη η πολιτική του ελεγχομένου πληθωρισμού προς τον σκοπόν της ανακουφίσεως των χαμηλών εισοδηματικών τάξεων και επιτεύξεως οικονομικής αναπτύξεως με αποτέλεσμα την έκτοτε εμφανισθήσασιν πληθωριστικήν πίεσιν. Η δέσμευσις της δραχμής προς το δολλλάριον (1971) ουχ ήττον συνετέλεσεν εις περαιτέρω διακυμάνσεις των τιμών και με την «ενεργειακήν κρίσιν» του 1973 το φαινόμενον του πληθωρισμού κατέστη πλέον έντονον.

Ο πληθωρισμός όμως εις την χώραν μας παρουσίασεν και αύξησιν κατά πολύ μεγαλυτέραν από εκείνην των χωρών της Ε.Ο.Κ. και των Η.Π.Α. εκ λόγων οφειλομένων εις την υπεραύξησιν των κρατικών δαπανών. Ούτως, ενώ δια το μεταξύ 1975-1978 διάστημα δια τας χώρας της Ε.Ο.Κ. και τας Η.Π.Α. ο ρυθμός ανόδου του πληθωρισμού ήτο περίπου 12%, δια την Ελλάδα -συμφώνως προς τα επίσημα στοιχεία- ανήλθεν εις 24.94% κατήλθεν δε και ο ρυθμός οικονομικής αναπτύξεως. Κατά το τέλος του 1981 ο πληθωρισμός ανήλθεν εις 26.1% δια να φθάση εις πλέον του 30% κατά το 1982, ενώ η προσφορά χρήματος μεταξύ 1970-1981 ηυξήθη κατά 101.554 εκατ. δρχ. Επίσης αι ηυξημένα αποταμιεύσεις παρουσίασαν ψευδαισθήσεις αριθμών, δεδομένου ότι και τα Νομικά Πρόσωπα Δημοσίου Δικαίου υπεχρεούντο να προβαίνουν εις αποταμιεύσεις προσεγγιζούσας το 30% του συνόλου τούτων.

Όσον αφορά εις την υποτίμησιν της δραχμής, μεταξύ 1977-79 εν σχέσει προς τα ξένα νομίσματα, είχεν ως εξής :

Δολλάριον	Αγγλική Λίρα	Μάρκον	Ελβετικόν Φράγκον	Βελγικόν Φράγκον	Γαλλικόν Φράγκον
23.5%	10.7%	70%	116%	60.7%	36.4%

Εν σχέσει δε προς την δέσμην όλων των ξένων νομισμάτων, με βάση το έτος 1970, η δραχμή υπετιμήθη (1982) έναντι τούτων κατά 90%, ενώ έναντι της χρυσής λίρας 30 φοράς.

Πέρα τούτων η χώρα μας ήτο επιβεβαρωμένη και με τεράστιον εξωτερικόν Δημόσιον Χρέος ανερχόμενον εις 500 δισ. δρχ. και με εσωτερικόν δημόσιον χρέος 650 δισ. δρχ. Και μόνον δια το πρώτον τετράμηνον του 1982 η Τράπεζα της Ελλάδος εδανείσθη 484 εκατομ. δολλ.. Όσον αφορά δε εις το εμπορικόν, ισοζύγιον τούτο, από του έτους 1939, συνεχώς ανήρχετο. Το έλλειμμα του εμπορικού ισοζυγίου της Ελλάδος το έτος 1938 ανήρχετο εις 39,1 εκατομ. δολλάρια, το έτος 1958 εις 267 εκατομ. δολλάρια. Το έτος 1978 το εμπορικόν ισοζύγιόν μας εσημείωσε νέαν άνοδον ανελθόν εις 958 εκατομ. δολλάρια, το έτος 1979 έφθασε την τάξιν του 1.396 εκατομ. δολλαρίων, και το έτος 1984 το έλλειμμα ανήλθεν εις 2.334 εκατομ. δολλάρια και το έτος 1990 το παθητικόν του εσημείωσε νέαν άνοδον ύψους 9.086 εκατομ. δολλαρίων. Το φαινόμενον δε τούτο ήτο συνέπεια της ελαττώσεως των εξαγωγών μας, αι οποίαι μειώθησαν κατά 8,62%, ενώ αι εισαγωγαί μας ηυξήθησαν κατά 7,6% [Χουμανίδης 1991 σελ. 411].

Προκειμένον περι του συναλλαγματικού αποθέματος της χώρας, τούτο εφέρετο ως μειωθέν από 1.714 εκατομ. δολλ. εις 1047 εκατομ. δολλ. (τέλος Απριλίου 1982), ότε υπέστη ελάττωσιν 47%. Τούτο ωφείλετο αφ' ενός μεν εις την μείωσιν των εμβασμάτων ναυτικών και εργατών και αφ' ετέρου εις την ανάσχεσιν εισόδου επιχειρηματικών κεφαλαίων, των πρώτων παρουσιαζόντων μείωσιν από 164 εκατομ. δολλ. εις 108 εκατομ. δολλ. και των δευτέρων από 156 εκατομ. δολλ. εις 93 εκατομ. δολλ.

10. Πλην όμως του πληθωρισμού και η ανεργία έπληξεν τας Δυτικές χώρας, πράγμα το οποίον είχεν αποφευχθή με την λήξιν του Β' Παγκοσμίου Πολέμου, ένεκα των συνεχισθέντων εξοπλισμών και της υίοθετήσεως πληθωριστικής επί του χρήματος πολιτικής, της οποίας όμως τας επιπτώσεις αντιμετωπίζομεν μέχρι σήμερα. Προσέτι εν Ελλάδι η ανεργ-

γία ήρχισε -παρά την αιμορραγία της μεταναστεύσεως- να μας πλήττη. Και μόνον αι τεράστια κρατικά δαπάναι συνετέλεσαν εις την αναστολήν της δια να δημιουργηθούν όμως τα εκ του πληθωρισμού και του Δημοσίου Χρέους προβλήματα. Πλην τούτων όμως και ο ρυθμός επενδύσεων ηλαττώθη από 3.4% δια το 1971 όσον αφορά εις τας χώρας της Ε.Ο.Κ. εις 1.7% δια το 1977, ενώ εν Ελλάδι η κατιούσα τάσις των επενδύσεων προσήγγισε το μηδέν σπανίως δε υπερέβη το 1 1/2%.

Ο πληθωρισμός είχε τοιαύτην εξάπλωσιν και άνοδον ανά τον κόσμον ώστε και εις χώρας δυναμένης να ελέγξουν, ως εκ του συστήματος των τον πληθωρισμόν, ως αι κομμουνιστικάί, να υποστούν εις τας οικονομίας των εντόνους πληθωριστικές πιέσεις. Η Ουγγαρία και η Γιουγκοσλαβία μάλιστα έφθασαν εις πληθωρισμόν τας πλέον μαστιζόμενας υπ' αυτού μη υπό των κομμουνιστών κατεχομένες χώρας. Το 1950 εις Γιουγκοσλαβίαν ο ρυθμός ανόδου των τιμών ήτο 4%, το 1968 ανήλθεν εις 12% και το 1974 εις 20% ανάλογον δε ύψωσιν των τιμών συναντώμεν και εις την Ουγγαρίαν. Η πιστοποίησης του πληθωρισμού εις τας υπό των κομμουνιστών κατεχομένες χώρας εγένετο επί τη βάσει των υπερευθυμένων τιμών, παρά το καμουφλάζ τούτων υπό την μορφήν δήθεν νέων μοντέλων αγαθών. Επομένως η προφητεία του Lenin, κατά τον οποίον "ο πληθωρισμός θα καταστρέψη τον καπιταλισμόν" ίσχυσε και δια τον κομμουνισμόν. Το ερώτημα όμως το οποίον τίθεται είναι που ωφείλετο ο πληθωρισμός εις τας κατεχομένες υπό των κομμουνιστών χώρας. Αι αιτίαι του πληθωρισμού εις τας χώρας αυτάς ωφείλοντο εις: α) Επελθούσας μεταβολάς των αποθεμάτων των αγαθών, β) εις την μη ορθολογικήν λειτουργίαν των εκμεταλλεύσεων γ) εις την επαύξησιν της ζήτησεως του κοινού δια καταναλωτικά αγαθά, των οποίων όμως το κόστος ήτο -όπως και σήμερα είναι- υψηλόν δ) εις την υπερεπένδυσιν ένεκα της ικανοποιήσεως φιλοδόξων σοσιαλιστικών σχεδίων ε) εις τον εισαγόμενον πληθωρισμόν στ) εις την επαύξησιν των εξοπλισμών.

Συνοψίζοντες δυνάμεθα να είπωμεν ότι κατά τον Β' Παγκόσμιον Πόλεμον και δη, από του 1948 μέχρι του 1959, παρατηρείται συνεχής αύξησις των τιμών, δι' όσον αφορά εις τας ανεπτυγμένες βιομηχανικάς χώρας κατά ποσοστόν 2.5% ετησίως. Ο πόλεμος της Κορέας επηύξησεν τας τιμάς πρώτων υλών (1950) κατά 15% εις Γερμανίαν, 20% εις Ολλανδίαν, και 57% εις Ηνωμένον Βασίλειον. Η χρονική υστερησις του ρυθμού οικονομικής αναπτύξεως κατά το διάστημα τούτο περιέ-

στειλεν τας πληθωριστικὰς πιέσεις, δια να έχωμεν -μετά από σύντομον αντιπληθωριστικήν κάμψιν- και πάλιν άνοδον των τιμών από του 1954 και κατόπιν.

Από του 1959 το ποσοστόν πληθωρισμού παγκοσμίως ανήλθε ταχύτατα πέρα του 4%, από δε του 1969 ηυξήθη εις 6% και πλέον. Από του έτους 1972 ο πληθωρισμός επεταχύνθη αφ' ενός μεν λόγω των αναγκών βιομηχανικής αναπτύξεως, αφ' ετέρου δε λόγω των στρατιωτικών δαπανών, πλέον δε τούτων και συνεπεία της αποτόμου αυξήσεως της τιμής του πετρελαίου. Εις τον πληθωρισμόν όμως όχι ολιγότερον συνέβαλεν και η υποδειχθείσα υπό υπευθύνων ακαδημαϊκών διδασκάλων πληθωριστική πολιτική προς αντιμετώπισίν της -μετά την λήξιν του Πολέμου- της πιθανής υφέσεως εις την Οικονομίαν. Και ναι μεν ούτοι αντιμετώπισαν την ύφεισιν, και εις τούτο επίσης εβοήθησεν ουχ ήττον η εφαρμοσθείσα προσπάθεια αυξήσεως της παραγωγικότητας, υπέπεσαν όμως εις το άλλο άκρον, τον πληθωρισμόν (1973). Εις την κατάστασιν ταύτην προσετέθη και η ιδέα του τιτανισμού και η νοοτροπία του ευδαιμονισμού με την αντί πάσης θυσίας επαύξησιν της ενεργού ζήτησεως.

Είναι γεγονός ότι οικονομολόγοι στηριζόμενοι εις την επί του χρήματος οικονομικήν πολιτικήν δεν ηνίχοντο υψηλά ποσοστά ρυθμού του πληθωρισμού, ενώ υπεστήριζον ότι εις σταθερός πληθωρισμός επιπέδου 15% ήτο επιτρεπτός (Tobin). Έτι και ωρισμένοι οικονομολόγοι δεν edίστασαν να δεχθούν και την δια του πληθωρισμού εξαπάτησιν του κοινού! Υπό τας συνθήκας ταύτας διεσαλεύθη η οικονομική σταθερότης.

Επί τη βάσει των όσων ανεπτύξαμεν ανωτέρω, μεταξύ 1951-1958 ο ρυθμός πληθωρισμού ανήλθεν. Και ενώ δια το Η.Β. ήτο 3.7%, μεταξύ 1970-1977 ανήλθεν εις 14.1%, δια την Δ. Γερμανίαν εις 2.3% και είτα 5.9% εις Γαλλίαν 5.3% και μεταξύ 1970-1977 9.3%, και την Ιαπωνίαν 8.4% δια την μεταξύ 1970-1977 περίοδον.

Ο πληθωρισμός εν συνεχεία περιορισθείς παρέμεινε, συμφώνως προς το μηνιαίον Δελτίον της Κοινοτικής Στατιστικής Υπηρεσίας, εφ' ενός γενικού επιπέδου 6% δια τας 12 χώρας της τότε Κοινότητος έχων ως έξης: Δανία 2.2%, Ιρλανδία 2.7%, Ολλανδία 2.9%, Γερμανία 3.0%, Γαλλία 3.4%, το Βέλγιον 4.0%, Λουξεμβούργον 4.5%, Ισπανία 6.7%, Ιταλία 6.8%, Μ. Βρετανία 9.7%, Πορτογαλία 14.1% και Ελλάς 29.9%. Ο περιορισμός όμως του πληθωρισμού ενίσχυσεν την ανεργίαν δια να επανέλθει η με τον στασιμον πληθυσμόν παρηγκωνισθείσα καμπύλη

του Phillips εις το προσκήνιον.

Όταν η ανεργία το 1963 ανήλθεν εις την Μ. Βρετανίαν εις 3%, τότε ηυξήθησαν αι συντάξεις και ηλαττώθη ο φόρος επί του εισοδήματος και τούτο όπως αυξηθή η ενεργός ζήτησις και η απασχόλησις. Βελτιωθείσης της καταστάσεως το έτος 1966 η κυβέρνησις του Εργατικού Κόμματος απέβλεψεν εις την συγκράτησιν των μισθών και ημερομισθίων, συγχρόνως με την ελάττωσιν των φόρων και τον περιορισμόν των κυβερνητικών δαπανών. Το 1971 η κυβέρνησις του Συντηρητικού Κόμματος επανήλθεν εις την πολιτικήν της επαυξήσεως της ενεργού ζήτησεως, διότι η ανεργία ενεφανίσθη σχετικώς υψηλή, ήτοι εις επίπεδον 2.5%. Έκτοτε δε η ανεργία συνεχώς αυξάνει εις ΗΒ καθώς και εις ολόκληρον τον κόσμο.

Ήδη αναφέρθημεν εις το ποσοστόν πληθωρισμού εις την χώραν μας παρ' όλας δε τας αισιοδόξους προβλέψεις προσετέθη σήμερον και η ανεργία, καθώς και η κάμψις εις την παραγωγήν του Εθνικού προϊόντος. Το ίδιον παρατηρήθη και επί Οικουμενικής Κυβερνήσεως, παρά τα υϊοθετηθέντα μέτρα, καθώς και με τας ακολουθησάσας κυβερνήσεις. Σήμερον λέγεται ότι ο πληθωρισμός κατέρχεται· παρά ταύτα αι τιμαί ανέρχονται (!). Και τούτο διότι η φορολογική πολιτική μόνη ή τα σπασμοδικά μέτρα δεν επιτυγχάνουν την ισορροπίαν της Οικονομίας μας.

11. Οι δύο Παγκόσμιοι Πόλεμοι λόγω των πολεμικών προπαρασκευών και της διεξαγωγής των, ως και μετά το πέρας των ένεκα της ηυξημένης ζήτησεως προεκάλεσαν πληθωρισμόν, ούτος δε ενισχύθη και εκ των εξοπλισμών. Πλέον των λόγων τούτων δια τον πληθωρισμόν επί των ημερών μας συνέβαλον και η υπερβάλλουσα ζήτησις, το έλλειμμα του ισοζυγίου πληρωμών, η αύξησις του εγχρηματισμού της πίστεως, αι τιμαί των μονοπωλίων, αι κερδοσκοπικαί επιχειρήσεις, η διωγκωθείσα γραφειοκρατία, η έλλειψις ορθής πολιτικής επί των μισθών, αι μη ορθολογικαί δημόσιαι δαπάναι, η μη συνειδητή συμμετοχή του λαού εις την πολιτικήν της νομισματικής εξυγιάνσεως, αι πεπαλαιωμένοι δομαί, αι μη αναγκαιαί κρατικαί παρεμβάσεις, η αλόγιστος φορολογική πολιτική, η άνισος κατανομή του εισοδήματος, η ελάττωσις των ωρών εργασίας, αι υπερβολικαί δαπάναι διαφημίσεως, η άνισος κατανομή του χρυσού και η άνοδος της τιμής του πετρελαίου. Βεβαίως πάντα ταύτα δεν ισχύουν δι' απάσας τας χώρας.

Η κληθείσα πετρελαιακή κρίσις μολονότι -ως απέδειξα- (The two Great World Wars and the two Great World Crises "SPOUDAI" 1987, 1-

2) δεν ωφείλετο μόνον εις το πετρέλαιον, προήλθεν και εξ άλλων αιτιών, αι οποίαι εξέσπασαν το έτος 1973 και συνεχίσθησαν με νέαν κρίσιν το έτος 1979. Εις το εν λόγω άρθρον μου αι ΗΠΑ είχαν μεγαλύτερον επίπεδον (13.2%) ποσοστού πληθωρισμού των λοιπών χωρών (Ιαπωνίας, Δ. Γερμανίας, Γαλλίας, εκτός της Ιταλίας (17,4%) -μολονότι εισήγαγεν ολιγώτερον πετρέλαιον (47,1%)- ενώ η Ιαπωνία, η Δ. Γερμανία, η Γαλλία και η Ιταλία εισήγαγον 92.0%, 97.0%, 97% αντιστοίχως [Houmanidis, op. cit. σελ. 18]. Ένεκα τούτου φρονώ ότι μια τοιαύτη τοποθέτησις του θέματος δεν είναι ορθή. Ο Kindelberger υποστηρίζει επίσης ότι η προσπάθεια του Νixon να επανεκλεγή ήτο εκείνη η οποία τον ώθησε να επανξιήση την κυκλοφορούσαν ποσότητα του χρήματος και να ελαττώση τα επιτόκια δια του A.G. Barns Προέδρου του Federal Bank System ενώ η Duetches Buderbank προσεπάθησε να αντιμετωπίση τον πληθωρισμόν με περιορισμόν της χρηματικής κυκλοφορίας. Η πτώσις όμως των επιτοκίων εις ΗΠΑ, ένεκα της πολιτικής του Barns, είχαν ως αποτέλεσμα τα ευρωπαϊκά κεφάλαια να επανέλθουν εις την αγοράν χρήματος της Ευρώπης, να υποβιβασθούν τα εις αυτήν επιτόκια, και να εφοδιάσουν οι Άγγλοι την Buderbank με ευροδολλάρια. Η Buderbank με την σειράν της τα δολλάρια ταύτα τα επανατοποθέτησε εις την αγοράν Ευροδολλαρίων της Νέας Υόρκης. Και τούτο είχαν ως αποτέλεσμα την έλλειψιν ρευστότητος εις το ισοζύγιον πληρωμών των ΗΠΑ, ώστε να ανέλθη αυτή από 4 δις. ετησίως εις 20 δις. το έτος 1970 και εις 30 δις δολλ. το έτος 1972. Οι Ευρωπαίοι Τραπεζίται όμως ανεζήτησαν κεφάλαια εκτός Ευρώπης από τας χώρας του Τρίτου Κόσμου (1972-1973), αι οποίαι προσεπάθουν να επιτύχουν την οικονομικήν των ανάπτυξιν πριν ακόμη επέλθη η αύξησις της τιμής του πετρελαίου υπό του OPEC. Η άνοδος της τιμής του πετρελαίου από 3 δολλ. εις 12 δολλ. το βαρέλιον, προεκάλεσε το έτος 1973 ευρύτατον περίσσειμα εις το ισοζύγιον πληρωμών της Σαουδικής Αραβίας, του Κουβέιτ και του Αμπού Χαμπή εν αντιθέσει προς τα ελλείμματα άλλων χωρών. Και ενώ αι χώραι του OPEC (Organization of the Petreleum Exporting Countries) επανετοποθέτησαν τα δημιουργηθέντα κέρδη των εις την Ευρωπαϊκήν χρηματαγοράν, οι παραγωγοί του Τρίτου Κόσμου προέβησαν εις δανεισμόν των χωρών τούτων.

12. Κατά τον 19ον αιώνα οικονομικαί κρίσεις αφεώρουν εις αγροτικών προϊόντα και εις μέσα μεταφοράς (1830- βάμβαξ και δημητριακά-, 1847 -σίτος και σιδηρόδρομοι- 1866 -βάμβαξ και ναυτιλία, 1873-σιδη-

ρόδρομοι ως η Μεγάλη Ύφεσις (1929-1933) αγροτικά προϊόντα). Αι υφέσεις όμως των ετών 1973, 1976, 1979, αι οποίαι ενετάθησαν και με τον πόλεμον μεταξύ Ιράν και Ιράκ -δύο χωρών προμηθεουσών πετρέλαιον εις τον λοιπόν κόσμον - ήσαν διαφορετικών αιτιών. Και ταύτα δέον να αναζητηθούν εις μεταξύ των πετρελαιοακών συγκροτημάτων διεκδίκησιν των αποθεμάτων πετρελαίου εις Μέσην Ανατολήν, την κερδοσκοπίαν, την αντίδρασιν του ΟΡΕC, καθώς και εις το πνεύμα του πολεμικού Τζιχάτ. Πλέον όμως των παραγόντων τούτων υπήρξαν και έτεροι επί των οποίων θα αναφερθώμεν κατωτέρω.

Αι αναφερθείσαι πάντως υφεσείς των ετών 1973, 1976 και 1979 είχαν ως αποτέλεσμα την ανακάλυψιν νέων πηγών πετρελαίου εις Βόρειον Θάλασσαν και Αλάσκαν, ενώ μεγάλαι Τράπεζαι ως η Pen Square Bank της Oklahoma και η Continental του Chicago έσπευσαν να επιχορηγήσουν με δάνεια εταιρείας πετρελαίου ως λ.χ. η Dome Petroleum εις Καναδάν. Τόσον δε αι Αμερικανικαί όσον και αι Ευρωπαϊκαί Τράπεζαι προέβησαν εις δανεισμόν χωρών εις Αφρικήν, Λατινικήν Αμερικήν και Ανατολικήν Ευρώπην. Πλην όμως του πετρελαίου και αι τιμαί των προϊόντων της γης εξέπεσαν παρ' όλον ότι γαίαι ηγοράσθησαν εις υψηλάς τιμάς, ώστε εταιρείαι γεωργικών μηχανών να ευρεθούν εις δυσχερή θέσιν συνεπεία της αγροτικής κρίσεως.

Δεον ενταύθα να παρατηρηθή ότι δεν είναι ορθόν να υποστηρίζεται ότι είχομεν δύο ή τρεις κρίσεις, ενώ η κυρίως κρίσις είναι η του 1973 και η οποία προετοίμασε το έδαφος εις τας δονήσεις των ετών 1976, 1979 - 1980.

Από το βάθος του χρόνου θα προσπαθήσωμεν και πάλιν να παρακολουθήσωμεν την εξέλιξιν των γεγονότων δια να συλλάβωμεν την οικονομικήν πραγματικότητα της σήμερον.

13. Δια τους προαναφερθέντας Pedro Fraile και Hernandez Andreu [op. cit. 1986] η εμπειρική ανάλυσις επί των ημερών μας και η εκ της Οικονομικής Ιστορίας μελέτη επί των οικονομικών κρίσεων μας φέρουν ενώπιον νέων θεωρήσεων σχετικώς με την προέλευσιν των περί των οποίων ήδη ωμιλήσαμεν. Νομίζω ότι θα πρέπει τώρα να εξετάσωμεν και τα αίτια των κλυδωνισμών της Οικονομίας και της σημερινής υφέσεώς της, την οποίαν προ του Rabi Batra [1988] προέβλεψα.

Άπασαι αι αναφερθείσαι υφέσεως, ως ήδη ανέφερα, ενείχον και τον καταστροφικόν παράγοντα του πληθωρισμού, ο οποίος προέκυψεν - σιν τοις άλλοις- και εκ των επιδράσεων του κεϋνσιανισμού.

Δέον ενταύθα να παρατηρήσω ότι δια τον πληθωρισμόν κυρίως συνετέλεσαν και πολεμικάί δαπάναι.

Κατά τον Β' Παγκόσμιον Πόλεμον αι δαπάναι των εμπολέμων ανήλθον εις δυσθεώρητα ύψη, ότε οι δαπάναι της Μ. Βρετανίας έφθασαν το ύψος 49% του προϋπολογισμού της και δη μόνον δια την μεταξύ 1940-1943 περίοδον, αι της Γερμανίας υπήρξαν ολίγον χαμηλότεραι ενώ των ΗΠΑ ανήλθον εις 36%. Όσον αφορά εις το Δημόσιον Χρέος δια την Μ. Βρετανίαν τούτο ανήλθεν εις 19.592 εκατομ. λίρας και εις ΗΠΑ εις 250 δισ. δολάρια, ποσόν τεράστιον, δεδομένου ότι ο διαδεχθείς την πράξιν Cash and Carry νόμος Lend-Lease (περί εκμισθώσεως και δανεισμού)- δια του οποίου ο Αμερικανός Πρόεδρος έκρινε ότι εξυπηρετούνται τα ζωτικά συμφέροντα αμύνης των ΗΠΑ ανήλθον εις χορηγήσεις 1.550 εκατ. δολλ. Τελικώς αύται ανήλθον εις 48 δισ. δολλ. αναλογουσών 31 δισ. δια την Βρετανίαν, 11 δισ. δια την Ρωσίαν και 3 δισ. δια την Γαλλίαν. Αι συνολικάί δαπάναι του Πολέμου όμως ανήλθον δια τας ΗΠΑ εις 330 δισ. δολ. δια την Μ. Βρετανίαν εις 120 δισ. δολλ. δια την Γερμανίαν εις 272 δισ. δολλ. και δια την Ιαπωνίαν εις 56 δισ. δολλ.

Ο Β' Παγκόσμιος Πόλεμος εστοίχισεν πλην των τεραστίων δαπανών (συνολικώς 3 δισ. δολ.) και θυσίας ανθρωπίνων ζωών (22.600.000 νεκροί και 34.4 εκατομ. τραυματιών, ως και απολεσάντων τας φρένας). Επίσης και ολικάς καταστροφάς 3.281.953 κατοικιών εν Αγγλία, 1.185.000 εν Γαλλία και 39% των οικιών των σπουδαιότερων πόλεων εν Γερμανία, ενώ τα βυθισθέντα πλοία ανήλθον εις 21.140.000 τόννους δια συμμάχους και ουδετέρους.

Αι τεράστια κυβερνητικοί δαπάναι προς επούλωσιν των εκ του πολέμου πληγών, η καταστροφή εις την παραγωγήν και η ελάττωσις της παραγωγικότητος -παρά την αύξησιν των ωρών εργασίας και δη κατά τον Πόλεμον- η συνέχισις του θερμού πολέμου δια του ψυχρού πολέμου και η επαύξησις των στρατιωτικών δαπανών, καθώς και η επιβληθείσα κοινωνική πολιτική εμπνεομένη από τα Welfare Economics προς αντιμετώπισιν της σοβιετικής προκλήσεως προεκάλεσαν τον καλπάζοντα πληθωρισμόν. Ο πληθωρισμός εις την Αγγλίαν ανήλθεν πέρα του 10%, παρ' όλην την πειθαρχίαν του Άγγλου πολίτου και την από μέρους της Γερμανίας αφοπλισμόν, ο οποίος της επέτρεψε την οικονομικήν ανάρρωσιν. Όθεν η forced saving ή epargne forcée ή forza risparmio ή Eiseme Sparkonten, δηλαδή η αναγκαστική αποταμίευσις, προσέλαβε

σοβαράν και επικίνδυνον μορφήν παραλλήλως με την διατάραξιν της παγκοσμίου πολιτικής ισορροπίας και την επαύξησιν της ενεργού ζητήσεως, ένεκα του κεύνσιανισμού και των εξοπλισμών που το εξ αυτής αντίκρουσμα εις εισόδημα δεν είχεν αντιστοιχούντα αγαθά προς κατανάλωσιν. Εάν δε λάβομεν υπ' όψιν και τους παράγοντας της κρατικής παρεμβάσεως και του κρατικού μονοπωλίου - επί τη βάσει της Μικτής Οικονομίας- και τας πιέσεις των Εργατικών Συνδικάτων ήτο φυσικόν να προκύψη συν τοις άλλοις, ο στασιμοπληθωρισμός.

Συνεπεία των ανωτέρω οι σοβιετικοί οινομολόγοι ανέμενον την από μακρού χρόνου κατάρρευσιν του καπιταλισμού, ενώ εντός των οικονομολόγων της Δύσεως εβασίλευεν η αισιόδοξος μελλοντολογία. Παρά ταύτα υπήρξαν και εξαιρέσεις μεταξύ των οποίων και ο υποφαινόμενος, οι οποίοι ναι μεν δεν ανεμένομεν κατάρρευσιν του συστήματος αλλά οπωσδήποτε παγκόσμιον ύφεσιν και εξ αυτής ή Παγκόσμιον Πόλεμον ή Παγκόσμιον αναρχίαν [Houmanidis, 1987]. Πανάκεια των αισιόδοξων εθεωρήθη κατ' αρχήν η Ένωσις της Ευρώπης. Δυστυχώς η Ένωσις αύτη δεν προσέλαβε την μορφήν της πραγματικής ενώσεως αλλά της ελαστικής τοιαύτης με βήματα σημειωτά και με κατοχύρωσιν κατά πρώτον λόγον των ισχυροτέρων οικονομικώς χωρών και εξ αυτών ιδιαιτέρως των πρώην αποικιοκρατικών, αιτουσών δικαίως και την κατοχύρωσιν των οικονομικών συμφερόντων των πρώην αποικιών των.

Πέρα όμως τούτων ο συμπληρωματικός ρόλος του Κράτους εις την αγοράν εγένετο συνεχώς επηυξημένος με αποτέλεσμα να εξακολουθήση η οικονομική ανισορροπία και οι μονεταρισταί να αιτήσουν την πλήρη κυριαρχίαν του ρόλου της αγοράς και την εξουδετέρωσιν εκείνου του Κράτους δια να έχωμεν επίσης ανισορροπία. Αύτη ωφείλετο -συν τοις άλλοις- ένεκα της κερδοσκοπίας και των διαρθρωτικών παραμέτρων εκ της αποτόμου μεταβάσεως από την κρατικήν οικονομίαν εις εκείνην της αγοράς, ως τούτο συνέβη εις τας Ανατολικάς Χώρας, καθώς και εν τινι εν Ελλάδι εις την οποίαν η κρατική συμμετοχή ανήρχετο εις 70%. Υπό τας συνθήκας ταύτας από του ενός άκρου εις το άλλο άκρον η οικονομία δεν προσηνατολίσθη σταθερώς, ώστε να επικρατήση συντονισμός της κυριαρχίας του ρόλου της αγοράς με την πολιτικήν εκείνην, η οποία θα επέφερεν ισότητα μεταξύ αφ' ενός μεν της παραγωγής και αφ' ετέρου της αποταμιεύσεως και καταναλώσεως. Εις όλην δε αυτήν την κατάστασιν προσετέθη και η εισβολή των προσφύγων εξ Ανατολών και το αίτημα των μαζών τούτων δι' ένα παραμυθένιον κόσμον όπως τον

εφραντάζοντο, μετά τόσα έτη δουλείας. Τα ανωτέρω προβλήματα όμως δεν είναι μοναδικά, δέον να ληφθή υπ' όψιν και η σπατάλη των πρώτων υλών, η καταστροφή του περιβάλλοντος, η ηθελημένη ανεργία και η ελαττωμένη παραγωγικότητας εκείνων, οι οποίοι έμαθον να εργάζονται χάριν των συμφερόντων του κράτους -κυβερνήσεως, το παθητικόν του ισοζυγίου πληρωμων κ.λπ.

14. Η Ευρώπη διεσώθη εκ της μπολσεβικής λαίλαπος και απεφεύχθη -τουλάχιστον προς το παρόν- η νέα Μεγάλη Ύφεσις. Ο κίνδυνος πάντως εξ αυτής υφίσταται εάν δεν ληφθούν τα αναγκαία προς τούτο μέτρα. Και αυτά κατά την γνώμην μου είναι τα εξής :

α) Η συγκράτησις των τιμών δια της υίοθητέσεως χρήματος -εμπορεύματος και βαθμιαίας μεταβάσεως της Οικονομίας από της ή Μικτής τοιαύτης εις την Οικονομίαν της Αγοράς, υπό τον έλεγχον όμως των συλλογικών δυνάμεων της Δημοκρατίας.

β) Ο κυρίαρχος ρόλος της αγοράς να είναι 95%, του μονοπωλίου ιδιωτικού η κρατικού περιοριζομένου μόνον εις 5%. Τούτο βεβαίως το 5% θα προκαλέση ανισορροπίαν, όμως επί τη βάσει Γραφείου αντιμονοπωλιακής τιμής, θα ηδύνατο να καθορισθή τιμή μονοπωλίου ίση προς εκείνην του ελευθέρου ανταγωνισμού ώστε να αποφευχθή έστω και ο εκ του 5% κραδασμός ανισορροπίας τον οποίον διετύπωσεν εις το "Πίνακα Προσανατολισμού" πρώτος ο καθηγητής Anghel Rugina [Rugina, 1975 σελ. 247].

γ) Η επαύξησις της παραγωγής και της παραγωγικότητας και ίδια εντός των πρώην κομμουνιστικών χωρών, καθώς και η ορθολογική εκμετάλλευσις των φυσικών πόρων και δη των νέων πηγών ενεργείας με την παράλληλον προστασίαν του οικοσυστήματος.

δ) Η συμμετοχή εις τα κέρδη των επιχειρήσεων εφ' όσον ο πληθωρισμός διακυμαίνεται μεταξύ 0-2,5% με bonus -μετά την αφαιρέσιν του φόρου, των δαπανών και του 1/3 χάριν των αποσβέσεων - κατά 1/3 δια της εργατοϋπαλλήλους και το υπόλοιπον 1/3 δια τον επιχειρηματίαν.

ε) Η επαύξησις της παραγωγής και της παραγωγικότητας και δη εντός των πρώην κομμουνιστικών χωρών.

στ) Το ελεύθερον εμπόριον και την λύσιν του προβλήματος εάν επί τέλους η Ευρώπη θα αποτελέση ενιαίαν πολιτικήν μονάδαν, ως αι ΗΠΑ. Διότι άλλως πλην των οικονομικών ανισορροπιών θα έχωμεν και έτερα προβλήματα, ως η επαύξησις των εξοπλισμών ένεκα φόβου τοπικών πολέμων ή ένεκα στρατιωτικών συμμαχιών εις παγκόσμιον

κλίμακα με την πρόσθεσιν εις τα ήδη μεγάλας στρατιωτικές δυνάμεις και αυτήν της Γερμανίας. (Τον κίνδυνον τούτον δεν διαβλέπει ο Helmut Schmidt εις των -κατά την γνώμη μου- μεγαλυτέρων πολιτικών του αιώνος μας εις το άρθρον του "The united nineties" (The Listener, 1990).

ζ) Την πάταξιν της ενδείας εις τας χώρας του Τρίτου Κόσμου όχι μόνον δι' ανθρωπιστιούς λόγους αλλά και δια την ενίσχυσιν εις αυτάς της ενεργού ζητήσεως και τας εις αυτάς τοποθέτησιν αγαθών. Την υιοθέτησιν οικονομικής πολιτικής ηπίου σοσιαλισμού ή ανθρωπιστικού καπιταλισμού, όπερ είναι το ίδιον, και την ύπαρξιν των καταλληλοτέρων θεσμών κυρίως Κράτους και Εργατικών Ενώσεων προς αποφυγήν των ακραίων περιπτώσεών της. Επίσης μέτρα προς αποφυγήν παντός κινδύνου ολοκληρωτικού καθεστώτος του αναξωπυρουμένου ναζισμού και του εμφωλεύοντος σταλινισμού που αγωνίζονται δια την επανάκτησιν των απωλεσθέντων προνομίων των.

Ενταύθα θα κλείσω την διερεύνησιν του θεάματός μου δια να επαναλάβω και πάλιν τα όσα γράφω εις το άρθρον μου υπό τίτλον: The Two Great World Wars and the Two Great World Crises (1987) ότι η ύφεσις του 1973 δεν ωφείλετο μόνον εις το πετρέλαιον, αλλά και εις τους εξής λόγους: α) υπερπαραγωγήν αγροτικών προϊόντων και βιομηχανικών προϊόντων β) τας αισιόδοξους προβλέψεις αι οποίαι όπως και προ της Μεγάλης Υφέσεως επηρέασαν αγαθά και ενεργητικά γ) την υπό του Τραπεζικού συστήματος ΗΠΑ και Ευρώπης άνισον κατανομήν χρυσού και επενδύσεων ανά τον κόσμον, δ) την κερδοσκοπίαν, η οποία επέφερεν αναστάτωσιν εις τας τιμάς, καθώς και εις τας κακάς εκτιμήσεις επί οικονομικών αποφάσεων, ε) εις την τεχνολογικήν πρόοδον επί της βιομηχανικής και αγροτικής παραγωγής στ) εις τον εγχρηματισμόν της πίστωσης, άποψιν την οποίαν υπεστήριξε προ εμού ο Anghel Rugina με την γνωστήν φόρμουλά του ζ) εις την ανά τον κόσμον κυριαρχούσαν διαφθοράν, η οποία εξυπηρέτησε μεν ωρισμένους σκοπούς, κατέστη όμως ορατός ο κίνδυνος μήπως αποβή ο νεκροθάφτης αυτών οι οποίοι την ενίσχυσαν.

Δεν πρόκειται να γράψω περισσότερα ή να προβάω εις περαιτέρω έκθεσιν λεπτομερειών, μολονότι αναγκαίων δια την έρευναν του θέματος, αφήνω εις τον αναγνώστην να κρίνη, καθώς και εις τον χρόνον, εάν και κατά πόσον προσήγγισα εις την αλήθειαν. Εάν όμως επέτυχα να κινήσω το ενδιαφέρον προς βαθυτέραν και σοβαρωτέραν εξέτασιν των από του Α' Παγκοσμίου Πολέμου υφέσεων και πληθωρισμών μέχρι του 1990,

τότε νομίζω ότι το παρόν πόνημα συνέβαλλεν δια την αντιμετώπισιν των σημερινών προβλημάτων, των οποίων οι σοφοί του Μάαστριχτ δυστυχώς δεν επέτυχον να συλλάβουν την πηγήν των και κατά φυσικήν συνέπειαν και την λύσιν των (Ευρύτεραν ανάλυσιν επί των ιδεών μου δια την υιοθέτησιν νέου συστήματος εις το σύγγραμμά μου "Humanitarian Economics; a new perspective of Social Economics, 1994).

## Abstract

LAZAROS HOUMANIDIS : *About depression and inflation from the First World War until 1990*

With this my paper I tried to present some of the main facts and causes concerning depressions and inflations from the First World War to 1990 a period which marked the transition of our economic system through its transformation to a more effective and humanistic capitalism.

My exploration makes also observations about the main causes which impacted on the appearance of depressions (1929, 1973, 1976, 1979, 1983, 1989) and inflations and stagflation as well. Finally I underline that there is a danger to confront in the near future a new crash if we shall not adopt the as follow measures :

a) The monetary policy of a money - community and the transition from mixed economy or from the so-called socialist economy to a free market economy step by step and not at once which causes an earthquake in the economy. The free competition in a such modelled economy must be 95% as an 100% free competition is impossible because of the inevitable 5% monopoly which can be confronted with an institutional tool so as to adapt the monopoly's price to a level of free competition price.

b) The increase of the production and of the productivity especially in the ex so-called socialist countries and the exploitations of the new source of energy and of the natural sources to.

c) The participation of the workers and employers in the net profits with bonus (only if inflation fluctuates between 0%-3%) of a percentage of 1/3 while the other 1/3 would be disposal for taxes, losses, reserve capital ect and 1/3 as reward for the entrepreneur. Measures against pollution and more rational exploitation of the environment.

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## MAN'S ALIENATION FROM NATURE AND ITS RECONCILIATION: AN ECOLOGICAL AND INSTITUTIONAL ECONOMIC APPROACH

† JACOB KRABBE and WILLEM HEIJMAN\*

*Wageningen University*

Until the time of the Keynesian and the modern Neoclassical approaches, there was a clear idea about the function of the production factor nature in economics. For instance, the eighteenth-century Physiocrat, Quesnay, who might be considered one of the precursors of economic theory, was well aware of the value of nature for man. He believed agriculture to be the one and only source of wealth (Weulersse, 1910). Classical economists like Smith and Ricardo, as well as those of the German Historical School, an undercurrent in economic thought, were clearly interested. In the view of these Classics and that of the German economists especially, it may be said that production was seen as a function of nature, capital and labour (Chin, 1984). However, as the Industrial Revolution progressed, most economists lost interest in the production agent nature (Randall, 1987). In the Austrian School, for instance, interest in nature was less significant, although Böhm-Bawerk did clearly put forward the idea that there are only two original production factors, labour and nature, and that the factor, capital is derived from these (Böhm, 1921).

The result of this development in economic theory, in the century's "mainstream economics", is that production is mainly seen only as a function of capital and labour. This tendency can be seen as an aspect of a process of alienation of industrial man from nature. Modern production is

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\* Wageningen Agricultural University, the Netherlands.

becoming so much more complicated that man is losing sight of the function of this original factor of production. The same alienation is also found in economic science.

The capacity of nature is limited, and therefore, natural resources should be used carefully. Although this idea had been put forward in the nineteenth century, for example by Roscher and Menger, it was only developed further halfway through the twentieth. In this connection Ciriacy-Wantrup's studies on "resource conservation" (1952) should be mentioned. The same can be said of Kapp's work, which was not only concerned with mentioned. The same can be said of Kapp's work, which was not only concerned with natural resources, but with the problem of the environment in general, including its institutional dimension. Kapp's book, **The social costs of private enterprise** (1950) opened the eyes of many to the environment as an economic problem. In the sixties the economic significance of the natural environment again received wide attention. The valuation of components of nature became a topical subject. The economists' interest were again directed towards the physical and biological aspects of the process of production and consumption, as well as towards that of institutional change aimed at the preservation of the various components of nature.

In this essay we first consider the role of nature in the development of economics focussing on basic ideas of the Austrian School of economics. Next, attention is directed towards the ecological component of evolving economic thought. Finally, after elaborating on the process of alienation in this way, we present the idea of reconciliation between man and nature as an institutional problem.<sup>1</sup>

## 1. Nature in early Austrian economics

In discussing man's alienation from nature in economic thought, we first consider the ideas of influential writers in the early Austrian School, looking at whether the influential Austrians share responsibility for this.

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1. This essay is partly based on Folmer, Heijman and Krabbe (1995), Heijman (1991), and Krabbe (1996).

## Menger's paradigm

It was because of Carl Menger's influence that early Austrian economics was typically anthropocentric, mainly in the individualistic sense of this term. Man with his needs is the point of departure as well as the purpose of all economy. His disciple, Eugen Böhm-Bawerk made it clear that, on the one hand, man's distance from the economic agent "nature" becomes ever greater, because the economic systems become ever more complicated in the course of economic development, and "roundabouts" take ever more time. On the other hand, as both writers emphasized, man should himself be considered part of nature. As such, his wants and pursuits are partly determined by it, and nature is always close to him.

Menger's approach is a balance between the historical and institutional, on the one hand, and a theory of prices, quantities and factors of an individualistic nature determining them, on the other. Böhm-Bawerk focussed fully on the latter. Another member of the early Austrian School, Emil Sax (1884) put the emphasis on the former. Menger was closer to the Historical School than Böhm, but Sax was closer to it than Menger. The latter's conception of wants has a typically organistic dimension, shown by his statement that wants arise partly from passions and inclinations in human nature in general (Menger, 1883: p. 78). In this context, Menger put forward the idea of a hierarchy of wants that are subject to development. He maintained that although total human wants are unlimited, specific wants are satisfiable. Thus, after certain wants are satisfied, others will arise (Menger, 1871, 1950 : pp. 94-98). Sax, and later Georgescu-Roegen, elaborated Menger's idea of natural inclinations in the individual's pattern of wants.

The phenomenon of satisfaction of specific wants and the rise of new ones can also be observed in the composition of the production package in the course of socioeconomic production. The Western picture shows first a shift of the central point of production from agriculture to industry. The nineteenth-century Historical School gave full attention to this process. A further shift of the gravitation point of production, in the direction of "services" became evident in the twentieth century. This aspect of the development process has an environmental dimension. For, although all production has negative implications for the environment, not all forms

of production (and consumption) affect nature to the same degree. Many services are comparatively environment-friendly. Therefore, when judging the environmental effects of economic growth one should consider what the composition of the social production is and what the expectations for its development pattern are.

Menger replaced the Ricardian rent idea by the valuation of components of nature according to the marginal utility principle, through *Zurechnung*, “imputation”. In Menger’s approach, goods were classified as being of higher order, the further they are removed from the consumer in the production cycle. The economic character of any good, its scarcity property, is determined by the economic character of lower order goods to which they serve as means of production. According to Menger, it only appears that the value of products are determined by those of their production factors. The logic should be in the opposite direction. So, in Menger’s approach, components of nature like forests and waters have no intrinsic economic value, but this value is determined by the economic significance of goods of lower order, to which they serve as agents of production (Menger, 1871: pp. 68-69). Böhm, referring to the American economist, Davenport, approached “causality” in the determination of value along the same lines (Böhm-Bawerk, 1921 II-2: pp. 184, 191-92).

Menger considered that, if the scarcity condition is not fulfilled, nature does not have the character of an economic agent. It must be considered an economic good if, and only if, it appears to be “scarce”. In Menger’s approach, if the total demand by individual users at zero price is greater than the quantities available, scarcity is given by the fact that consumers are willing to pay for the component of nature. It does not matter whether this demand is based on a misconception by consumers, or whether the scarcity is artificially created by specific institutions. Thus, produced goods are scarce, at least if they are saleable. Menger said the same about certain components of nature, under specific circumstances. He gave the examples of water, land and forests, making clear specific circumstances. He gave the examples of water, land and forests, making clear that scarcity not only refers to quantities of goods, but also has qualitative aspects. He explained that, as a result of economic development, non-economic components of nature can become economic production agents. It can be said that he had a clear view on the idea of “new scarcity” (Menger, 1871: 63).

In his **Grundsätze**, “principles”, Menger described the way in which a developing society initially free goods become scarce. On this point his approach is reminiscent of that found in the Historical School towards “cultural development”, which is not astonishing in a work dedicated to Roscher. Menger mentioned as grounds of scarcity, a decrease in the availability of components of nature, population growth, “development of needs” and, typical for him, progress of insight into causal relations in the field of means for attaining welfare (in a consumption-oriented production system), which reveals new uses for goods. This last ground is founded on Menger’s idea that goods can be scarce in the present, because they are needed in the future. Certain components of nature are obvious examples (Menger, 1871: pp. 38, 62, 95).

In his comment on a preliminary version of this section of our essay, Andries Nentjes explained that, in Menger’s view, the phenomenon of scarcity implies an incentive to ownership, to establish property. The intuition of private property is born out of economic necessity. It is not quite clear, however, whether Menger had agreed with reasoning in the opposite direction, that all scarcity is characterized by property. It seems that he suggested that scarcity implies private ownership, something that is denied today with regard to the scarcity of nature. Menger implicitly agreed that property is a condition for the functioning of markets and for a proper functioning of the economic system, thus rejecting communism. He was convinced of the necessity of “protection of ownership”, referring to it as the origin of the order of justice in society (Menger, 1871: p. 56). Schumpeter stood in the Austrian tradition. Unlike Menger, however, he was reluctant to identify scarcity with price, confining himself to the statement that “indices of economic significance” and “exchange values” are acquired from the same principle (Schumpeter, 1954: p. 913).

Menger presented a “harmonic” picture of wants and means, the corner stone of which is the idea of complementarity between goods in the consumption pattern. He made it clear that the direct or indirect of goods also depends upon the quantities of other goods available. The idea of complementarity refers to the structure of wants of individuals, as well as to that of society as a whole. In Menger’s view these structures of wants are mirrored by the composition of consumption packages of families, and by the total package of means applied in society, respectively. According to Menger’s view, the main ordering factor in the economy is the

price mechanism, functioning in a developing institutional context. There is little room in this picture for government intervention in the market process, for example in order to preserve the environment (Menger, 1871, 1950: pp. 56, 59-60, 75-6, 96-7, 162-63).

### **Böhm and Wieser on nature**

Like David Ricardo, who projected Adam Smith's ideas into an abstract and consistent model, Böhm made a similar transformation of Menger's ideas. The advantage of these creative transformations is that some of the original ideas are pictured more clearly. A disadvantage is that other ideas are underexposed or vanish from the picture altogether. This was the fate of most of Menger's ideas on New Scarcity in the field of nature and those on the organic aspects of wants.

In the opening words of his **Positive Theorie des Kapitals**, Böhm-Bawerk (1888, 1921 II-1) formulated the Austrian attitude towards nature and natural sciences. For him, production is the result of cooperation between men and nature. Man, being a part of nature himself, combines his natural forces with the impersonal forces of nature (p. 8). In this field of study, economics and natural sciences must be compatible. He posited that in economic theory, statements must "never conflict with natural sciences"; what is false in the latter is also false in the unity of all knowledge (p. 4). Economics and sciences of nature are border fields of study, differing in principle. Although production is "entirely in the ban of natural sciences", these fields of study must not be identified with one another (p. 6). According to him, this is also true for the science of psychology. Thus, Böhm disagreed with Schmoller's idea that economics is, in essence, applied ethics and psychology. On the point of the relationship between natural sciences and economics, in essence Böhm's approach is rather similar to Menger's (Menger, 1883: pp. 243-44).

One of Menger's ideas not found in Böhm is that of the harmony in individual and social satisfaction of wants, an idea which is also oriented towards natural resources and other environmental factors. Böhm confined himself to giving the "principle of harmony" a specific meaning in the functioning of the marginal utility mechanism (Böhm-Bawerk, 1921 II-1: p. 474-75).

William Stanley Jevons (1871) stated that the lower the social discount

rate for future incomes, the more “civilized” a society is. On the basis of this criterion, Böhm-Bawerk characterized the way in which a further developed society is realized. He tried to discover a mechanism for time preference. This mechanism was the exchange of present commodities against future ones. In this context Böhm gave an extensive explanation for the phenomenon of interest. According to this theory, interest results from time preference and productivity of capital. Every production method that is more productive takes more time. The rate of time preference declines when, as a result of longer production periods, production grows. (Heijman, 1988: pp. 89-90; 1991). Thus, on the basis of the idea of roundabout production, Böhm presented an analysis of the process of capital formation in a growing economy. The longer the roundabouts, the greater the distance between consumers and the production factor nature. A chain of entrepreneurs overbridges this gap.

Böhm-Bawerk called the means of production “future goods”, because such goods are destined to contribute to the satisfaction of future needs. Therefore, these values are based on estimated in the field of the process of production and consumption for which they are meant. This is also true, he said, if for these means of production there are various application opportunities (Böhm-Bawerk, 1921 II-1: p. 374, 379-85). Böhm elaborated this principle extensively for capital and labour, devoting little attention to land and natural resources.

Early Austrian economics contains an idea of social ordering reminiscent of the Physiocrat’s perception of the Enlightened idea of natural order. In this connection we refer to Friedrich Wieser. His idea of nature, used in his term “the natural value” (**der natürliche Werth**), refers to a social order created not by The Creator nor by Nature, but by “needy men”. The idea of the “needy man” is also found among Historical School members like Bücher, although without the social system of marginal valuations by individuals. Wieser placed a “natural” approach towards economic phenomena alongside an “empirical” approach. The latter deals with the way in which the principle of ordering is realized. Like the Physiocrat interpretation, Wieser’s order is also organically oriented. He believed that economic ordering according to human nature might also be “in coherence with all that lives” which, however, does not stand in the way of valuation on the basis of marginal utility. The antipole of the Physiocrat’s idea of natural order was the **ordre positif**, of Macrarrantillist

signature. That of Wieser's order was the communist state (Wieser, 1889: pp. 19, 60).

According to Wieser, a condition for an economic valuation of land is that the latter is subject to exchange with capital and that its rent is related to interest. His idea of "collective valuation" is oriented towards the specific needs of the government, with an eye on a "natural" taxation of members of society. In principle, however, this idea can also be applied to the valuation of scarce components of nature which are public property. (Wieser, 1889: pp. 155-56, 232ff.)

### **Appraisal of early Austrian thought**

From the point of view of present-day environmental economics, a number of remarks should be made on the early Austrian approach, approvingly as well as critically. Directly or indirectly they refer to the question of which role the early Austrian economists played in the process of alienation from nature in economics. Austrian scholars agreed with Classical oriented writers that the role of capital becomes ever more important in a developing economy. However, they did not go so far that nature disappears entirely from sight, as it did in the theories of many later representatives of this main current of thought in economics. The Austrian conceptual structure is such that nature is always in the picture, as capital is not considered to be an original production agent, but is supposed to be derived from the original agents labour and nature. This is also the approach that was taken by Walther Eucken and John Stuart Mill. (It is in contrast with Schmoller's approach in which capital is complementary to nature, having the character of what could be called "synthetic nature"). Nevertheless, Austrian economists did not always give nature the attention it deserves. Wicksell criticized Böhm-Bawerk on this point (R.P. Zuidema, 1970: p. 95).

Menger's paradigm, with its human valuation approach is considerably more appropriate for studying subjects in the field of environment and natural resources than the Classical one. This is even more true if the contributions of Böhm and Wieser are added to it: the elaboration of the function of time in the production process and "sustainable development" as increasing roundaboutness in a specific way. Here Wieser's concept of

opportunity costs as “sacrificed utility” can also be mentioned; an idea also found in Böhm. Present-day “contingent” valuation of the environment follows this line.

Menger’s rigorous link between scarcity and prices has been accepted by economists for a long time. His suggestion that scarcity leads to property, as a result of which squandering will be prevented, had obscured the economists’ view on the possibility of a degradation of the environment of life and an exhaustion of natural resources as a result of production. Later Austrian economists, like Hayek recognized the limitations of the ordering capacity of the price mechanism. Nowadays it is realized that elements of nature which bear no price at all, nevertheless have an “intrinsic” value, which might also have economic significance. This type of scarcity remained beyond Menger’s scope. Later it was put forward by Georgescu-Roegen and by Goudzwaard (1970). Another aspect is that, in many respects, nature is a public good, for which a specific valuation system has to be applied. The initial impetus for this was given by Wieser.

Related to the phenomenon of men’s alienation from nature is the idea of the exhaustion of nature. This relationship is not so clear under circumstances in which nature seems to be abundantly available. However, it is apparent that present-day society must economize on natural resources. Menger’s congenial spirit Jevons discussed the exhaustion of nature in his book *The coal question*. Wondering what was to be done when the coal stocks were exhausted, he argued that it is impossible for an economy to keep on growing because of the limited resources. Jevons saw that substitution of resources and technical innovations could provide relief. Nevertheless, his conclusion for England was: “We have to make a momentous choice between brief greatness and longer continued mediocrity” (Jevons, 1866: p. 376). Later, Nicholas Georgescu-Roegen was to come to a similar conclusion for mankind as a whole (Georgescu-Roegen, 1970, 1976: p. 59).

Such concerns are scarcely found in early Austrian writings, and, where they are, only implicitly. In Austrian thought the economic system is ordered by consumers and entrepreneurs. According to Menger, this results spontaneously in a harmonic picture. This might be true if people live close to nature, as in primitive societies. However, in modern economies, which becomes ever more complicated, and in the process of which the gap between man and natural resources is steadily increasing, this is to be

doubted. In fact, to these two ordering factors, a third one should be added: environmental policy. This policy must be based on two pillars: the insight offered by environmental sciences, and the system of political decisions, according to scientific data and priorities of original and authorized decision makers in society. This is also true for John Gowdy's idea of "development". Gowdy posits that, in order to preserve nature, what we need is not a steady state (Daly, 1991, 1993) but a "declining state", compatible with long-term sustainable development (Gowdy, 1994: p. 52). However, there is no reason to assert that such a "declining" economy also becomes less complicated, bringing the production agent nature closer to consumers.

## 2. Economy, ecology and natural resources

From Neoclassical times onward, economists have studied human economy more or less as a closed system without any relation to the surrounding environment. Because of environmental problems and resource crises during the seventies, economists were forced to look upon human economy as an open system, a system related to nature.

This section discusses the development of economic thought in the context of the relationship between economy, ecology and natural resources. Life on earth takes place in the biosphere<sup>2</sup>, which is composed of ecosystems. The biosphere can also be seen as one large, coherent ecosystem, which some call **Gaia**, after the Greek goddess of "mother earth". The relation between man and earth is a complex one. On the one hand, man's biological properties make him part of the biosphere. On the other hand, he is capable of shifting the limits set by nature, and of modifying ecosystems to his own benefit. In this connection some use the term "noösphere", out of which the biosphere can be controlled by the human mind.<sup>3</sup>

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2. According to Vernadski, the term "biospher" was used for the first time by Lamarck [1744-1829] (Vernadski, 1944, p. 3).

3. The term noösphere refers to the Greek words **nous** (intellect) and **sphera** (envelope of the earth). The idea was developed by Edouard le Roy, together with Pierre Teilhard de Chardin (Vernadski, 1944, pp. 8-9).

Already Menger made it clear that the formal subject matter of economics is given by the phenomenon of scarcity. In his view prices reflect “comparative” scarcities. However, according to some authors, for instance Daly (1977), characteristic of nature is “absolute” scarcity. Schumacher (1973) rejected the traditional economic idea that production equals income, if income is not adequately defined. If it is not possible to integrate nature into the price mechanism, the solution of the allocation problem must be found in the regulation of the process of production and consumption in terms of physical norms, so-called “regulations”, and not in “price manipulation” through a system of levies and subsidies. The nature of such norms are more ecological than economic. The opposite opinion is that components of nature and environment goods are just marketable goods, like all other economic goods and, therefore, are subject of allocation through the price mechanism (see e.g. Siebert, 1987). Yet, beyond this controversy is the fact that, in practice, to nature and environment often the price zero is assigned, leading to a discrepancy between price and social costs (Kapp, 1950), and over-production of polluting goods.

Both Kapp and Hueting (1974) pointed out that it is difficult to calculate a shadow price for many components of nature. Nevertheless, several methods for calculating the environmental damage have been developed. To attempt to sustain nature as production factor is to set physical standards. Nature is a collective good with all its characteristics of the “prisoner’s dilemma”, which can be protected only by a firmly acting government. This dilemma means that the **homo economicus** behaves rationally on an individual level but irrationally on a collective level.

Nowadays, economics and ecology are studied separately, although there have been various attempts at integration, to which the terms “ecological economics” and “bioeconomics” refer. This separate approach has not always been considered scientifically practical. Classical economists, especially Malthus (1798), realized that only a limited number of people are served at earth’s table. It was clear that in an agrarian economy the opportunities for growth depended on the density of population, which must be neither too high nor too low. In a certain agrarian region, if population exceeds certain limits, further development opportunities depend on factors such as technological progress and transmigration. In this view restriction of population growth is an obvious means of decreasing the

impediments to development. According to Wilkinson (1973), population pressure leads to economic systems which are ever more complex. Samuelson noticed that in most Neoclassical models, the size of the population is no endogenous variable, which indicates that most economists consider the biological aspect of the economy to be of little relevance. He added that economic demography will eventually create an ecological niche in economics (Samuelson, 1985, p. 167).

In 1789, the French chemist Antoine Lavoisier published the book **Traité élémentaire de chimie**, in which he developed the First Law of Thermodynamics, stating the matter is subject to transformation, but is never lost. The idea of the “materials balance”, developed by Ayres and Kneese (1969) and Kneese, Ayres and d’ Arge (1970) (see also Freeman **et al.**, 1973), is based on this principle. The materials balance was described by Mills as a system of indicators about the use of materials in a process of conversion of natural resources focussed on satisfaction of needs, after which it is deposited in nature in the form of waste (Mills, 1978, pp. 21, 25). Daly (1986, p. 320) put forward the idea that, although according to the First Law no material and energy is created or lost, nevertheless there is a decrease in the economic applicability of such resources. However, the claim on natural resources diminishes if man’s ability to utilize waste increases.

Boulding (1981) described the concept of entropy as a loss of potential. In his view, nature is a quantity of raw materials and energy sources that is ruthlessly exhausted by man. He also considered nature to be a quantity of capital goods. Huetting (1974) spoke of loss of functions instead of entropy. In economics, the terms entropy, loss of functions and “negative externalities” greatly overlap.

the Second Law of Thermodynamics refers to the phenomenon of inevitably increasing “entropy”. Isolated dynamic systems tend to “chaos”. Supply of energy is a condition for reverting impulses. Georgescu-Roegen especially stressed the Second Law’s significance for economics. According to him, entropy is the root of all scarcity (Georgescu-Roegen, 1976).

Twentieth-century economic development requires large amounts of renewable and non-renewable natural resources and is responsible for environmental pollution on a large scale. As a result of this, the mondial ecosystem has become more and more pressurized by the economic process and has already been affected in various respects. The scarcity of nature

has become more and more pressing, and mankind is confronted with the “new scarcity” of ever more components of nature. The great challenge is to invert the exhaustive tendency of modern production. Nature-benign technological development would contribute considerably to solving this crisis (Gordon *et al.*, 1987).

Technological development can be divided into a resource-preserving (nature-saving) sort and a resource-affecting (nature-using) sort (Krabbe and Heijman, 1986). Until now, high tech production has been mainly based on the use of large amounts of raw materials and fossil fuels. Applying resource-preserving technology means that, per unit of produce, fewer natural resources are used than before. If this increase is larger than the inverse effect of an increase of production, then the total claim on natural resources diminishes. In this way production could even get a “sustainable” character. However, the idea that nowadays production could take place without any negative effect on ecosystems is an illusion. Already Schmoller opposed the idea that in the course of the development process man liberates himself from nature, saying that man will always remain a parasite of the earth (Schmoller, 1908: p. 140).

Present-day theory of the use of natural resources was founded by Hotelling. In 1931, in an article in **Journal of Political Economy**, he developed the rule that is considered the basic principle of the economy of natural resources: non-renewable natural resources are efficiently used if the rent (price minus marginal exploitation costs) rises by the rate of interest. However, the Hotelling rule is barely to be seen in the economic system. Apparently, the conditions on which the model of perfect competition and fully defined property rights are based are not fulfilled.

The First Report of the Club of Rome gave a strong impetus to the study of non-renewable resources (Meadows *et al.*, 1972). In this study the exhaustion of nature plays a crucial part. Meanwhile, it has become clear that the prognoses of the Report were too pessimistic. The stocks of natural resources appear to be much larger than was assumed. Moreover, the nature of technological development has been such that, in the seven most industrialized countries, per unit of product ever less energy has been used and prices of a number of important raw materials have steadily decreased.

Property rights form an important aspect of the problem of the utilization of natural resources. Hardin’s approach of property rights to nature

is characterized by the term “tragedy of the commons” (Hardin, 1973, 1980). A situation in which grazing lands are open for all cattle farmers is characterized as “tragic”, since in that situation, every farmer wants to parture as many cattle as possible on the common property, because the returns per cow are for the individual farmers, and the costs of over-grazing are carried by all farmers collectively. The essence of Hardin’s idea is right: scarce components of nature will be utilized too intensively if they are freely available. Earlier, Gordon applied the same principle to the fishery problem (Gordon, 1954). Thus, it is clear that a condition for an efficient management of natural resources is that property rights are established for nature in an appropriate way.

Increasing world population, an the need to diminish poverty and to spread welfare on earth requires a growing global economy. However, the global ecosystem cannot sustain economic growth on that scale. Therefore, world population must be stabilized. This was already held by John Stuart Mill (1848, 1973, p. 746). According to him, social development leads to a stationary population and a certain production level. This view is also found in the “Brundtland report” (WCED, 1987), which received wide attention. The Report’s central idea is “sustainability”. A situation of a stationary population, sustainable use of natural resources and elimination of pollution which exceeds the absorbtion capacity of nature can be called “sustainable stationary”. Economic growth which is in accordance with the above sustainability conditions can be called “sustainable growth” (Heijman, 1995).

There is a risk that humanity will run out of depletable resources which could profoundly influence the production level and the level of welfare in the future (Reijnders, 1989). This makes the relation between the human economy and the depletion of scarce resources a subject of high priority. The idea of sustainable growth implies that the economy can expand as far as the “ecoscope” allows it ti (Siebert, 1982). Conditions for the exhaustion of waste and the use of resource were formulated by Tinbergen (1987, 1989) and Zoeteman (1989). The conditions for human existence were further elaborated on by Opschoor (1989) and Weterings **et al.** (1994). Technological development focussed on diminishing the claim on nature per unit of product can be characterized as “dematerialization of production”. Under circumstances of “steady state”, in which the condition of the economy as well as that of the natural environment are stabi-

lized, the exhaustion of waste is in accordance with the carrying capacity of nature (Lines, 1995).

### **3. Institutional conditions for efficiency and sustainability**

The solution of man's alienation from nature must be found in the institutional sphere. This section discusses institutional conditions for efficiency and sustainability which are directly or indirectly oriented towards nature preservation. A classification of institutions and the functioning of the institutional system; the "cybernetic system" are central to the discussion.

Ciriacy-Wantrup showed concern for the economic analysis of public policy in the field of natural resources. He was especially interested in the common property problem and was pessimistic about the forecasting qualities of economics. According to him, critical parameters like technology, tastes, institutions, population and income levels cannot be foreseen (Ciriacy-Wantrup, 1985).

#### **Sustainability and efficiency**

The Club of Rome's "first report" expressed the idea that, with an eye on an ever growing production, the capacity of nature is not unlimited (Meadows et al, 1972). This approach led to the idea that "economic growth" should be sacrificed to the benefit of nature. Although this idea is still topical, nowadays the problem is approached in a more balanced way. It is recognized that the production of different goods puts different claims on natural resources and pollute in different degrees. Production and consumption processes with a large claim on nature can often be replaced by nature-benign processes, giving room to the economizing on the production factor nature and the recycling of natural resources. Moreover, in the consumption pattern, nature-intensive products are often subjected to replacement by nature-extensive products, as is seen in the idea of sustainable growth, an increase of economic welfare without burdening nature to a higher degree.

As economists want to make use of nature in an efficient way, a consideration of the efficiency idea is in place. Efficient behaviour is acting according to the economic principle, which boils down to achieving the most with a given amount of means or, what comes to the same, to realizing a certain result with the least “scarce” means. In fact, this is a point of departure in economic thought. As such, there has been little discussion about it. Yet, problems arise if questions are asked about how to measure cost elements, on the one hand, and revenue and utility elements, on the other; about what weights should be given to these elements in the operation of aggregation and comparison of costs and benefits. The traditional answer, given in the nineteenth century, is that the quanta of the goods concerned are given by those which are negotiated, and their weights by the prices which come into being on the market. This principle is still accepted, though with the reservation that if specific problems are under investigation, such as the valuation of elements of nature, the procedure of aggregation and comparison should be considerably extended and fundamentally adapted.

The model which the old economists had in mind, at least the Classical-oriented writers, was that of an economy with markets of full competition, in which none of the participants are in a position to influence the price level. Monopolies were considered harmful, frustrating the efficiency principle. Thus, the efficiency idea has long been tied to a specific economic model. Originally it was a model of “natural order”, an idea that stemmed from the Enlightenment, which concept was orientated towards the system of the cosmos. Nevertheless, the eighteenth-century Physiocrats also had the ecosystem in mind. In the nineteenth century, ecologically oriented economic thought was found in nineteenth-century German authors. Today it is a topical subject in economics.

In the field of interaction between economy and nature, a number of evolutionary processes take place. Population, production technology and environmental technology (an aspect of the latter), natural stocks and the environment of life in general are all subjects of related processes of development. The model to which the efficiency standard refers ought to be one that can express these dynamics. Therefore, the originally static economic model should be “dynamicized”.

## Types of efficiency-oriented institutions

We define “institutions” as factors that influence behaviour in social intercourse. This definition is a pragmatic one, focussed on its effects. Institutions which have a function in the economic system are called economic institutions. The set of economic institutions may also be defined as the economic aspect of the set of social institutions. “Institutes”, the actors in society, are organizational units in the institutional sphere, sharing responsibility and authority in society. The system of institutes (actors) maintains the system of institutions, and the latter supports the first. For the distinction between institutions and institutes, we refer to Gustav Schmoller (1900, 1908: p. 61). We distinguish the following types of institutions: those that determine the interaction pattern, prescriptive institutions, behaviour-oriented institutions, and institutions for income transfer.

**Institutions determining the interaction structure.** In the field of fundamental institutions, determining the economic interaction structure, the main distinction is between production activities and consumption activities. The first we regard as those applying scarce means of production, and the second as consumer behaviour with regard to private and public goods. This distinction is typical of all developed economies. However, the institutional characteristics of households as such, in which production and consumption activities are practised, differ profoundly in various societies. Laws and other regulations, as well as customs, belong to the set of interaction-determining institutions. There are various forms of production, carried on in various types of households, e.g. large-scale and small-scale production units, private and government-run households. Consumption takes place in private households as well as in the public sector. The behaviour of producers and consumers, characterized as basic institutes, is influenced by a whole network of institutions. This network is maintained by institutes (actors) that are authorized to do so. Institutions which sustain these authorities should be considered as interaction-determining basic institutions. The following types of institutions also have interaction-determining aspects.

**Regulations.** The key feature of direct prescriptive institutions, or “regulations”, is that government offices dictate what other actors in the system should or should not do. These regulations may affect actors in the

system, such as households of certain types. Other institutes in the system can also be influenced by such regulations and can, in turn, influence the behaviour of household. Prohibitive regulations form the main type of institution in this category. This means that households are not allowed to do certain things. The impact on welfare is mainly as follows. Prohibitive re regulations have a negative impact on welfare by decreasing profits. However, if the measure in question has, *e.g.* a nature-preserving character, then there is also a positive effect, either directly on individual welfare or indirectly through an increasing capacity of the production agent nature. There may be consequences for income distribution as well, if rents are earned by firms that are less limited in their behaviour than other. Trespassing against prohibitive regulations is usually punishable by fine. If the paying of such fines becomes a morally accepted custom, and not to allow infringements of the law to become part of the legal economic system. “Conditional” regulations form a specific type within the category of regulation. The central idea is that the government dictates conditions of economic behaviour, including precautionary measures, such as various forms of care for human and natural resources, for man and the environment. As far as the impact on welfare is concerned, similar observations can be made as for prohibitive regulations.

**Behaviour-oriented institutions.** Institutions orientated towards economic behaviour are maintained by private as well as public institutes, the “actors” in society. In this area, the keywords are education, information, and the changing of attitudes. The significance of this type of institution for the system under consideration is along the lines of the impact of direct government regulations mentioned. Governments are forced to intervene if in certain respects, voluntary behaviour fails. Nature-friendly consumers’ behaviour can be reinforced by “eco-labelling”, to indicate whether goods have been produced by methods which are comparatively little harmful to the environment. However, “in certain plausible cases, the differentiation of products due the labelling may lead to increased sales of products made by both environment-friendly and environment-unfriendly goods” (Mattoo and Singh, 1994: p. 54).

Thinking of behaviour-oriented institutions, one is confronted with a fundamental difficulty in applied welfare theory. It is paradoxical to consider an improvement of economic behaviour on the basis of social priorities that are supposed to determine the original social welfare function as

well as the institutional setting which comes into existence. The resolution of this paradox is to be found in that the political concept of social welfare and its components are subject to gradual change, constantly requiring adaptation of the institutional system.

**Market-oriented institutions; price manipulation.** Institutions having a direct impact on market behaviour are levies, e.g. environmental taxes and subsidies which are applied proportionately to production and sales as well as to the means of production used. Some of these levies and subsidies are related to producers' and consumer' external effects on nature. The economic idea of externalities was developed by Marshall (1890) and Pigou (1952), and applied to the environmental problem, for example by Victor (1972). As far as environmental levies are concerned, it is of interest to know which expenditures are financed by the funds raised. Various forms of "eco-taxes" are examples market-oriented institutions. Turnover taxes belong to this category as well. Market-oriented institutions are typically orientated towards efficiency in social production.

One of the propagators of tradeable discharge permits is Charles Howe. According to him, in the United States such permits are mostly imposed on top of a regulatory system, as, in general, are also non-transferable eco-taxes of the European type. He rightly noticed that "both of these key economic instruments are beginning to find appropriate and important niches in environmental planning in both the European Community and the U.S." (Home, 1994: p. 166).

**Property rights.** Distinction can be made between exclusive and non-exclusive resources. Property rights of exclusive resources are well defined. Non-exclusive resources, however, are common property. These resources generate the prisoner's dilemma already mentioned. Though non-exclusive resources do not generate rent, they can still be scarce. In that case, it is possible to speak of a potential rent, based on the scarcity of resources from a social economic point of view.

### **Economic cybernetics**

Analysing the character and the functioning of the institutional system,

one must keep in mind that in the “chaos” of economic data, various systems can be perceived. The model under discussion not only represents a theory about decisions of economic actors under given circumstances, but attention is also directed towards the various types of conditions under which decision making takes place. This is the question which has also been raised by Gustav Schmoller (1900, 1908) and, recently, by the late Nicholas Georgescu-Roegen (1971).

The centre of the efficiency-oriented institutional system is formed by a system of decision-making by economic actors. This decision system refers to the formation and application of means of production being the basic allocation system; it contains within itself a system of institutions and a system of actors that maintain it. The latter consists not only of consumption and production households, but also of actors that indirectly contribute to the allocation of the factors of production. Basic institutions are the consumption and production household's striving for efficiency, from their specific points of view, under given circumstances. This basic behaviour is affected by other institutions. Institutions are realizations of (sometimes conflicting) aims of economic actors. Thus, the system of efficiency-oriented institutions rests on a system of preferences of all the economic actors involved. However, these preferences are related to circumstances, e.g. the levels, structures and developments of technology, population and natural resources, including environmental quality. Therefore, the decision system concerned needs to contain sets of data in these areas. On the crucial question in economics of how to analyse this complex of phenomena, the last word has not yet been spoken. Yet some points are clear enough. It is in line with economic tradition to approach the economic decision system with the help of welfare theory, including property rights theory.

The use of human and natural resources is, on the one hand, a necessary condition for production. On the other hand, degradation of capacities of natural resources is the result of the process of production and consumption. Thus institutions are related to resources along two lines. It can be maintained that, in social intercourse, efficiency is the result of a political process in which various types of institutions play a part. In a system of **laissez faire** the rate of interest might have a negative impact on nature. This should be corrected through various institutional measures affecting producers' and consumers' decision patterns. The above cyber-

netic model of institutional controlling of the economic system reflects environmental aspects of European and of North American economies' institutional frameworks that have evolved over the last few decades.

#### 4. Conclusions

In the Keynesian and the Neoclassical analyses there is little attention in the production factor nature. However, in modern society the relationship between man and nature is becoming even more complex. It is the merit of the early Austrians, especially Böhm, to have had an open eye for this, expressing development in terms of the extension of the production roundabouts. Further, the fact that the production factor capita is not considered an original production factor, but an agent derived from labour and nature, should be judged positively. Another positive point is that, in line with the Historical School, man himself is also considered part of nature, which puts its stamp on his wants. In this way nature has always a place in the scope of Austrian economics, at least in principle. Nevertheless, the alienation from nature was not prevented by Austrian thought.

An aspect of the process of alienation from nature is that the attention in economics has been focussed on the factors labour and capital, leaving the factor nature largely beyond consideration. The early Austrian principles were not worked out in such a way that this process was reversed or even stopped. The Austrians rightly conceived of economics as primarily a valuation system including the valuation of nature. Menger and Wieser rightly put forward the idea that, complementary to this economic valuation system, institutional matters should be studied as well. However, Menger's unjustified optimism on the point that the market would provide the solution to all problems of scarcity hampered investigations into the specific aspects of environmental scarcity and the economic significance of nature in general. Menger's idea of "harmony" is not adequate enough to solve the problem of man's alienation from nature. For this, room must be given to environmental and resource economics, on which a purposeful institutional system should be based. Summarizing, it may be said that the early Austrians formulated a number of principles essential

to studies in this field. However, they failed to develop them explicitly.

More insight into economic aspects of the relationship between economic and ecological systems is essential. In the line of Classical economists, demographic factors should be placed within the scope of economics. Further, entropy should be seen as an economic phenomenon as well. Exhaustion of natural resources deserves the economists' attention too, especially its implications for the social aim of sustainable growth. The switch to sustainable ways of production and the necessity to escape from the "prisoner's dilemma" with regard to natural resources in collective ownership require institutional reform. The institutional system must be oriented towards an efficient way of production that is also a nature-benign one. It is a "cybernetic" system, in which various types of actors play a part. In this way there is prospect for man to overcome his alienation from nature to a large extent.

## Abstract

†JACOB KRABBE and WILLEM HEIJMAN : *Man's alienation from nature and its reconciliation economic approach*

The writers of the article present the different economic Schools and streams concerning man's alienation from nature from the point of view of the institutions. They underline that after the economists of the Classical School, the agent nature lost interest of further exploration. In the Austrian School interest in nature was more or less significant with the exception of Eugen von Böhm-Bawerk. The cause of this position towards nature was because Bawerk conceived production mainly from the point of view as a function of labour and capital. And this tendency can be seen as man's alienation from nature. Nevertheless Roscher and Menger observed that the capacity of nature is limited and therefore natural resources should be used carefully. The writers refer the contribution of Ciry-Wantrups and Kapp in this field.

In our days we can say that the interest of the economists is directed towards the physical and biological aspects of the process of production and consumption as well with the impact of the institutions aiming at the preservation of the various components of nature. Thus the reconciliation of man and nature is one of the today's main targets of the economists and above all the preservation of natural resources.

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## ASPECTS ON THE EVOLUTION OF THE GREEK BANKING SYSTEM

DIMITRIOS NICOLETOPOULOS

*President : Hellenic Economic History Association*

This article has to be complied with the possibilities of the space disposed. I am aware that the questions to be arisen will be many and am asking for the understanding of the reader. Greece, although dominated with commerce -in its general sense- during her long life, had not the chance, for a number of reasons, to acquire a tradition of monetary, banking, financial and economic activity in Europe, especially after the 12th century. I think that this point is very important. I hope that the reader will form a general idea of the banking activity in Greece since 1830, the first actually decade after she became an independent State.

### 1. Historical Background

A short historical background is necessary in order to present a clear image of the greek banking system, as it operates today. Simple quotation of its particularities is not adequate, as Greece remained under the Ottoman occupation for about four hundred years.<sup>1</sup> Greece was declared an independent state in 1828, a state consisting of Attica, Peloponissos, Central Greece and a number of islands of Aegean See, leaving aside Thessalia, Epirus, Macedonia, Thrace and Crete. This situation meant that a great part of the so-called “non liberated hellenism” remained with a very strong desire and anxiety to be incorporated with motherland.<sup>2</sup> It is necessary to add -for non greek readers- that Greece became independent af-

ter a struggle of seven years (1821-1828), leaving her completely ruined and debited, already, with a loan of £ 2.800.000.- (Loans of Independence 1824 and 1825)<sup>3</sup>. The first Governor of Greece Ioannis Capodistrias arriving in Greece found an empty treasury. Apart from his hard efforts to put a basis for the elementary- but very serious-organisation of the new state, he established the National Financial Bank, a quasi bank, as he appealed to the rich greeks to contribute for the success of the Bank. As it was expected the Bank failed mainly because it was directly connected with the treasury.<sup>4</sup> King Otto, after his arrival in Greece began negotiations (1833) for the establishment of a Bank. Negotiations ended in 1841 with the establishment of the National Bank of Greece, which began operating in 1842.<sup>5</sup> The Bank was granted the privilege to issue banknotes (covered), to accept deposits, to discount bills and to grant loans of certain types. But the Bank operated, also, after its establishment, as a banker to the government one of the most important operations of central banks today.<sup>6</sup> Today the National Bank of Greece operates as the head of the group of commercial banks in the greek banking system, as in 1928 the Bank of Greece was established as a central bank. It is worth adding that a substantial number of small banks were operating since about 1840. These "banks" were actually branches of commercial firms involved in exports of agricultural products (sultana, olive oil, tobacco etc), insurance and shipping. According to my research on banking history of Greece, these "banks" reached a number around seventy until 1870. These "banks" were operating in export centres as Patras, Piraeus and Syros (Ermoupolis).<sup>7</sup>

After 1870 with the fall of interest in Europe (European crisis), banking activity presented a growth with the inflow of capital to Greece and a number of banks were established. Also many attempts were not fruitful. During this period, the National Bank of Greece showed a substantial activity. A number of the new banks is still working today.<sup>8</sup>

In 1893 Greece announced stop payment of national debt and in 1897, year of the so-called "unlucky war" in Thessalia was obliged to accept the Permanent Economic Control. The results were satisfactory.<sup>9</sup> Further Greece was in military mobilization for the Balkan Wars (1912-13). Greece acquired Epirus and Macedonia, Thessalia was incorporated to Greece with the Treaty of Berlin in 1881. In 1914 Greece faced the I World War and greek banks, although they had the possibility to make use of a special moratorium in payments, they didn't make use of it. In

1922 followed the drama in Minor Asia.

Within the frame of the world's assistance to Greece (Community of Nations) it was decided for a central bank to be established in Greece. After long negotiations concerning mainly the manipulation of the assets of the National Bank of Greece<sup>10</sup> the Bank of Greece was established in 1928. The economic crisis of 1929 and the problems connected with it were faced rather successfully but the greek banking system couldn't present a real development, as the II World War was near. Nevertheless two important banks were established i.e. the Agricultural Bank of Greece, a state owned bank specialized in financing agriculture, a bank expected to be established for many decades and the National Mortgage Bank, a specialized bank for housing, affiliated to the National Bank of Greece.

The expected war for Greece began in October 1940 with an invasion of Italy from Albania, which was more than successfully attacked, but in April 1941 Germany attacked from Bulgaria. During German-Italian occupation (1941-1944) the country was ruined and devastated. A unique hyper inflation brought a famine through the "buying" of the whole production of Greece against occupation money and "loans" in local money from the occupation forces.

Efforts for the stabilization of drachma (the first in November 1944) were not successful for a number of reasons. I will only mention two important problems:

1. The monetarization of the golden pound, as people stopped trusting paper money.
2. Absence of deposits in the banks. Actually available money was converted to golden pounds.

Commercial banks were lending money from the privilege according to regulations of the Currency Committee.<sup>11</sup>

Monetarization of the golden pound was restored by selling them through the Bank of Greece, with the obligation to be sold same way. Inflow of deposit to the banking system was restored successfully by granting a high rate of interest even for current accounts (at sight) according to the experience in Italy.

Economy in general was restored with the monetary Reform of 1953 a very successful reform which entered Greece in the path of progress. To

my opinion only after 1953 we can speak for a (modern) greek banking system. There are more to be noted for the above development but for obvious reasons we shall talk for the existing greek banking system.

## 2. The Greek banking system today

**CENTRAL BANK:** The Bank of Greece

**COMMERCIAL BANKS:**

National Bank of Greece +

Commercial Bank of Greece +

Ionian Bank +

Alpha Credit Bank

Agricultural Bank of Greece

Bank of Attica +

Bank of Piraeus

Bank of Macedonia and Thrace +

Bank of Central Greece +

Ergobank

Bank of Crete +

Citibank

Bank of America + etc.

Many other commercial banks are operating local and foreign.

(The mark + means that they belong to the Public sector).

**SPECIALIZED BANKS:**

ETVA (Hellenic Bank for Industrial Development) +

ETEVA (National Bank of Industrial Development) +

Investment Bank +

National Mortgage Bank +

**SPECIAL CREDIT INSTITUTIONS :**

Post Office Savings Bank +

Trust Deposits Special Fund +

Note. The Agricultural Bank of Greece use to belong to the specialized banks but now it works as a commercial bank according to European Union regulations.

### 3. Prospects

The main remark we have to note is that there exists an oligopoly in the greek banking system. Apart from the National Bank of Greece which is a state controlled bank since its establishment (1841), in 1975 the so-called Commercial Bank Group which consisted, (except other companies insurance companies, Shipyards, Fertilizers etc.) of the Commercial Bank of Greece, Ionia and Popular Bank of Greece, Bank of Piraeus, Bank of Attica and Investment Bank, was passed over to the Public sector with a still controversial movement of the State. Meanwhile the Bank of Piraeus was sold to the private sector and the Bank of Attica passed to a rather unique status. For different reasons Bank of Macedonia and Thrace, the Bank of Central Greece and the Bank of Crete are operating within the Public sector. Thus the oligopoly is the main characteristic of the greek banking system. So, it is obvious that the greek banking system is facing a number of problems, especially in view of the Economic and Nomismatic Union. The most important, to my opinion, is the operational cost of the Public banking sector. Until now the administration of the banks of the Public sector is appointed by the government in fact with political criteria. This practically means absence of the proper control in general expenses which, for example, are extended to unreasonable advertising (due to the existing oligopoly), extended financing of, say, cultural activities publications etc. On the other hand high profits-based on the high cost of financing as the search for alternative sources is limited- lead upwards salaries and other expenses. In addition employment of trainees is not the result of the proper control, as political pressures are decisive.

So, although all agree for the necessity of pressing down the operational expenses, nothing is actually effected in practice. To my opinion the lowest possible level in operational expenses must be the main and continious target, but for this period it is a must. Otherwise selling of banks -or part of them-, consolidations etc will be the solution. Although,

I think is already late, a hard effort must be given. Unfortunately it is very difficult, especially in the Public sector, to stop the way of thinking and living, unless the state takes the right steps immediately. There are a number of other points which could, be added. I omit mentioning them and insist that the main problem is the above i.e. The oligopoly in banking services.

## QUOTATIONS

1. Ottoman occupation was, actually, completed in 1569 with the fall of Crete. Constantinople fall in 1453. See D. Nicoletopoulos, «Money in Greece from the fall of Constantinople until the arrival of King Otto», p. 14, Athens 1974 (Doctorate Thesis).
2. This situation brought, during 19th century, apart from agitations, expenses due to military mobilizations.
3. Greece received actually approx, the half of the nominal amount. According to T. Lignadis, «Dependence of the Neo-Hellenic State» (1821-1945) (in Greek) p. 87, Athens 1975. See also, «The greek Loans of 1824 and 1825, Opinions of the Day», London 1878, a very hard critic for the economic exploitation of Greece.
4. Ioannis Capodistrias offered his fortune to reinforce the empty Treasury.
5. For details see D. Zografos, «The History of establishment of the National Bank of Greece», Vol. I-II, Athens 1925. Also, I. Valaoritis (in Greek) National Bank of Greece, Vol. I, The History of the National Bank of Greece, Athens, 1902.
6. The Bank of Greece was established within the frame of negotiations, under the auspices of the Community of Nations, for the reconstruction of Greece, after the catastrophe in Minor Asia (1922).
7. Ermoupolis, a port in island Syros, was the centre of transit trade during the 19th century, with substantial turnover. Mainly greeks from Chios island, Constantinople, Trieste and Europe were involved in this trade. We note that the head office of the relative companies was outside Greece and profits were tranferred to head office.

8. A number of these banks operates today within the greek banking system. For example Commercial Bank of Greece is the sucesor of G. Ebedoklis bank which in 1907 was transformed to a Société Anonyme under the firm Commercial Bank of Greece. Also the small bank of Costopoulos in Kalamata is operating today as Alpha Credit Bank (before Credit Bank).
9. The parity of french franc to drachma (equal nominal value according to the Latin Nomismatic Union) was:  
In 1897 Drs. 1,6757 = I french franc  
In 1910 F. Francs 1,03 = I drachma  
See M.S. Eulambio, «The National Bank of Greece, A History of the Financial and Economic Evolution of Greece» (in Greek), Athens, 1924.
10. Holding the privilege to issue bankotes, until then.
11. Currency Committee was established initially by the British aid forces which handed it over to U.S. Aid Mission. Later it remained a greek committee. A few years ago stopped operating. Main mission of the C. Committee was to control circulation of money and the quantity and quality of credit.

## Abstract

DIMITRIOS NICOLETOPOULOS : *Aspects on the evolution of the Greek Banking System*

The main target of this article is the understanding of the greek banking system. This because commenting, considering and / or criticizing it, we have to know the stages through which passed until the moment we can see it as a modern banking system. Therefore the historical background of the greek banking system it is not, to my opinion, only an interesting subject for historians of the economy, but necessary for the understanding of today's greek banking system.



## ASSESSMENT OF GREEK MARITIME POLICY FOR THE POST-WAR PERIOD TO PRESENT

GEORGE P. VLACHOS

*University of Piraeus*

CONSTANTINOS A. ZOIS

*Technological Institute of Piraeus*

### 1. Introduction

It is well known that shipping policy applies to several factors of science. In general, we may divide it between external and internal matters. The latter usually refers to public policy and economics and maritime structure. The leading areas for investigation related to Greek maritime policy are the legal implications, marine insurance matters, shiprepair industry, manpower planning and education, taxation, flags of convenience, international organisations, bilateral agreements and state policies. Other relevant matters, such as ports policy, telecommunications and inspection will not be presented mainly because they did not play an important role in the development of the Greek merchant marine.<sup>1</sup>

By the end of the War it seems easy to establish which were the dominating problems of the Greek maritime policy in urgent need for desired solutions, the persisting law, the flag and the employment rates. In respect of the legal implications we believe that a certain number of national laws gave the motives for the development of the Greek merchant fleet. In addition, other matters which had a strong impact on maritime matters were the shipowner's leakage towards the flag of convenience fleets, the difficulties experienced in discovering national crews and the hiring of foreign personnel to work on board Greek vessels.

Occasionally some other factors have affected the Greek fleet and even today still play a vital role such as the abolition of cabotage within the Eu-

ropean Union waters, the U.S. Oil Pollution Act 1990 with the necessary requirement of double hull tankers trading in their waters, and in the past the UNCTAD requirement of 40:40:20 in favour of the developing countries which would create enormous problems to the Greek tramp fleet. Even the existence of maritime conventions will not create favorable options in such a manner that Greece might adopt a certain maritime policy which has no limitations. Still, due to the fact that Greece possesses one of the biggest merchant fleets in the world, we may assume that her role is important and its negotiation methods quite strong.

## **2. The Greek maritime policy during the period 1946-1996. Analysis and evaluation**

By the end of the 2nd World War Greece had lost 77% of her vessels and 73% of her tonnage. There was a rapid development in the international maritime scene and consequently all major shipyards had received a vast number of orders for new constructions. The Greek shipowners were short of funds at that time and there was no availability for second hand vessels to purchase. The only ships that they could buy were the U.S. liberties which were built between the years 1941-1945 and immediately after the war were laid up in various anchorages.<sup>2</sup> 481 of those vessels were tankers of the T2 type (16,613 dwt). Greece purchased 100 liberties.<sup>3</sup> The official deliverance of those vessels to Greek shipowners occurred in the beginning of 1947. The market price was 544,500 USD per vessel (in other words the 1/3 of the shipbuilding cost) together with the Greek government's guarantee.<sup>4</sup>

The use of the liberties proved to be the most important factor for the development of the Greek merchant shipping. In addition, it was the basis for the entrance of the Greeks to the tanker market because, apart from the 100 liberties Greece possessed 7 tankers of T2 type. It is worth noting that till this time Greek shipping knew almost nothing about the tanker sector since, by 1946 only 3 tankers belonged to Greece (0,1% of world tonnage). As a result the Greek shipping policy was considered positive with regard to the possession of liberties, since at the same time there was an increased demand for tonnage with higher rates of freights and the gen-

eral rapid development in the world trade.

In 1948 USA enacted a law which contained protective measures for their own fleets, that is to say, measures for flag discrimination because a large part of maritime transport of goods should be executed by national vessels.<sup>5</sup> The same policy was adopted by Europe and Latin America. At the same period Greece has imposed a tax of 50% on the net profits earned by the shipowners. Consequently the Greek fleet that was searching for available international cargoes found itself in a very awkward position. The immediate result was the laying up of many vessels and the turn to open registries so that the operational cost would be reduced. In 1949 only 23% of the Greek owned vessels were flying the Greek flag while 15% of the Greek tonnage was laid up. The most common flags used by the Greek fleet were in order of tonnage and numbers of vessels, Panama, U.K. and USA. As a result, the ill-tempered Greek shipping policy combined with the international incidents undoubtedly led to a major leakage from the Greek flag.

In order to cope with this crisis the Greek maritime policy should be upgraded. The main measures adopted were: (a) in 1951 through negotiations initiated by the Greek state, the first, after the war, labour laws were signed in parallel with a series of measures<sup>6</sup> which have changed the existing law for employment and hiring crews on board vessels, (b) there was a major development and upgrading of the training of seafarers (officers)<sup>7</sup> and with law 1880/51 and law decree 3415/55<sup>8</sup> the tax revenues system was agreed, (c) with certain laws<sup>9</sup> there was a settlement of disputes between the state and shipowners.

In 1953 the Greek state adopted a measure that proved useful for the merchant shipping. Basically it recomformed drachma against the dollar so that the seamen salaries almost doubled. In addition with law decree 2687/53 for import capital investment many vessels came back to the Greek registry since the decree gave the necessary quarantees to shipowners that there would be no limitations for sending or not any exchange plus interests abroad because the vessels over 1,500 grt where nominated as foreign capital. This measure without any assistance did not solve the problem of leakage to open registries. Moreover, it was allowed to mortgage vessels to foreigner ownership without previous permit, it limited the shipowner's contribution to insurance companies to 9%. As long as a vessel was under the Greek flag, it was discharged of any dues,

taxes and commissions deriving from contracts. Also there was not to be made any change in the existing taxation system, the anonymousness of company's stocks and the settlement of disputes to arbitration.<sup>10</sup>

On the other hand the N.A.T. (seamen insurance cover) began to function respectively. In 1955 under persisting law it started insuring Greek seafarers who worked on board vessels under foreign flags. It is worth noting that at the same year almost 82% of Greek tonnage was operating under a foreign flag. In addition, a draft law was under ratification at the House of Parliament which provided that all seafarers employed in vessels under foreign flag whose crews were insured at the NAT and other insurance funds, was to be estimated according to qualifications for acquiring certificates of competence under certain procedures.

At the same time the inauguration of the public maritime education took place, lectures started at the School of Aspropyrgos (1956) and the Greek shipowners created the "Maritime Educational Fund" while the high nautical school at Inousses island was ready to operate. In legal aspects, the Parliament enacted a law for the standards of vessels ready to register under the national registry and the preparation of a Private Maritime Law Code. So, in 1960 54% of the Greek tonnage was under a foreign flag (83% in 1956).

The decade 1960-1970 was characterized by a lot of purchases and orders for building new vessels and this led to an increase in the number of Greek vessels and tonnage (more than double), i.e. the 1,520 Greek-owned vessels in 1960 with a total tonnage of 12,2 million grt, became 3,320 and 30,9 million grt respectively at the end of 1970. This rapid increase was also due to the size of the vessels since in 1970 we came across the phenomenon of huge capacities particularly in the tanker sector. In respect of new orders the Scaramanga shipyards in 1967 accepted 20 anti-liberties SD14 type to construct, 80% of the investment was offered by the National Bank of Greece (6,25% interest and 25% guarantee). The only element that did not change was that the Greek fleet kept on using foreign flags, i.e. in 1970 59% of its tonnage was operating under foreign flags. The relative exchange in 1970 was raised to 270 million USD while the number of seafarers was also increased (more than 100,000) and actually minimised unemployment in the sector but shortage of officers and crews was a fact.

The Greek Ministry of Merchant Marine estimated that the Greek

maritime manpower in officers and crews was less 20,000 men than the demand. That was basically the reason for occupying foreign crews, especially from Asian and African countries (due to very low salaries). The employment of foreign crews on board Greek vessels should be limited to 25% of the total number of personnel working on a ship according to Greek law.

In the education sector during the period 1960-1970 new schools for masters and engineers were established,<sup>12</sup> whereas in 1965 the vessel *Evyenios Evyenidis* was bought by the marine schools for providing services to the students. In addition, in 1962 the public school for electronical marine organs was established and in 1971 the school for salvage means and protection from fire. In the bank and shipbuilding sectors, the National bank of Greece established a specific department for marine affairs, whereas the Greek bank for Industrial Development provided for loans for the shipbuilding and shiprepair industries but as we have discovered in 1973 only 3% of the finance in exchange to the Greek flag vessels was originating from the Greek banks.<sup>13</sup>

In 1962 with a Ministerial decree it was permitted to the Commercial and Ionian banks to accept capital from abroad (8 million USD) in order to establish the Elefsina shipyards. In the insurance sector the national insurance company (belonging to the National bank) founded in 1963 the Greek Insurance Company for vessels and aircrafts and at the same time the group of insurers (Phoenix, Ionian, General Insurance) belonging to the Commercial bank founded in London the Greek Shipping Insurance Association which dealt exclusively with vessel and aircraft insurance. Until 1963 there was no marine insurance company in Greece and the bulk of the Greek fleet was insured at Lloyd's. The reason was that the legal system functioning in Greece favoured Lloyd's policies, i.e. the Greek insurance companies were imposed taxes 30% - 38% on profits. The problem was merely solved by the introduction of law decree 551/70 relating to private enterprises insuring vessels and aircrafts.

During this decade a few more measures were adopted. Through the initiative of the Ministry of merchant marine some sectors such as safety requirements, protection from fire, health services were improved. Also a draft law was ready for ratification relating to the establishment of the Public Maritime Law Code as well as laws for liabilities for marine accidents and pollution damage. In addition, with obligatory laws 89/67 and

378/68 relating to motives for the settlement and operation in Greece foreign and Greek shipping companies. These laws which were replaced at a later stage by the laws 814/78 and 959/79 set up certain rules for the installation of Greek offices in the Piraeus region.<sup>14</sup> On the other hand, there has been a change on the taxation system with the obligatory law 465/68 where an annual tax was imposed according to the tonnage and age of its vessel.

The decade 1960-1970 is considered as a major change in shipping matters. In 1974 it was forbidden to join the N.A.T. (insurance fund) and raise the Greek flag for vessels over 25 years old while Greek vessels over 20 years old flying a foreign flag could not be insured at N.A.T. (in 1975 the limit was raised to 25 years). In 1978 the upper age limit for entering the Greek registry and raise the Greek flag was settled to 17 years and the respective limit for entering the N.A.T. was 20 years. Still, in order to join the N.A.T. vessels depending on their tonnage should fulfill some requirements relating to certain conditions on board.<sup>15</sup>

In the sector of manpower planing, in 1974 the Ministry decided to offer to pensioners (seafarers) a new permit to provide services again if they desire. Also the Ministry established rules relating to the payment of foreign crews on board Greek vessels which should be equal to those of Greek crews according to the relative domestic laws.<sup>16</sup> During the same period there has been an advancement in salaries, i.e. in 1977 the salaries for a Greek crew comprised of 32 men in a tanker were almost identical to those of a British origin crew. In 1976 the service time on board was set to nine months per year. In the education sector, all public merchant shipping schools were encompassed in the category before the universities and the British system of parallel theory and practice was adopted, known as sandwich courses. During the period 1970-1978 3 schools for masters, 1 for engineers and 4 radio officers were established. In 1978 for the first time a marine school for women (masters and radio officers) was established.

In the legal sector through investigation we came across a great number of related laws, law decrees and presidential decrees. We must note though the law decree 1321/72 related to shipping banks, the law 959/79 related to shipping companies, the law 551/70 related to private insurance of vessels and aircrafts, the law 27/75 related to taxation on vessels and installation of foreign shipping companies, the law 791/78 related to the

Greek legal status quo, the law 814/78 related to taxation of fishing vessels, the law 849/78 related to passenger vessels, the law 438/76 related to cruisers and tourism vessels (yachts). According to law 27/75 which amended and supplemented obligatory law 465/68 related to the taxation and contribution of shipowners for vessels under the Greek flag was based on the type, age and tonnage expressed in USD. The same almost applied to the rules set down by law 29/75 related to a specific tax contribution in favour of N.A.T. Both these laws are considered quite helpful for the development of the Greek merchant shipping.<sup>17</sup> In addition, in 1973 the Public Maritime Law Code became state law (law decree 187/73).<sup>18</sup>

Let us refer with more detail to laws 814/78 and 959/79. With obligatory law 89/67 the necessary rules were enforced for the installation of foreign commercial and industrial companies in Greece. With obligatory law 378/68 the existing rules were amended to Greek shipping companies that would seek to settle in Greece. With regard to law 814/78 there was a major development of the scope of shipping companies apart from the operation of vessels, i.e. in chartering procedures, insurance cover, ship sale and purchase, shipbuilding contracts for vessels over 1,000 grt (except those involved in cabotage lines). Among other rules, the above law also refers to tax releases and contributions, employment of foreign personnel, registered mail without control. With regard to law 959/79 the shipping company has a target to attract foreign shipping companies but with Greek interests, in other words to convert and persuade them to settle in Greece. The shipping companies according to this law could be also operated under the obligatory law 89/67 as amended by the obligatory law 378/68 and law 27/78. In 1981 742 shipping companies were operating in Greece based on the obligatory law 89/67 and the law 814/78. In 1986 they were reduced to 585 but the same year were in existence 1,100 shipping companies according to law 959/79.<sup>19</sup>

It is worth noting that with law decree 187/73 related to the Public Maritime Law Code and the Presidential decree 684/76, both formed the institutional framework in which there was a gradual development of the cabotage companies. In parallel, the law 849/78 together with the law 1262/83 (for development) supported the new investments and changes radically the quality of cabotage services.

The decade 1980-1990 reached the limit where most shipping companies used in greater extent foreign crews. In 1980 34% of seafarers in all

Greek flag vessels were of foreign origin and respectively 44% in all Greek vessels under foreign flag. In 1981 it was legally agreed that the salaries of foreign crews should be based on bilateral agreements (between Greek Shipowners Unions and the states of origin). In addition, all Greek seafarers who were already on pension could not receive their pension while working on board (they were permitted to earn only their salaries).

The chartering market from 1981 and onwards was at pretty unstable, i.e. between 1980-1982 the freight rates in dry bulk cargoes fell dramatically. We also noticed a great number of laid-up vessels, i.e. in 1983 they reached 12.4% of world tonnage. Scrapping also increased at the international level and in 1985 they overcome 5% of world tonnage. As far as Greece was concerned, in 1982 almost 50% of the laid-up tonnage of the world fleet belonged to Greek interests and 28% of this tonnage was sent for scrap. As a consequence Greece faced the phenomenon of unemployment of Greek seafarers and the turn of most Greek vessels to open registries in order to minimise the operational costs. Between the years 1950-1994, it was the year 1981 in which the Greek tonnage used foreign flags at the minimum level (20.9%). In 1982 the percentage was raised to 28.7% and in 1989 it reached almost 60%. In general, since 1982 the participation of foreign flags to Greek vessels was gradually increasing and after the year 1987 it was over 55%.<sup>20</sup>

In 1982 almost 8% of the total number of Greek seafarers were on the dole, half of them were officers (bridge and engineers). In 1983 in order to cope with this situation it was decided that for the posts of officers on board vessels, the ultimate time limit for occupation (rendering services) was to be between 7,5 and 9,5 months annually. In addition, all foreign crews could not serve as officers, provided that there was no offers from Greek personnel and their percentage (in total crew numbers) could not be over 30%. Every shipowner should change crews every 7,5 months, laying off and hiring Greek seafarers who were unemployed. This last measure was abolished in 1985.<sup>21</sup>

As a result the Greek merchant shipping faced a dramatic reduction in the oncoming foreign exchange. Between the years 1981-1986 there was an annual reduction from 1,8 billion USD to 1 billion USD. Since 1987 the situation changed slightly and in 1995 it went over 2 billion USD because the chartering market has gone up. In 1982 the law 1262/82 was enacted whose subsidies greatly assisted the passenger market. This law con-

tains very important rules related to investments (part of the investment was covered by the state and another part was stemming from a bank, provided that the person desired it). In particular the law consisted of shipping investments such as: shipbuilding of yachts and other tourism vessels, shipbuilding, conversions and shiprepairs of cruisers in the Greek shipyards, building of fishing vessels in the Greek shipyards, building, conversion and repairs of cabotage vessels in the Greek shipyards and purchase a number of them, provided that they were less than 7 years old. These investments could be executed as long as the persons involved were Greek shipping companies, groups of Greek enterprises, public companies and Greek seafarers.

In the educational sector many changes were made. Since 1983 the new regulation of all marine schools provided for the abolition of uniforms, the accommodation and study within the schools and the hierarchy in student performance. In 1989 the schools faced the first protests on account of the system operating.<sup>22</sup> A new measure was the establishment of the Maritime Studies Department at the University of Piraeus in 1989 with main interests in the field of maritime administration. In addition, the University of the Aegean at the Business Administration Department included some specialized courses related to maritime economic and administration, while some Educational Institutes (IEK), public and private, trained students for employment in the shipping sector.<sup>23</sup>

By entering the 1990 decade Greece was faced with long term problems to solve in respect of maritime policy. In fact, they still need to be exercised in greater detail. The most important of them are: the attraction of vessels to raise the Greek flag, the employment of young people as seafarers, the improvement and upgrade of the maritime structure.<sup>24</sup> Not to mention that at the international level and due to the nature of shipping the merchant fleet consists of almost exclusively tramp vessels which are cross traders and Greece, as a general rule, must support the abolition of every protective measures, i.e. at the national level she must face the problem of abolition of cabotage in Greek waters according to European Union's resolutions.<sup>25</sup>

### 3. Conclusions

The Greek maritime policy during the first years and by the end of the second World War, that is to say after the year 1950, it can be considered as a protective policy due to short of funds (catastrophic consequences during the war period) from shipping. The maritime policy lacked stability, continuity and control. It is true that a lot of Greek shipowners moved their vessels under flags of convenience fleets so that they could achieve better and more stable investments, since the state's policy affected the competitiveness of the national fleets, mostly consisted of tramp vessels. Surely the fact that a number of liberties was purchased with the state's support, is considered as a positive step towards a better maritime policy.

Within the policy of receiving funds from the shipping activities for the immediate respond to financial problems that the state was facing, the taxation policy imposed on the shipowners according to law decree 567/48 almost reached 50% of the net profits. In reality the imposed tax is even bigger because it was based not on the profits but on the constructive incomes. This measure affected as well other sectors, i.e. a vessel was not allowed to sail if taxes were not due or the contribution was not paid, based on the personal income a shipowner has earned abroad.

On the other hand the post-war behaviour of the crews, due to political reasons, combined with the high salaries they were earning, led to an increase to the operational cost of the Greek vessels and consequently placed the Greek fleet in terms of competition with other flags, in a very difficult position. It is worth noting though that a few national laws proved in favour of the shipping industry, apart from the purchase of the liberties and the T2 type tankers, the deliverance under favourable terms to the shipowners all vessels which had been requisitioned during the war.

By 1951 the Greek shipping policy has constantly improved. The law 1880/51 related to taxation on vessels together with amendments and supplements has created a fair taxation policy for the new registered vessels over 1,500 grt, a fact that found the shipowners and seafarers in favour. In 1968 with the laws 465/68 and at a later stage 27/75 and 814/78 the Greek state offered enough confidence to the shipowners and this led to an increased use of the Greek flag (64,5% of the Greek fleet was under foreign

flag in 1967 but only 20,9% in 1981).

In general, apart from the period 1945-1950 which is characterised as an untrustworthy and unstable maritime policy, Greece followed a slow but rather reasonable policy, mainly in its external relations, i.e. by signing and ratifying many international conventions and actually upgrading its national laws and policies particularly in the fields of safety of navigation, standards of training and education of seafarers, cabotage regulation, pollution prevention etc. This does not necessarily mean that Greek state has found solutions in all long-established problems connected with the shipping industry so that to create a modern shipping environment, obviously because the Greek fleet consists of tramp vessels and this is not easily symmetric with the limited characteristics of the country, i.e. geographical, economic and commercial.

## NOTES

1. Even the simplest reference to the above matters would unnecessarily exceed the size of this article. For the same reason even the sectors that will be analyzed, only their basic elements are discussed.
2. There existed more than 2,700 vessels (each one was 10,865 dwt) that were built massively, simply and quickly in the U.S. shipyards for the purpose of transporting supplies and equipment to the belligerent Europe.
3. 15 of those vessels were delivered by the U.S. government before the end of the war. For the operation of these ships the United Greek Shipowners Corporation was established as a link between the two governments.
4. The Greek shipowners deposited 25% of the amount cash in advance and the rest was paid in monthly installments during a 20-year period with an interest of 3,5%. The state's guarantee covered 75% of the market price. The shipowners have also paid 10% of value as a cross-guarantee and the payment of interests was done at the beginning of the year whereas the Greek state had put a second mortgage on the vessels (except the U.S. mortgage).
5. For instance the American law of 1948 provided for the 50% of all American cargoes to be transported with national vessels.

6. In chronological order: Law 1751/51 for maritime employment, R.D. 23.3.51 for crews on board Greek bulk carriers over 4,501 dwt, R.D. 11.3.52 for codified rules related to P.P.K.E.N. (penal and disciplinary code), R.D. 16.10.52 for settlement of disputes, L.D. 2651/1952 for employment of crews in Greek vessels, L.D. 2652/1953 amendments to previous law decree and two R.D. 1.4.54 for employment of the Greek bulk carriers.
7. Law 1864/51 for constructing new buildings accommodating the merchant marine schools and the re-organising of Ydra's school. Moreover, with Laws 1702/51, 2689/53 and 3538/56 the educational system in those schools was improved.
8. The law 1880/51 imposes taxes on the incomes of the vessels. This seems quite unfair since incomes are not necessarily profits so that taxes may be imposed, let alone when periods of low freights are obviously more than those when the market is up. Nevertheless this system was preferred than the one where taxes should be imposed on net profits.
9. The main instruments were: Law 2149/52 with Obligatory law 1831/51 for insurance compensations, law 3170/55 for the N.A.T. and law 3330/55 which abolished stocks of the local shipping companies.
10. With law 3899/58 the concept of mortgage was introduced in all vessels over 500 grt and it actually facilitated possible loans for all vessels under the Greek flag in the New York and London markets as well as the shipbuilding of Greek vessels under credit in the Japanese shipyards.
11. The Greek shipowner S. Niarhos had declared that he would accept the proposal of insuring to NAT all seafarers (more than 2,000) that were employed in his vessels.
12. The marine institutions were those situated at the islands of Syros (1961), Inousses (1965) and the schools for engineers at Scaramanga (1963) and at Hania in Crete island (1964). In the beginning of 1970 5 public schools for masters, 7 for engineers and 2 for radio officers were operating. In addition, 6 public nautical gymnasiums and over 35 private schools related to shipping were functioning.
13. Note that the interest of subsidies for building vessels in Greek shipyards was 7% in 1970, though to the shipowners for purchasing new vessels was 12% (as well as for the import trade) and to the shipping companies for capital investments was 10%.
14. We will refer again to these obligatory laws when we deal exclusively with laws 814/78 and 959/79 during the decade 1960-1970.

15. For instance the existence of a permanent swimming pool for vessels over 20,000 dwt or TV set, radios and music for vessels over 1,500 grt.
16. The Greek fleet used a great number of foreign crews, i.e. in 1978 28% of the Greek vessels crews were of foreign origin.
17. For all the above mentioned laws see C. Totsis, (1979), "Taxation Code for Vessels and Properties" Pamissos publishers and also the same writer in "Code for S.A. and Ltd Companies with special reference to shipping", (1987).
18. See D. Kamvisis, (1982), "Private Maritime Law", Sakkoulas publishers, p.21 for PubMLC and p.23 for PrMLC which became law 3816/58.
19. See Centre for Programming and Economic Research (KEPE), Programme 1988-1992, Merchant Shipping, (1990) pp. 85-90 and 261.
20. The previous decade and particularly between the years 1968-1981 we have faced the opposite phenomenon. The participation of foreign flags to Greek vessels followed an annual decrease and reached from 64.2% in 1968 to 20.9% in 1981.
21. See law 1376/83 related to measures for dealing with maritime crisis. The application of this law proved unsuccessful partly because it was confronting the constitutional right for free labour market and partly because it was quite expensive. See also M. Los, (1996), "Greek Merchant Shipping after the War" Naftemporiki, special edition (in June), p. 82.
22. By the end of 1980 decade 10 marine schools for masters, 6 for engineers and 4 for radio officers were operating in Greece. In addition, some other specific schools for training officers were functioning, i.e. KESEN, DSMAEN. See L. Houmanidis - K. Zois, (1996), "A Concise Consideration of the Development of the Greek Merchant Marine from the Antiquity to Present", Synchroni Ekdotiki publishers, p. 302.
23. The IEK actually began to operate the next decade (in 1992) and they are not considered Universities but rather special institutes above high schools.
24. In 1994 54% of the Greek tonnage was under foreign flags whereas through statistical data offered by the Ministry of Merchant Marine, in September 1992 for the Greek-owned vessels which were insured at N.A.T. 35% of the crews were of foreign origin. This percentage seem to be even greater if we take into account the existence of many vessels under foreign flag which are not insured with N.A.T. Based on an interview by the President of the Greek Shipping Committee at New York, M. Kouloukoundis in 1996, the Greek state did not offer enough motives to attract young people for employment

in the shipping sector and finally only 1/10 of the crews are of Greek origin and they are basically officers. See Naftemboriki newspaper, the Greek Shipping Committee of New York, special edition (1996), p.46 and L. Houtmanidis - K. Zois, op. cit. pp. 335-336.

25. Cabotage restrictions began to diminish in 1992 and from 1993 the system operated in many European Union waters and it is estimated by 2004 that it will be concluded. See G.P. Vlachos - A.B. Alexopoulos, (1996), "International Organisations and Shipping Policy", Stamoulis publishers, pp. 258-272.

## **Abstract**

*VLACHOS-ZOIS : Assessment of Greek maritime policy for the post-war period to present*

In this paper we present an analysis, according to our opinion, of the major elements of Greek maritime policy from the end of the 2nd World War to present. We attempt to evaluate each and every basic measure because some of them had negative effects while other contributed to the development of the Greek merchant shipping. This evaluation is accompanied by a selected bibliography and other statistical data that emphasize all consequences emanating from government's policies in relation to shipping matters. At the end of this article (as a conclusion), we refer to a concise general presentation of the Greek maritime policy applied to the period 1950-1996. We have chosen this period because we believe firstly that after the 2nd World War the Greek community draw its attention on shipping matters and secondly the Greek fleet, from the losses it has suffered during the war period, followed a new course at the international maritime scene. It is true that the most troubled period refers to the years 1945-1950, because the Greek shipping policy was pretty unstable and slow-coming. Since 1951 Greece adopted a more lenient and stable maritime policy which proved successful in many sectors but it could not solve all the main all the main, long-established problems of the Greek merchant shipping.

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## ΤΟ ΣΥΣΤΗΜΑ ΤΟΥ ΒΡΕΤΤΟΝ-ΒΟΥΝΣ: Η ΔΗΜΙΟΥΡΓΙΑ ΤΟΥ ΚΑΙ Η ΚΑΤΑΡΡΕΥΣΗ ΤΟΥ

Δρ. ΙΩΑΝΝΗΣ ΧΡΗΣΤΙΑΔΗΣ

### 1. Εισαγωγή

Για να αντιληφθούμε καλύτερα το Διεθνές Νομισματικό Σύστημα που προέκυψε με τη συμφωνία του Bretton-Woods, το 1944, φρονούμε ότι μία σύντομη ιστορική αναδρομή θα είναι χρήσιμη.

Τα θεμέλια του πρώτου διεθνούς νομισματικού συστήματος ετέθησαν αρχικά με την “Bank Act” της Τράπεζας της Αγγλίας το 1844 και τα έτη που ακολούθησαν υιοθετήθηκε από τις περισσότερες χώρες του κόσμου. Σύμφωνα με το σύστημα αυτό η έκδοση κάθε νομίσματος βασίζεται στα αποθέματα χρυσού της Κεντρικής Τράπεζας (Gold Standard) και τα νομίσματα είναι μετατρέψιμα σε χρυσό. Οι συναλλαγματικές ισοτιμίες είναι σταθερές και η ισορροπία του ισοζυγίου πληρωμών εξασφαλίζεται αυτόματα από την εισροή και εκροή χρυσού. Όταν μία χώρα παρουσιάζει έλλειμμα εξαγωγών προβαίνει συνήθως σε υποτίμηση του νομίσματός της. Η πολιτική όμως αυτή είναι δυνατόν να συνοδευθεί με υποτιμήσεις νομισμάτων άλλων χωρών και πάντοτε με την άνοδο των τιμών της χώρας αυτής. Με το σύστημα του χρυσού κανόνα για το ελεύθερο εμπόριο, όταν οι εξαγωγές ελαττώνονται λ.χ. στην Α χώρα, τότε ο χρυσός εισρέει στη Β χώρα με την οποία έχει εμπορικές συναλλαγές, οπότε οι τιμές σε αυτήν ανέρχονται για να γίνει ακριβή και να μειωθούν οι εξαγωγές της προς τη χώρα Α στην οποία εισρέει και πάλι ο χρυσός λόγω της αύξησης των εξαγωγών της. Βεβαίως πρόκειται για τον φιλελεύθερο αυτοματισμό, που όμως λειτούργησε κανονικά μέχρι το 1914. Κι’ αυτό, λόγω της κυρίαρχης θέσης της Μεγάλης Βρετανίας στην Παγκόσμια οικονομία και το ρόλο της στερλίνας που ταυτόχρονα

ήταν εθνικό και διεθνές νόμισμα, η Τράπεζα της Αγγλίας υπαγόρευε την νομισματική πολιτική και των άλλων Κεντρικών Τραπεζών.

Ο Α' Παγκόσμιος Πόλεμος όμως σημειώνει και το τέλος του Gold-Standard. Η κυριαρχία της Μεγάλης Βρετανίας τίθεται υπό αμφισβήτηση, ενώ ταυτόχρονα γιγαντώνεται η οικονομία των Ηνωμένων Πολιτειών. Έτσι εμφανίζεται το σύστημα “κανόνας ανταλλαγής χρυσού” (Gold Exchange Standard), σκοπός του οποίου είναι ο περιορισμός της χρήσης χρυσού, του οποίου η παραγωγή δεν είχε αυξηθεί κατά τη διάρκεια του Πολέμου με τον ίδιο ρυθμό των τιμών. Η επαναφορά λοιπόν στο σύστημα “κανόνα χρυσού” εγκυμονούσε τους κινδύνους μιας παρατεταμένης ύφεσης. Συγχρόνως παράλληλα με την στερλίνα, εμφανίζεται και το δολλάριο που σήμερα παίζει και αυτό τον ρόλο αποθεματικού νομίσματος. Σύμφωνα με το GES οι Κεντρικές Τράπεζες μπορούν να έχουν τα αποθέματά τους, είτε σε χρυσό, είτε σε στερλίνες, είτε σε δολάρια. Τα δύο αυτά νομίσματα παίζουν το ρόλο του αποθεματικού και η μετατρεψιμότητα σε χρυσό δεν είναι δυνατή παρά μόνο εάν πρώτα περάσουμε σ’ένα από αυτά τα δύο νομίσματα. Ο ανταγωνισμός όμως μεταξύ των δύο αυτών νομισμάτων δεν άργησε να εκδηλωθεί με αποτέλεσμα την αποσταθεροποίηση του συστήματος.

Το 1931 η Μεγάλη Βρετανία, μη μπορώντας πλέον να θυσιάζει την σταθερότητα της οικονομίας της υπέρ της σταθερότητας της στερλίνας, εγκατέλειψε το σύστημα του Gold Exchange Standard, με αποτέλεσμα το νόμισμά της να κυμανθεί ελεύθερα και να υποτιμηθεί. Στην ουσία αυτό ήταν και το τέλος του συστήματος. Χώρες οι οποίες διατηρούσαν τα συναλλαγματικά τους αποθέματα σε στερλίνες φρόντισαν να απαλλαγούν απ’αυτά μετατρέποντάς τα σε χρυσό. Κατ’ αυτό τον τρόπο τα αποθέματα χρυσού της Μεγάλης Βρετανίας μειώθηκαν σημαντικά τα επόμενα χρόνια. Αποτέλεσμα ήταν η δημιουργία “νομισματικών ζωνών”, όπου άλλα νομίσματα ακολουθούσαν την στερλίνα και άλλα το δολλάριο. Πάντως το δολλάριο γινόταν όλο και περισσότερο κυρίαρχο του παιχνιδιού, [Goux, 1974 σ. 4] και, παρά την κρίση του 1929, μετά την υποτίμηση του δολλαρίου κατά 40% το 1934, οι Η.Π.Α. βρέθηκαν σε κυρίαρχη θέση στο παγκόσμιο νομισματικό στερέωμα. Μία ουγγιά χρυσού καθορίστηκε ίση με 35 δολάρια, ισοτιμία που θα έμενε αναλλοίωτη μέχρι το 1971 δηλαδή 37 ολόκληρα χρόνια. Τα γεγονότα αυτά ήταν προάγγελος για το τι θα επακολουθούσε μετά τον Β' Παγκόσμιο Πόλεμο.

## **A. Οι αρχές του συστήματος και η λειτουργία του.**

### **α) Οι αρχές του συστήματος**

Προς το τέλος του Πολέμου το μέλημα των Μεγάλων Δυνάμεων δεν ήταν μόνο η ειρήνη του κόσμου, ήταν επίσης και η ανοικοδόμηση της παγκόσμιας οικονομίας. Ήδη από το 1942 ο λόρδος Keynes εκπονούσε ένα σχέδιο που θα επέτρεπε στα κατεστραμμένα από τον πόλεμο Κράτη την ανοικοδόμησή τους, χωρίς την “επιτροπεία” των Ηνωμένων Πολιτειών. Έπρεπε κυρίως να αποφευχθούν τα λάθη του Μεσοπολέμου, δηλαδή οι υποτιμήσεις και η ελεύθερη διακύμανση των νομισμάτων που θεωρήθηκε ότι δηλητηρίασαν τις διεθνείς οικονομικές σχέσεις. Ένα σύστημα “σταθερών συναλλαγματικών ισοτιμιών” έπρεπε να καθιερωθεί, που θα εγγυάτο την ανάπτυξη του διεθνούς εμπορίου και την αποφυγή της ανεργίας όπως παρουσιάστηκε στο διάστημα του Μεσοπόλεμου.

Από τις 4 έως τις 22 Ιουλίου του 1944 στο ξενοδοχείο Mount Washington του Bretton-Woods, μικρής πόλης των Ηνωμένων Πολιτειών, 1000 αντιπρόσωποι 44 κρατών συναντήθηκαν για την δημιουργία της νέας νομισματικής τάξης στον κόσμο. Όλοι οι νικητές του πολέμου ήταν παρόντες. Παρούσα ήταν και η Σοβιετική Ένωση, η οποία όμως αρνήθηκε να συμμετάσχει στις διαπραγματεύσεις και να επικυρώσει την Συμφωνία του Bretton-Woods, εφόσον δεν εξυπηρετούσε τους στόχους της, ούτε και ταίριαζε με το κλίμα του ψυχρού πολέμου που ήδη είχε αρχίσει να διαφαίνεται. [Helman, 1977 σ. 254]

Δύο σχέδια ετέθησαν στο τραπέζι των διαπραγματεύσεων. Το Βρετανικό του John Maynard Keynes και το Αμερικανικό του Harry Dexter White, συμβούλου του Υπουργού των Οικονομικών Henry Morgenthau.

Το βασικό χαρακτηριστικό του Βρετανικού σχεδίου ήταν η δημιουργία μιας κυρίαρχης “Τράπεζας” των Κεντρικών Τραπεζών, έχοντας το δικό της νόμισμα, το “Bancor”, με την δυνατότητα να χορηγεί πιστώσεις στα χρεωμένα κράτη, ανοίγοντας λογαριασμούς σε Bancor. Το Bancor θα ήταν αποθεματικό νόμισμα και η ισοτιμία του θα οριζόταν σε σχέση με τον χρυσό. Επίσης το άνοιγμα των πιστώσεων σε Bancor θα ήταν αυτόματο για τα κράτη που θα είχαν ελλείμματα.

Το σχέδιο προέβλεπε επίσης ένα έλεγχο των τιμών και των αποθεμάτων των πρώτων υλών. Επρόκειτο λοιπόν για επαναστατικές αλλαγές

σε σχέση με το προηγούμενο νομισματικό σύστημα. Πράγματι, χαρακτηριζόταν για τον υπερεθνικό του χαρακτήρα, κάτι που προϋπέθετε εγκατάλειψη της κυριαρχίας της εθνικής οικονομικής πολιτικής.

Από την άλλη πλευρά όμως υποστήριζε και τις εθνικές και οικονομικές πολιτικές έναντι εκείνων των πολιτικών, που προκαλούσαν στασιμότητα και ύφεση στην οικονομία και που απέρρεαν από το διεθνές εμπόριο και τους διεθνείς νομισματικούς κανόνες. Σύμφωνα με τον Keynes, η αξία του εθνικού νομίσματος πρέπει να προσαρμόζεται στις απαιτήσεις της εθνικής οικονομίας και όχι σε απαιτήσεις που απορρέουν από εξωτερικούς περιορισμούς. Για τον λόγο αυτό τα επιτόκια πρέπει να είναι έτσι διαμορφωμένα, ώστε να ευνοούν την οικονομική ανάπτυξη της χώρας.

Ο Keynes ήταν οπαδός των χαμηλών επιτοκίων σε σχέση με την οριακή αποδοτικότητα του κεφαλαίου για την οικονομική της ανάπτυξης<sup>3</sup> και ήταν πάνω απ' όλα αντίθετος της πολιτικής επιβολής υψηλών επιτοκίων. Υπήρχε εξάλλου και η εμπειρία του Μεσοπόλεμου, όπου η επιμονή της Τράπεζας της Αγγλίας στην πολιτική υψηλών επιτοκίων για την διατήρηση σταθερής συναλλαγματικής ισοτιμίας της στερολίνας είχε θεωρηθεί υπεύθυνη για την ύφεση και την ανεργία που έπληξε την Βρετανική οικονομία.

Το πλάνο του Keynes όμως απερούφη, είτε γιατί ο Keynes ήταν πολύ μπροστά για την εποχή του, είτε γιατί θεωρήθηκε ότι θα απαιτούσε μεγάλη προσπάθεια εκ μέρους των ΗΠΑ οι οποίες ήδη είχαν χρηματοδοτήσει την Μεγάλη Βρετανία κατά την διάρκεια του Πολέμου, είτε, και αυτός είναι ο ουσιαστικότερος λόγος, διότι οι Αμερικάνοι εύκολα είχαν τον πρώτο λόγο στα ευρωπαϊκά πράγματα, αφού η Ευρώπη ήταν καταστραμμένη από τον Β' Παγκόσμιο Πόλεμο και την δανειοδοτούσαν για να ανασάνη οικονομικά. Έτσι λοιπόν επικράτησε το σχέδιο White.

Από την συμφωνία του Bretton-Woods, που υπεγράφη τις 20 Ιουλίου 1944, δημιουργήθηκε το Διεθνές Νομισματικό Ταμείο (Δ.Ν.Τ.)<sup>4</sup>, που, σύμφωνα με το άρθρο I του Καταστατικού του, σκοπό έχει να ενθαρρύνει την διεθνή νομισματική συνεργασία και το διεθνές εμπόριο, να εξασφαλίσει την ανάπτυξη και την πλήρη απασχόληση των χωρών-μελών, να δημιουργήσει ένα σύστημα “σταθερών συναλλαγματικών ισοτιμιών”: να εγκρίνει τις ενδεχόμενες υποτιμήσεις των νομισμάτων, να χορηγεί πιστώσεις στα κράτη, σε περίπτωση παροδικού ελλείμματος του ισοζυγίου πληρωμών τους, και να εξαλείψει τους συναλλαγματι-

κούς και άλλους περιορισμούς. Η Σοβιετική Ένωση, η Λαϊκή Κίνα και τα Ανατολικά κράτη δεν επικύρωσαν την συμφωνία του Bretton-Woods και κατά συνέπεια δεν συμμετείχαν στο Δ.Ν.Τ. Δεν συμμετείχε ούτε η Ελβετία για λόγους πολιτικής ουδετερότητας.

Το κεφάλαιο του Δ.Ν.Τ. δημιουργήθηκε από το “μερίδιο συνεισφοράς” (quote-part ή quota) κάθε μέλους που όφειλε να συνεισφέρει σ’ αυτό.<sup>5</sup> Τα μερίδια αυτά ήταν λίγο-πολύ ανάλογα με τη συμμετοχή κάθε Κράτους στο διεθνές εμπόριο. Ένα τέταρτο του μεριδίου ήταν πληρωτέο σε χρυσό ενώ τα τρία-τέταρτα σε εθνικό νόμισμα. Τα μερίδια αυτά καθόριζαν και το δικαίωμα ψήφου στη λήψη αποφάσεων του Δ.Ν.Τ., όπως επίσης και το ύψος του δανείου που κάθε κράτος-μέλος μπορούσε να λάβει.

Τα βασικά χαρακτηριστικά του συστήματος των συναλλαγματικών ισοτιμιών του Bretton-Woods είναι τα εξής:

- Κάθε Κράτος - μέλος οφείλει να προσδιορίζει την ισοτιμία του νομίσματός του, εκφρασμένη είτε σε χρυσό είτε σε δολλάρια των Η.Π.Α. Εάν η ισοτιμία εκφράζεται σε δολλάρια, τότε λαμβάνεται υπόψη η σχέση δολλάριου-χρυσού την 1η Ιουλίου 1944, δηλαδή 1 δολλάριο = 888,671 mg καθαρού χρυσού. Το άρθρο IV του Δ.Ν.Τ. προσθέτει ότι το περιθώριο διακύμανσης μεταξύ δύο νομισμάτων δεν μπορεί να υπερβαίνει το 1% γύρω από την δηλωμένη ισοτιμία. Οι Κεντρικές Τράπεζες ήταν υποχρεωμένες να επεμβαίνουν στις αγορές συναλλάγματος για να διατηρείται η ισοτιμία στα επιτρεπτά όρια του 1%.

Στην πράξη οι Κεντρικές Τράπεζες μπορούσαν να επέμβουν στις αγορές συναλλάγματος για να διατηρούν την ισοτιμία του νομίσματός τους σε σχέση μόνο με το δολλάριο. Κατά συνέπεια προέβαιναν σε αγορά ή πώληση δολλαρίων έναντι του εθνικού τους νομίσματος. Η πρακτική αυτή είχε διπλό αποτέλεσμα: Κατά πρώτο λόγο το περιθώριο διακύμανσης μεταξύ δύο νομισμάτων μπορούσε να φθάσει το 4% (εάν π.χ. σε μία δεδομένη στιγμή το γαλλικό φράγκο βρισκόταν στο ανώτατο όριο σε σχέση με το δολλάριο και το γερμανικό μάρκο στο κατώτατο όριο, τότε η διακύμανση μεταξύ φράγκου-μάρκου έφθανε το 2% και, εάν στην συνέχεια η κατάσταση αντιστρεφόταν, τότε η διακύμανση φράγκου-μάρκου θα έφθανε πάλι το 2% αλλά προς την αντίθετη κατεύθυνση; έτσι μέσα στον χρόνο η συνολική διακύμανση έφθανε το 4%). Κατά δεύτερο

λόγο το δολλάριο έγινε το μοναδικό νόμισμα επέμβασης στις αγορές συναλλάγματος, ώστε να αρχίσει να διαφαίνεται ο ηγεμονικός ρόλος του δολλαρίου στο σύστημα του Bretton-Woods.

Οι δηλωμένες ισοτιμίες στο Δ.Ν.Τ. πρέπει να παραμένουν σταθερές, εν τούτοις, δινόταν η ευχέρεια αλλαγής της συναλλαγματικής ισοτιμίας σε περίπτωση “μεγάλου προβλήματος του ισοζυγίου πληρωμών”. Εάν λοιπόν η υποτίμηση ή ανατίμηση ήταν λιγότερη από 10%, τότε το Κράτος-μέλος απλώς προειδοποιούσε το Δ.Ν.Τ. Εάν ήταν ίση ή μεγαλύτερη από 10% έπρεπε πρώτα το Δ.Ν.Τ. να εγκρίνει την μεταβολή αυτή.

- Κάθε Κράτος-μέλος ήταν υποχρεωμένο να εγγυάται την μετατρεψιμότητα του νομίσματός του σε χρυσό και άλλα νομίσματα. Εάν δηλαδή η Γαλλία είχε συσσωρεύσει γερμανικά μάρκα, τα οποία σε μία δεδομένη στιγμή τα πουλούσε στην Γερμανία, τότε η Bundesbank ήταν υποχρεωμένη να αγοράσει τα μάρκα προσφέροντας χρυσό ή γαλλικά φράγκα.

Πρώτα οι Η.Π.Α., από τον Δεκέμβριο του 1946, εγγυήθηκαν την μετατρεψιμότητα του δολλαρίου σε χρυσό όχι όμως και σε άλλα νομίσματα. Κάθε Κεντρική Τράπεζα που κρατούσε δολλάρια μπορούσε να τα πουλήσει στις Η.Π.Α. αγοράζοντας χρυσό. Αντίθετα τα άλλα κράτη-μέλη δεν εγγυήθηκαν την μετατρεψιμότητα του νομίσματός τους σε χρυσό, ούτε και σε άλλα νομίσματα. Πρακτικά, μόνο από τον Φεβρουάριο του 1961, τα κυριότερα ευρωπαϊκά νομίσματα έγιναν μετατρέψιμα, όχι σε χρυσό, αλλά σε άλλα νομίσματα.

Το Δ.Ν.Τ. προέβλεπε την κατάργηση των περιορισμών στις τρέχουσες συναλλαγές, κάτι που πραγματοποιήθηκε για τα περισσότερα βιομηχανικά κράτη από το 1958 και μετά.

Από την περιγραφή των βασικών γραμμών του συστήματος, συμπεραίνουμε ότι στην πράξη : Οι συναλλαγματικές ισοτιμίες εκφράζονται σε σχέση με το δολλάριο. Τούτο είναι και το μοναδικό νόμισμα επέμβασης στις αγορές συναλλάγματος, αυτό είναι που οι Κεντρικές Τράπεζες κρατούν σαν αποθεματικό νόμισμα δίπλα στον χρυσό. Με λίγα λόγια το δολλάριο θριάμβευε. Φαίνεται να είναι καλύτερο και από τον χρυσό!<sup>7</sup> Θα μπορούσαμε να πούμε πως είναι μάλλον το δολλάριο που εγγυάται τον χρυσό, παρά ο χρυσός που εγγυάται το δολλάριο. Όπως χαρακτηριστικά έγραψε ο Jean Denizet, [Denizet, 1977 σ.118] φαίνεται

πως το σύστημα που είχαν σκεφθεί οι διαπραγματευτές του Bretton-Woods ήταν ένα σύστημα “κανόνα δολλαρίου” (Dollar Standard).

## β) Η λειτουργία του

Μπορούμε να ισχυρισθούμε ότι το σύστημα του Bretton-Woods μέχρι το 1958 λειτούργησε χωρίς προβλήματα. Το 1948, τρία χρόνια μετά τον Πόλεμο, οι Η.Π.Α. κατέχουν σε χρυσό 24,4 δισ. δολάρια, κάτι που αντιστοιχεί περίπου στα 3/4 του παγκοσμίου αποθέματος χρυσού. Καθ' όλη αυτή την περίοδο το νόμισμα που παγκοσμίως ζητιόταν ήταν το δολλάριο των Η.Π.Α. Με δολάρια γίνονταν οι διεθνείς συναλλαγές, αυτό ήταν το νόμισμα επέμβασης στις αγορές συναλλάγματος, στο δολλάριο στηρίχτηκε η ανοικοδόμηση της καταστραμμένης Ευρώπης. Η εμπιστοσύνη σε σχέση με το δολλάριο ήταν απόλυτη. Την τετραετία όμως 1957-1961 συνέβησαν γεγονότα τα οποία επέδρασαν αρνητικά στην απόλυτη ηγεμονία του δολλαρίου.

Το 1957 δημιουργείται η Ευρωπαϊκή Οικονομική Κοινότητα, περίπου το 1960 η Ιαπωνική οικονομία ανακάμπτει, ενώ μέχρι το 1961 τα κυριότερα ευρωπαϊκά νομίσματα γίνονται μετατρέψιμα. Ο ρόλος πλέον του δολλαρίου αρχίζει να αμφισβητείται. Και άλλα ισχυρά νομίσματα μπορούν να παίξουν όμως σημαντικό ρόλο στις διεθνείς συναλλαγές. Τα πρώτα όμως προβλήματα του συστήματος εμφανίζονται.<sup>9</sup>

Το δολλάριο αναζητιέται όλο και λιγότερο από τις Κεντρικές Τράπεζες και παύει πλέον να θεωρείται σπάνιο. Αντίθετα οι Κεντρικές Τράπεζες θεωρούν ότι έχουν συσσωρεύσει μεγάλες ποσότητες δολλαρίων, τα οποία, έστω και συγκρατημένα, τα εμφανίζουν στις Η.Π.Α. ζητώντας την μετατροπή τους σε χρυσό. Το απόθεμα των Η.Π.Α. σε χρυσό αρχίζει να μειώνεται. Ήδη από τον Ιανουάριο του 1958 μέχρι τον Δεκέμβριο του 1960 οι Η.Π.Α. χάνουν 5 δισεκ. δολάρια σε χρυσό.

Στην ελεύθερη αγορά χρυσού του Λονδίνου η τιμή του χρυσού, που χωρίς καμμία επέμβαση ήταν σταθερή μέχρι το 1960 (1 ουγγιά χρυσού = 35 δολάρια), αρχίζει να ανεβαίνει. Με πρωτοβουλία λοιπόν των Η.Π.Α. οι Κεντρικές Τράπεζες των δέκα ισχυροτέρων χωρών (groupe des Dix) θεσμοθέτησαν αυτό που ονομάστηκε “pool de l'or”, με στόχο να συγκρατήσουν την τιμή του χρυσού γύρω στα 35 δολάρια την ουγγιά. Οι Κεντρικές Τράπεζες των χωρών αυτών πουλούσαν χρυσό ένα-

ντι άλλων νομισμάτων, οσάκις η τιμή του χρυσού ξεπερνούσε το όριο των 35 δολλαρίων.

Το σύστημα αυτό λειτούργησε ικανοποιητικά μέχρι το 1967. Στα τέλη όμως του ίδιου έτους η ζήτηση χρυσού υπερέβη κάθε προηγούμενο. Οι κερδοσκόποι, διαπιστώνοντας ότι οι τιμές όλων των προϊόντων είχαν ανέβει, εκτίμησαν ότι και η τιμή του χρυσού θ' ανέβει αργά ή γρήγορα.<sup>10</sup> Αγόραζαν λοιπόν χρυσό και πουλούσαν δολλάρια. Οι Κεντρικές Τράπεζες δεν μπορούσαν να εξαντλούν τα αποθέματά τους σε χρυσό και στις 17 Μαρτίου του 1968 αποφάσισαν την διάλυση του "pool de l'or". Εν τω μεταξύ, στις 18 Νοεμβρίου του 1967 η στερλίνα είχε υποτιμηθεί κατά 14,3%, εξ αιτίας σοβαρότατων προβλημάτων στο ισοζύγιο πληρωμών της Μεγάλης Βρετανίας.<sup>11</sup>

Το σύστημα του "pool de l'or" αντικατεστάθη την ίδια ημέρα 17 Μαρτίου του 1968 από αυτό που ονομάστηκε "διπλή αγορά χρυσού", με αρχιτέκτονα του συστήματος τον Αμερικάνο Υπουργό των Οικονομικών Henry Fowler.

Η Αμερικανική Κυβέρνηση διατήρησε την μετατρεψιμότητα του δολλαρίου σε χρυσό, αλλά μόνο για τις Κεντρικές Τράπεζες και επιπλέον απαίτησε ότι οι Κεντρικές Τράπεζες σε καμμία περίπτωση δεν θα παραχωρούν τον χρυσό που θα αποκτούν κατ' αυτόν τον τρόπο στην ελεύθερη αγορά. Οι Κεντρικές Τράπεζες λοιπόν συνέχιζαν να αγοράζουν χρυσό από το θησαυροφυλάκιο των Η.Π.Α. στη σταθερή τιμή των 35 δολλαρίων την ουγγιά, ενώ οι Εμπορικές Τράπεζες, οι επιχειρήσεις και οι ιδιώτες απευθύνονται στην ελεύθερη αγορά, όπου η τιμή του χρυσού μπορεί να κυμαίνονταν χωρίς όρια. Κάτω από αυτές τις συνθήκες οι Κεντρικές Τράπεζες εκτιμούσαν ότι τα αποθέματά τους σε χρυσό, που θα εχρησιμοποιούντο αποκλειστικά για νομισματικές συναλλαγές, ήταν επαρκή, εφόσον δεν θα υπήρχε διαφυγή χρυσού στην ελεύθερη αγορά. Εδημιουργήθη λοιπόν μία αγορά χρυσού αποκλειστικά μεταξύ των Κεντρικών Τραπεζών και μία ελεύθερη αγορά χρυσού για τους ιδιώτες.

Το καινούργιο αυτό σύστημα δημιούργησε ένα διαχωρισμό μεταξύ του "νομισματικού χρυσού" και του "βιομηχανικού χρυσού". [Marchal, χρ. σσ. 67-68].

Ο νομισματικός χρυσός υπάρχει σε περιορισμένη ποσότητα. Είναι αυτός που υπάρχει στα θησαυροφυλάκια των Κεντρικών Τραπεζών από την 17η Μαρτίου 1968 και κυκλοφορεί μεταξύ τους.

Ο βιομηχανικός χρυσός είναι αυτός που βρίσκεται εκτός των Κε-

ντρικών Τραπεζών από την 17η Μαρτίου 1968. Η ποσότητά του αυξάνεται κάθε χρόνο ανάλογα με την παραγωγή του στα ορυχεία χρυσού. Είναι διαπραγματεύσιμος στην ελεύθερη αγορά, ανάμεσα στους παραγωγούς χρυσού από την μία πλευρά και στους αποθησαυριστές χρυσού, κατασκευαστές κοσμημάτων κ.λ.π. από την άλλη πλευρά.

Με το σύστημα αυτό οι Αμερικανοί θέλησαν αφ' ενός μεν να περιορίσουν την διαρροή χρυσού από το θησαυροφυλάκιό τους (Fort - Knox), αφ' ετέρου να επιτύχουν τον περιορισμό του ρόλου του χρυσού, εφόσον μόνο ο νομισματικός χρυσός εχρησιμοποιείτο πλέον σαν αποθεματικό και σαν μέσο εξισορρόπησης των ελλειμμάτων των ισοζυγίων πληρωμών. Ο βιομηχανικός χρυσός έχει αποκλεισθεί. Το δολλάριο ισχυροποιείται εκ νέου, το γόητρό του όμως έχει ήδη τρωθεί.

Η διπλή αγορά χρυσού ελειτούργησε ικανοποιητικά μέχρι τις αρχές του 1970 και συνέβαλε στην διατήρηση του συστήματος του Bretton-Woods μέχρι την κρίση του 1971. Η τιμή του χρυσού στην ελεύθερη αγορά κυμάνθηκε μεταξύ 40 και 43,83 δολλάρια την ουγγιά, ενώ στις αρχές του 1970 ξαναέπεσε στα 35 δολλάρια. Καθ' όλη τη διάρκεια του 1969 δεν παρατηρείται καμμία διαρροή χρυσού από το Fort-Knox, ενώ στα τέλη του έτους τα αποθέματα χρυσού των Η.Π.Α. παρουσίαζαν και μικρή άνοδο!

Η Ουάσινγκτον φαίνεται ότι προσωρινά δικαιωνόταν, παρόλο που η κερδοσκοπία έκανε εκ νέου την εμφάνισή της, προκαλώντας την υποτίμηση του γαλλικού φράγκου κατά 12,5% την 11η Αυγούστου 1969 και την ανατίμηση του μάρκου κατά 9,29% την 24η Οκτωβρίου του ίδιου έτους.

Η ηρεμία όμως αυτή φαινόταν να είναι προσωρινή. Σε όλη σχεδόν την διάρκεια του 1970 παρατηρείται μεγάλη εισροή κεφαλαίων στην Ευρώπη και στην Ιαπωνία που προερχόταν από τις Η.Π.Α.

Σε μία πρώτη φάση αυτό εξηγείται από την διαφορά των επιτοκίων μεταξύ Ευρώπης και Η.Π.Α. Η Ευρώπη, για να αντιμετωπίσει τον πληθωρισμό που άρχισε να κάνει απειλητικά την εμφάνισή του, εφάρμοσε περιοριστική νομισματική και πιστωτική πολιτική, με αποτέλεσμα την άνοδο των επιτοκίων. Οι τοποθετήσεις λοιπόν κεφαλαίων στις χρηματαγορές της Ευρώπης και της Ιαπωνίας ήταν περισσότερο συμφέρουσες απ' ό,τι στην χρηματαγορά των Η.Π.Α. Μεγάλες ποσότητες δολλαρίων συσσωρεύτηκαν στις Κεντρικές Τράπεζες της Ευρώπης. Σε δεύτερη φάση το γεγονός αυτό δημιούργησε την πεποίθηση, ότι οι χώρες αυτές δεν

μπορούν απεριορίστα να συσσωρεύουν δολλάρια και σε κάποια στιγμή θα προέβαιναν σε ανατίμηση του νομίσματός τους σε σχέση με το δολλάριο. Εκδηλώθηκε δηλαδή κερδοσκοπία εις βάρος του δολλαρίου, με επακόλουθο την έντονη ζήτηση κυρίως, μάρκου και γιεν.

Το δολλάριο αρχίζει εκ νέου να αμφισβητείται σαν “καλό” αποθεματικό νόμισμα. Οι Κεντρικές Τράπεζες συσσωρεύοντας τεράστιες ποσότητες δολλαρίων, αρχίζουν να παίρνουν μέτρα αποθάρρυνσης εισροής δολλαρίων στην Ευρώπη. Η Τράπεζα της Γαλλίας, αλλά και η Εθνική Τράπεζα της Ελβετίας, μετατρέπουν τα δολλάρια σε χρυσό. Τα αποθέματα σε χρυσό των Η.Π.Α. αρχίζουν και πάλι να μειώνονται. Η Ουάσινγκτον πιέζει τις Κεντρικές Τράπεζες και κυρίως της Γερμανίας και της Ιαπωνίας να μην κάνουν χρήση αυτού του δικαιώματος.

Από τις 26 έως τις 28 Απριλίου του 1971 η Bundesbank αγοράζει τρία δισεκατ. δολλάρια. Στις 5 Μαΐου 1,5 δισεκατ. δολλάρια εισρέουν στην Γερμανία. Η αγορά συναλλάγματος της Φρανκφούρτης κλείνει. [Simonopou, σ. 14] Η Ελβετία, η Ολλανδία και το Βέλγιο κάνουν το ίδιο. Η κρίση είναι πλέον κάτι περισσότερο από μεγάλη. Στις 10 Μαΐου η Bundesbank ανακοινώνει ότι δεν μπορεί πλέον να κρατήσει σταθερή την ισοτιμία δολλαρίου-μάρκου και αφήνει το νόμισμά της να κυμαίνεται ελεύθερα στις αγορές συναλλάγματος! Λίγο αργότερα το ίδιο κάνει και η Ολλανδία για το φλορίνι, ενώ η Ελβετία και η Αυστρία ανατιμούν το νόμισμά τους κατά 7% και 5,0% αντίστοιχα. Είναι προφανές ότι το σύστημα του Bretton-Woods διέρχεται μία κρίση χωρίς προηγούμενο.

Απεδείχθη ότι και το “pool de l’or” και η “διπλή αγορά χρυσού” ήταν μέτρα τα οποία δεν μπορούσαν να σώσουν ένα σύστημα που είχε πολύ βαθιές τις ρίζες της κρίσης.

## **B. Η κρίση και τα αποτελέσματά της**

### **α) Τα αίτια της ύφεσης**

Το ερώτημα λοιπόν είναι γιατί το σύστημα έφθασε στην ύφεση του 1971.

Είδαμε ότι το δολλάριο έγινε εκ των πραγμάτων το αποθεματικό νό-

μισμα, με το οποίο γίνονταν οι διεθνείς πληρωμές, το νόμισμα επέμβασης στις αγορές συναλλάγματος. Ήταν αυτό που επιθυμούσαν όλες οι Κεντρικές Τράπεζες να διατηρούν στα θησαυροφυλάκιά τους. Η κατάσταση όμως αυτή έχει την εξής ιδιομορφία. Δίνει την δυνατότητα στο Κράτος που έχει το νόμισμα αυτό, δηλαδή στις Η.Π.Α., να μπορεί να λειτουργεί με μόνιμο έλλειμμα στο ισοζύγιο πληρωμών του.

Σ'ένα οποιοδήποτε άλλο Κράτος, εάν υπάρχει έλλειμμα στο ισοζύγιο πληρωμών του, αυτό έχει σαν συνέπεια την μείωση των αποθεμάτων του σε χρυσό ή σε ξένα νομίσματα. Η Κυβέρνηση τότε οφείλει να λάβει μέτρα εξυγίανσης της οικονομίας.

Εάν το έλλειμμα επιμένει και τα αποθέματα εξαντλούνται, αργά ή γρήγορα και με τη σύμφωνη γνώμη του Δ.Ν.Τ., θα ορισθή μία καινούργια ισοτιμία για το νόμισμά του. Αυτός λοιπόν ο κανόνας που επιβάλλεται σε όλες τις χώρες δεν ισχύει για τις Η.Π.Α. Εάν οι Η.Π.Α. έχουν έλλειμμα στο ισοζύγιο πληρωμών, αρκεί να προβούν σε έκδοση νέας ποσότητας δολλαρίων, με την οποία θα χρηματοδοτήσουν το έλλειμμα, εφόσον το δολλάριο είναι ο παράγοντας αύξησης των αποθεματικών όλων των ξένων Κεντρικών Τραπεζών. Η ποσότητα δηλαδή δολλαρίων που εξαγόταν από τις Η.Π.Α. δεν ήταν δυνατόν να εισαχθεί και πάλι εξολοκλήρου σε αυτές, εφόσον με το δολλάριο θα γίνονταν όλες οι διεθνείς συναλλαγές.

Με λίγα λόγια οι Η.Π.Α. μπορούσαν να διευθετούν τα ελλείμματά τους με το δικό τους νόμισμα! Προφανώς το σύστημα αυτό πρόσφερε ένα μεγάλο πλεονέκτημα στην ευημερία του αμερικανικού λαού, εφόσον μπορούσε μόνιμα να καταναλώνει περισσότερο απ' ό,τι μπορούσε να παράγει!

Σε μακροχρόνια βέβαια βάση, το σύστημα αυτό προσκρούει σε ορισμένα όρια. Προϋποθέτει ότι το έλλειμμα του ισοζυγίου πληρωμών και κατά συνέπεια η έκδοση δολλαρίων, διατηρείται σε ένα επίπεδο που δεν δημιουργεί στις Κεντρικές Τράπεζες το αίσθημα της υπεραφθονίας δολλαρίων και κατά συνέπεια την απαρχή μιας έλλειψης εμπιστοσύνης σ'αυτό. Πράγματι σ' αυτή την περίπτωση οι Κεντρικές Τράπεζες θα αρχίζουν να προσφέρουν δολλάρια στις Η.Π.Α. απαιτώντας την μετατροπή σε χρυσό, όπως έχουν το δικαίωμα να κάνουν, σύμφωνα με τους κανόνες του Δ.Ν.Τ. Άρα ουσιαστικά, η βιοσιμότητα του συστήματος, εξαρτάται από την "καλή θέληση" των Η.Π.Α., από την χρήση δηλαδή του προνομίου που τους έδινε το σύστημα του Bretton-Woods. Προφα-

νός αυτό ήταν και το μεγάλο “παράδοξο” του συστήματος.

Όπως λοιπόν περιγράψαμε, μέχρι σχεδόν τα τέλη της δεκαετίας του 1950, το σύστημα λειτούργησε ικανοποιητικά. Οι Κεντρικές Τράπεζες με απληστία συσσωρεύουν δολάρια. Και είναι το δολλάριο που έχει αναλάβει τον ρόλο της αναγέννησης μιας καταστραμμένης Ευρώπης. Ο κόσμος ολόκληρος καρπώνεται το έλλειμμα του αμερικανικού ισοζυγίου πληρωμών, που προκαλείται και από το πρόγραμμα οικονομικής και στρατιωτικής υποστήριξης της Ευρώπης. Επιπλέον το έλλειμμα δεν παίρνει ανησυχητικές διαστάσεις.

Από το 1960 κι έπειτα η κατάσταση αλλάζει. Η αναγέννηση της Ευρωπαϊκής και Ιαπωνικής οικονομίας και η μετατρεψιμότητα των κυριοτέρων νομισμάτων οδηγούν σε αμφισβήτηση της αμερικανικής ηγεμονίας.

Επιπλέον από το 1965 το έλλειμμα του ισοζυγίου πληρωμών των Η.Π.Α. δεν παύει να διογκώνεται. Αυτό οφείλεται στην ανεξέλεγκτη αύξηση των αμερικανικών άμεσων ιδιωτικών επενδύσεων στο εξωτερικό και στη μείωση της ανταγωνιστικότητας της αμερικανικής οικονομίας, με συνέπεια την χειροτέρευση του εμπορικού ισοζυγίου. Η μείωση της ανταγωνιστικότητας της οικονομίας των Η.Π.Α. οφείλεται στην εμφάνιση του πληθωρισμού στη χώρα αυτή, με αυξανόμενο ρυθμό, αρχής γενομένης από το 1965. Η αμερικανική κυβέρνηση επί προεδρίας L. Johnson διεξάγει δαπανηρότατο πόλεμο στο Βιετνάμ και ταυτόχρονα εφαρμόζει φιλόδοξη κοινωνική πολιτική. [Marchal, op. cit. σ. 74] Οι δαπάνες του πολέμου χρηματοδοτούνται με τον εύκολο τρόπο, έκδοση δολλαρίων, οι τιμές ανεβαίνουν, η πραγματική αξία του δολλαρίου στο εσωτερικό μειώνεται, το έλλειμμα του ισοζυγίου πληρωμών διογκώνεται.

Ο Raymond Barre [Barre, 1973 σ. 3] περιγράφει ως εξής την κατάσταση του ισοζυγίου πληρωμών των Η.Π.Α.: “Το έλλειμμα του ισοζυγίου πληρωμών των Η.Π.Α., το οποίο δεν είχε προκαλέσει ανησυχίες κατά την περίοδο 1950-1960 διότι εφαινόταν σαν το απαραίτητο εργαλείο για την εξασφάλιση των διεθνών μέσων πληρωμών, φαίνεται πλέον σαν μία απειλή για την καλή λειτουργία του διεθνούς νομισματικού συστήματος. Οι αμερικανικές αρχές, υπό την προεδρία του Kennedy, έχοντας συνείδηση αυτού του κινδύνου, πήραν μέτρα εσωτερικά και εξωτερικά για την μείωση του ελλείμματος. Ο μεγάλος πληθωρισμός όμως που εκδηλώθηκε στις Η.Π.Α. από το 1965 κι’έπειτα, τροφοδοτού-

μενος από τις δαπάνες του πολέμου του Βιετνάμ, προκάλεσε μία αυξανόμενη χειροτέρευση του αμερικανικού εμπορικού ισοζυγίου. Ταυτόχρονα οι εμπορικοί εταίροι των Η.Π.Α., βελτιώνοντας την τεχνολογία τους και έχοντας σχετικά χαμηλό κόστος παραγωγής, ηύξανε το μερίδιό τους στις παγκόσμιες εξαγωγές”.

Το 1971 το έλλειμμα του ισοζυγίου πληρωμών των Η.Π.Α. έφθασε το ύψος ρεκόρ των 30 δισεκατ. δολλαρίων.

Η διαφορά μεταξύ των αμερικανικών και ευρωπαϊκών επιτοκίων και η κερδοσκοπία του 1970 και 1971 με επακόλουθο τα γεγονότα που περιγράψαμε δεν ήταν παρά μάλλον τα φαινομενικά αίτια της ύφεσης που ούτως ή άλλως θα ξεσπούσε.

Το βαθύτερο αίτιο είναι ότι το σύστημα του Bretton-Woods βασιζόταν στο μόνιμο και διαρκώς αυξανόμενο έλλειμμα του ισοζυγίου πληρωμών των Η.Π.Α., κάτι που ήταν εφικτό λόγω του ηγεμονικού ρόλου του δολλάριου στο παγκόσμιο οικονομικό στερέωμα. Από την στιγμή που το δολλάριο άρχισε να αμφισβητείται, ολόκληρο το σύστημα τέθηκε υπό αμφισβήτηση.

Η τελευταία προσπάθεια σωτηρίας του συστήματος του Bretton-Woods έγινε στην ετήσια σύνοδο του Δ.Ν.Τ. τον Μάρτιο του 1968 στην Στοκχόλμη. Ήταν η δημιουργία ενός νέου αποθεματικού εργαλείου, τα “Ειδικά Τραβηχτικά Δικαιώματα” (Special Drawing Rights ή S.D.R.)<sup>16</sup> που σκοπό είχαν να αποτελέσουν μία νέα πηγή διεθνούς ρευστότητας, εμποδίζοντας έτσι την αύξηση της ποσότητας των δολλαρίων. Προσδιορισμένα στην αρχή με ισοτιμία 1 SDR = 1 δολλάριο, δεν επέτυχαν τον στόχο τους. Απλά προστέθηκαν στα επίσημα αποθέματα δολλαρίων, χωρίς ούτε να υποκαταστήσουν αυτά, ούτε να εμποδίσουν την αύξησή τους.<sup>17</sup>

Την άνοιξη του 1971 τα αποθέματα χρυσού των Η.Π.Α. έπεσαν κάτω από τα 10 δισεκ. δολλάρια, έναντι 24,4 δισεκ. δολλαρίων το 1948.

Η ώρα των μεγάλων αποφάσεων για το σύστημα του Bretton-Woods είχε σημαίνει.

## **β) Τα αποτελέσματα της ύφεσης.**

Μέσα λοιπόν σε αυτό το κλίμα ο πρόεδρος των Η.Π.Α. R. Nixon, στις 15 Αυγούστου του 1971 παίρνει τις εξής αποφάσεις<sup>18</sup>:

- Καταργεί την μετατρεψιμότητα του δολλαρίου σε χρυσό ακόμη και για τις Κεντρικές Τράπεζες!
- Επιβάλλει φόρο 10% σε όλα τα εισαγόμενα προϊόντα.

Και τα δύο αυτά μέτρα σκοπό είχαν την αύξηση της ανταγωνιστικότητας της αμερικανικής οικονομίας, με τη διαφορά ότι το δεύτερο μέτρο είχε άμεσα αποτελέσματα στο εμπορικό ισοζύγιο των Η.Π.Α., ενώ το πρώτο φέρνει έμμεσα στον ίδιο στόχο.

Πράγματι, με την κατάργηση της μετατρεψιμότητας του δολλαρίου σε χρυσό, η Ουάσινγκτον προσπαθεί να καταστήσει το δολλάριο, ελεύθερα κυμαινόμενο στις αγορές συναλλάγματος, γεγονός που θα οδηγήσει στην διολίσθησή του : οι Κεντρικές Τράπεζες θα έχουν έναν επιπρόσθετο λόγο να μην συσσωρεύουν δολλάρια εφόσον είναι πλέον μη μετατρέψιμα σε χρυσό. Θα αφήνουν λοιπόν την τιμή του δολλαρίου να κυμαίνεται ελεύθερα. Η προσφορά δολλαρίου που είναι μεγαλύτερη από την ζήτηση θα οδηγήσει σε μία *de facto* ανατίμηση των άλλων νομισμάτων και σε μία πτώση της τιμής του δολλαρίου. Βέβαια το ίδιο αποτέλεσμα, πολύ απλά, θα μπορούσε να επιτευχθεί με μία υποτίμηση του δολλαρίου, κάτι όμως που ο Πρόεδρος Νixon θεωρούσε χτύπημα για το γόητρο του αμερικανικού νομίσματος<sup>18</sup>. Η διολίσθηση του δολλαρίου θα έχει προφανώς σαν αποτέλεσμα την αύξηση της ανταγωνιστικότητας της αμερικανικής οικονομίας.

Καθένας πλέον μπορεί να αναρωτηθεί: με το δολλάριο μη μετατρέψιμο σε χρυσό, με το μάρκο και το φιορίνι να κυμαίνονται ελεύθερα στις αγορές συναλλάγματος και με προστατευτικούς δασμούς στις αμερικανικές εισαγωγές, τι έμενε πλέον από το σύστημα του Bretton-Woods στις 15 Αυγούστου του 1971;

Οι αποφάσεις της Ουάσινγκτον είχαν σαν αποτέλεσμα την ανατίμηση του μάρκου και του γιεν, παρόλο που οι Κεντρικές Τράπεζες των χωρών αυτών επενέβησαν επανειλημμένα στις αγορές συναλλάγματος, αγοράζοντας δολλάρια και πουλώντας το δικό τους νόμισμα, με σκοπό να περιορίσουν την ανεπιθύμητη άνοδο του νομίσματος τους. Με άλλα λόγια οι δύο αυτές χώρες ήταν σχεδόν αναγκασμένες να συνεχίζουν τη χρηματοδότηση του ελλείμματος του αμερικανικού ισοζυγίου πληρωμών. Η Γαλλία από την πλευρά της, την 21η Αυγούστου 1971, εγκαθίδρυσε την αποκαλούμενη “διπλή αγορά συναλλάγματος”.<sup>19</sup> Μία αγορά για το “εμπορικό φράγκο”, προορισμένο για τους Γάλλους εξαγωγείς και εισαγωγείς και μία αγορά για το “χρηματιστηριακό φράγκο”, προο-

ρισμένο για χρηματιστηριακές συναλλαγές. Στην πρώτη αγορά το φράγκο μένει σταθερό σε σχέση με τον χρυσό και το δολλάριο, ενώ στην δεύτερη κυμαίνεται ελεύθερα. Έτσι, με αυτόν τον ιδιόμορφο τρόπο, η Γαλλία προσπαθεί να σεβαστεί τις συμφωνίες του Bretton-Woods, έστω για το εμπορικό φράγκο. Η Μεγάλη Βρετανία και η Ιταλία απεγνωσμένα προσπαθούν να διατηρήσουν σταθερή την ισοτιμία του νομίσματός τους. Γίνεται φανερό ότι, εάν η κατάσταση αυτή εξακολουθούσε, μετά από σύντομο χρονικό διάστημα ένα σύστημα “κυμαινόμενων συναλλαγματικών ισοτιμιών” θα κυριαρχούσε στον κόσμο.

Η τελευταία λοιπόν προσπάθεια για να σωθεί ό,τι ήταν δυνατόν να περιοσθεί από το σύστημα του Bretton-Woods, γίνεται με την Συμφωνία της Ουάσινγκτον ή “Συμφωνία του Σμιθσόνιου Ινστιτούτου” την 18η Δεκεμβρίου 1971, για την οποία ο πρόεδρος Νixon είπε ότι “είναι η διεθνής νομισματική συμφωνία η πλέον σημαίνουσα στην ιστορία του κόσμου”!

Η συμφωνία αυτή πρόβλεπε :

- Υποτίμηση του δολλαρίου κατά 7,89%. Η νέα ισοτιμία είναι 1 ουγγιά χρυσού = 38 δολλάρια.
- Διεύρυνση του περιθωρίου διακύμανσης που μπορεί να φθάνει το + 2,25% αντί το + 1%.
- Ανατίμηση των κυριότερων νομισμάτων έναντι του δολλαρίου και του χρυσού.
- Κατάργηση του φόρου 10% που είχε επιβληθεί στις 15 Αυγούστου.

Με την συμφωνία αυτή ουσιαστικά τίποτα δεν άλλαξε. Το δολλάριο παρέμεινε μη μετατρέψιμο σε χρυσό και οι Κεντρικές Τράπεζες αδυνατούσαν να απαλλαγούν από τα δολλάρια που είχαν συσσωρεύσει. Επιπλέον οι Η.Π.Α. δεν επήραν κανένα μέτρο υποστήριξης της ισοτιμίας του δολλαρίου. Κατά συνέπεια το βάρος έπεσε και πάλι στις Κεντρικές Τράπεζες των άλλων χωρών, οι οποίες βρισκόνταν ενώπιον του εξής διλήμματος: ή θα εξακολουθούν να συσσωρεύουν μη μετατρέψιμα δολλάρια, χρηματοδοτώντας το αμερικανικό έλλειμμα, ή θα ανατιμούσαν το νόμισμά τους, μειώνοντας την ανταγωνιστικότητα της οικονομίας τους. Επίσης το μέγιστο περιθώριο διακύμανσης μεταξύ δύο νομισμάτων, μέσω του φαινομένου της συσσώρευσης των περιθωρίων, μπορούσε να φθάσει το 9%. Αυτό ήταν ιδιαίτερα ενοχλητικό για την Ε.Ο.Κ. κυρίως λόγω της Κοινής Αγροτικής Πολιτικής. [Hellman, op. cit. . 14]

Όπως είχε δηλώσει ο Karl Schiller, Υπουργός Οικονομικών της Γερμανίας, ενώπιον του Ομοσπονδιακού Κοινοβουλίου, η Συμφωνία της Ουάσινγκτον ήταν “ένα πρόσκαιρο οικοδόμημα, ένα εύθραυστο έργο”.<sup>21</sup> Τα γεγονότα που επακολούθησαν τον δικαίωσαν απόλυτα.

Τα πρώτα δείγματα της νέας κρίσης φάνηκαν από το 1972. Στην ελεύθερη αγορά η τιμή του χρυσού έφθασε τα 50 δολάρια την ουγγιά, ενώ η στεργλίνα εξαιτίας προβλημάτων του Βρετανικού εμπορικού ισοζυγίου κυμαινόταν πλέον ελεύθερα στις αγορές συναλλάγματος.

Στις 22 Ιανουαρίου 1973 η Ιταλία, αντιγράφοντας την Γαλλία, εφάρμοσε για την λιρέττα την διπλή αγορά συναλλάγματος, ενώ στις 23 Ιανουαρίου η Εθνική Τράπεζα της Ελβετίας, αδυνατώντας να απορροφήσει μεγάλες ποσότητες δολλαρίων που εμφανίζονταν στις αγορές συναλλάγματος, άφησε ελεύθερο το ελβετικό φράγκο.

Τον Φεβρουάριο η κατάσταση οξύνεται περισσότερο. Το εμπορικό ισοζύγιο των Η.Π.Α. χειροτέρευσε, και αυτό προκάλεσε κερδοσκοπικές κινήσεις κεφαλαίων κυρίως με κατεύθυνση την Γερμανία, εξαιτίας της οικονομικής άνθησης που γνωρίζει η χώρα αυτή. Για μία ακόμα φορά η Bundesbank ήταν υποχρεωμένη να αγοράζει τεράστιες ποσότητες δολλαρίων για να το στηρίξει.

Στις 12 Φεβρουαρίου οι Η.Π.Α. ανακοινώνουν και νέα υποτίμηση του δολλαρίου κατά 10%. Για πρώτη φορά στην Ιστορία, η αλλαγή της ισοτιμίας γίνεται με αναφορά στα S.D.R. και όχι στον χρυσό. Εφόσον όμως η ισοτιμία του S.D.P. σε σχέση με τον χρυσό ήταν εκείνη του δολλαρίου, συνεπάγεται ότι εφεξής η νέα ισοτιμία του δολλαρίου σε σχέση με τον χρυσό γίνεται 1 ουγγιά χρυσού = 42,22 δολάρια. Την ίδια στιγμή η Ιταλία, η Ελβετία και η Ιαπωνία ανακοινώνουν την ελεύθερη διακύμανση των νομισμάτων τους.

Η υποτίμηση κατά 10% του δολλαρίου δεν σταμάτησε την κρίση. Η έλλειψη εμπιστοσύνης προς το δολλάριο συνεχίζεται. Στις 2 Μαρτίου οι αγορές συναλλάγματος στην Ευρώπη κλείνουν για δύο εβδομάδες! Η τιμή του χρυσού στην ελεύθερη αγορά συνεχώς ανεβαίνει για να φθάσει στα μέσα του 1973 τα 125 δολάρια την ουγγιά! Η επίσημη τιμή των 42,22 δολλαρίων την ουγγιά, αποδεικνύεται πλασματική.

Οι Κεντρικές Τράπεζες των χωρών της Ε.Ο.Κ., εκτός της Ιταλίας, Μεγάλης Βρετανίας και Ιρλανδίας, αποφασίζουν να διατηρούν μεταξύ των νομισμάτων τους, σταθερές συναλλαγματικές ισοτιμίες με περιθώριο διακύμανσης 2,25%, αλλά να κυμαίνονται ελεύθερα έναντι του δολ-

λαρίου. Τα νομίσματα δηλαδή των χωρών αυτών υποτιμώνται ή ανατιμώνται έναντι του δολλαρίου με την ίδια αναλογία, ώστε η συναλλαγματική ισοτιμία μεταξύ τους να μην αλλάζει. Τα νομίσματα της Ιταλίας, της Βρετανίας και της Ιρλανδίας κινούνται ελεύθερα και έναντι του δολλαρίου και έναντι των άλλων νομισμάτων. Στις 12 Μαρτίου το μάρκο ανατιμάται κατά 3% έναντι των S.D.R., ενώ στις 29 Ιουνίου ανατιμάται εκ νέου κατά 5,5%. Είναι προφανές ότι οι κυμαινόμενες συναλλαγματικές ισοτιμίες ολοένα και κερδίζουν έδαφος.

Τον Οκτώβριο του 1973 ένα νέο γεγονός έρχεται να επιδεινώσει την κατάσταση. Ο πόλεμος μεταξύ Ισραήλ και Αράβων έχει σαν αποτέλεσμα την άνοδο των τιμών του πετρελαίου, και την επιδείνωση του εμπορικού ισοζυγίου των χωρών εισαγωγέων πετρελαίου. Την 21 Ιανουαρίου η Γαλλική Κυβέρνηση, ο πιο ένθερμος υποστηρικτής των σταθερών συναλλαγματικών ισοτιμιών, ανακοινώνει ότι το φράγκο θα κυμαίνεται ελεύθερα και έναντι του δολλαρίου και έναντι των άλλων νομισμάτων. Η Γαλλία ή έπρεπε να εξαντλήσει τα συναλλαγματικά της αποθέματα για να στηρίξει το φράγκο, ή έπρεπε να τα χρησιμοποιήσει για να πληρώσει το πετρέλαιο. Φυσικά η δεύτερη λύση ήταν λογικότερη.

Από τα μέσα του 1973, η πρακτική των κυμαινόμενων συναλλαγματικών ισοτιμιών γενικεύεται. Το σύστημα του Bretton-Woods έχει τελειώσει οριστικά. Η συμφωνία της Τζαμάικας το 1976 επισημοποιεί τις κυμαινόμενες συναλλαγματικές ισοτιμίες.

Πρακτικά το Bretton-Woods είχε χρεωκοπήσει με την απόφαση του προέδρου Νίxon, της κατάργησης της μετατρεψιμότητας του δολλαρίου σε χρυσό.

Οι Κεντρικές Τράπεζες, κατά μείζονα λόγο, ηρνούντο να συσσωρεύουν νόμισμα μη μετατρεπτό σε χρυσό. Νομίσματα όπως το μάρκο και το γιεν άρχισαν να φαίνονται καλύτερα από το δολλάριο. Οι δύο υποτιμήσεις του δολλαρίου τον Δεκέμβριο του 1971 και του Φεβρουαρίου του 1973 δεν είχαν ουσιαστικά καμμία σημασία : και διότι η επίσημη ισοτιμία δολλαρίου-χρυσού ήταν εντελώς πλασματική, αλλά και διότι, από την στιγμή που είχε διακοπεί κάθε σχέση μεταξύ δολλαρίου-χρυσού, το δολλάριο ήταν σαν να υποτιμόταν σε σχέση μ' αυτό το ίδιο.

Από το 1973 λοιπόν μέχρι σήμερα, ένα σύστημα κυμαινόμενων συναλλαγματικών ισοτιμιών, κυριάρχησε στον κόσμο, για να αρχίσει η μεγάλη διχογνωμία μεταξύ των υποστηρικτών του συστήματος στον

σταθερών ισοτιμιών και εκείνων των κυμαινόμενων ισοτιμιών. Τα υπέρ και τα κατά των δύο αυτών όμως συστημάτων ξεφεύγουν από τα πλαίσια του παρόντος άρθρου. Θα αρκασθούμε μόνο να πούμε, ότι η εμπειρία αναφορικά με το σύστημα των σταθερών ισοτιμιών, τόσο με την μορφή του Bretton-Woods, όσο και του νομισματικού φιδιού, ή του Ευρωπαϊκού Νομισματικού Συστήματος, ήταν απογοητευτικό. Οι μηχανισμοί εξισορρόπησης του ελλείμματος του ισοζυγίου πληρωμών είναι το κυρίαρχο πρόβλημα στο σύστημα αυτό. Μετά από μία παρατεταμένη κρίση του ισοζυγίου πληρωμών, η λύση στην οποία καταφεύγουν όλες οι χώρες είναι η διολίσθηση του νομίσματός τους. Για να είναι όμως βιώσιμο ένα σύστημα σταθερών συναλλαγματικών ισοτιμιών, πρέπει να υπάρχουν πολλές προϋποθέσεις, η κυριώτερη των οποίων είναι -κατά την γνώμη μας- η σύγκλιση των οικονομιών που θα απαρτίζουν την συναλλαγματική ζώνη,<sup>22</sup> στηριζόμενες όμως οι οικονομίες αυτές στο χρήμα - εμπόρευμα.

Είναι γεγονός ότι η μέχρι τώρα εμπειρία του συστήματος των κυμαινόμενων συναλλαγματικών ισοτιμιών δεν υπήρξε ικανοποιητική. Μία νέα νομισματική τάξη και συνεργασία επιβάλλεται σε παγκόσμιο επίπεδο. Ποιά θα είναι αυτή; Το μέλλον θα το δείξει. Η Ιστορία πάντως μας διδάσκει!

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  8. J. DENIZET [1977]: “La grande inflation” Paris, P.U.F., σελ. 118.
  9. Ο Jacques Rueff από τον Ιούνιο του 1961, με σειρά άρθρων του στην εφημερίδα “Le Monde” με τίτλο “Un danger pour l’Occident: le Gold Exchange Standard” απεκάλυπτε την προβληματική λειτουργία του διεθνούς νομισματικού συστήματος.
  10. Η κερδοσκοπία ενθαρρύνεται και από επίσημα χείλη. Ο Michel Debré, πρωθυπουργός του Στρατηγού Ντε Γκώλ από το 1959-1962, με δηλώσεις του υποστήριζε πως “πρέπει να εξετάσουμε το πρόβλημα μιας ενδεχόμενης ανατίμησης του χρυσού, δηλαδή μιας υποτίμησης του δολλαρίου”, Le Monde, 8 και 9 Ιανουαρίου 1967. Σημειωτέον ότι η Γαλλία εγκατέλειψε το “pool de l’or” τον Ιούνιο του 1967.
  11. Η Ισπανία, η Δανία, η Ισλανδία και το Ισραήλ ακολούθησαν την Βρετανική απόφαση. Αντίθετα ο Καναδάς, η Αυστραλία και η Νότιος Αφρική που ανήκαν στην ζώνη της στερεΐνας δεν υποτίμησαν τα νομίσματά τους. Βλέπε PIERRE-BRETON ET ARMAND - SCHOR: “La dévaluation” ed. PUF. 1976, σελ. 32.
  12. JEAN MARCHAL: “Le système monétaire international”, ed. CUJAS PARIS σελ. 67-68.
  13. PHILIPPE SIMONNOT [α. χρον.]: “La crise était fatale”, Cahiers Français No 153, ενθ. ανωτ. σελ. 14.
  14. JEAN MARCHAL ενθ. ανωτ. σελίς 74.
  15. RAYMOND BARRE [1973]: “L’ Europe et le problème du dollar”, Problèmes économiques 16 Μαΐου, No 1322 σελ. 3.
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- τά την διάρκεια των τελευταίων εβδομάδων, οι κερδοσκοποί εκήρξαν ανοικτό πόλεμο κατά του δολλαρίου”. Χαρακτηριστικό απόσπασμα από τον τηλεοπτικό λόγο του Προέδρου Νixon την 15η Αυγούστου 1971.
19. JEAN-MARC DE PRENEUF. “Le double marche des changes”, Cahiers Français N° 153, ενθ. ανωτ. Notice 10.
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**Abstract**

IOANNIS CHRISTIDIS : *The Bretton-Woods system : Its creation and its collapse*

The as above article tries to present a historic critical approach to the Bretton-Woods system that dominated the world from 1944 until 1973. Furthermore, it deals with whatever concerns the evolution of the Bretton-Woods system and in consequence it ignores subjects like stagflation, policy of affluent society, confinement of credit money etc.

The Bretton-Woods system of fixed exchange rates is based on the leading role of the US dollar as well as on the omnipotence of the United States and it operated satisfactorily until 1960. During this period, its internal contradictions were not highlighted because of the special conditions prevailing at that time. The “paradox” of this system was apparent from 1960 until its real collapse, in August 1971. It collapsed totally in 1973 and the floating exchange rates system dominated ever since.

The appreciation of this system is a valuable asset in the effort of creating a new world-wide monetary order and collaboration that nowadays is necessary all over the world, taking into consideration the new monetary relations that will be created in the near future between the European Union and the other countries.





## GEOPOLITICAL ANALYSIS OF THE COMMERCIAL SEA CHANNEL DARDANELLES-AEGEAN SEA<sup>1</sup>

JOHN MAZIS

*Ionian University*

### 1. The Problem

1. Geopolitics is the geographical and analytical method which studies and describes the power distribution and control of the influence zones on the planet. It is important to stress that whoever controls the international commercial routes also controls the planet.

What does this concept mean in the case of Aegean Sea? The Aegean is a sea route and air passage from the Mediterranean Sea and Europe to the Dardanelles and the Turkish ports in the East. Moreover, while the Aegean Sea exerts a geopolitical influence on Greece and Turkey, it is also -in a practical and not legal sense- a sea and air passage serving the former Soviet Republics, such as Ukraine and Russia and connecting, as far as transports are concerned, the commercial flow between Europe and Asia.

If, on a Mercator map, we draw a line starting from Amsterdam, the seaport of the free oil market in Rotterdam ending at Port Said, the transit point of approximately 40% of Middle-East oil, this will be an absolutely straight line crossing Germany, Austria, Slovenia, Croatia, Bosnia, Kosovo, Scopje, the middle of Chalkidiki (which the Scopjen maps present as part of the “unredeemed Macedonia of the Aegean Sea), the Sporades and the Dodecanese.

The distance on this straight line between Rotterdam and Scopje is about 1500 km while the distance between Scopje and Port Said, on the

same line, is approximately 1650 km; in fact, the capital of multinational Scopje is in the middle of the commercial route connecting the most important location for the export of crude oil with the most significant location for the transit market.

The Sporades and the Dodecanese (SE Aegean) have been for more than 20 years the target of Turkish intentions supported by absurd arguments which are contrary to international law. Turkish misinterpretation of the Treaty of Lausanne and the invention of curious gray zones in the Aegean Sea etc. are ample proof of their intentions.

We must also stress that the above space is part of one of the airways connecting Israel with the USA and is of major importance for the survival of the State of Israel. We must also realize that Israel could never consent to the occupation of this space by powers that in future could block this essential airway to western markets and the USA. Thus, we must see the agreement between Turkey and Israel in this perspective which is completely unfavourable for Greece given the fact that Turkey claims restriction of our national air space from 10 to 6 miles. This claim must make the planners of Greek foreign policy (if there are any) think seriously on such issues, especially after the case of Gavdos (Crete) whose air space is bordering with that of Libya. Since the relations between Turkey and Libya and Israel and Libya are very delicate, the Turkish claim on Gavdos would solve the problem of her air space which, at present is Greek air space, preventing the free movement of Turkish aircrafts to the Western Europe and the USA.

This fact became clear recently when Turkish A/F F-16s, which were part of the Allied Air Force participating in the "peace process" in Bosnia, violated Greek air space over Gavdos. These violations of Greek air space at that time demonstrated the importance of this island.

It is thus obvious that Turkey, taking advantage of her last Agreement with Israel, which also provides for an "Open Skies Treaty", wishes to strengthen her pressure over Greece by making Israel believe that it will also profit from the Gavdos' air passage. Naturally, Israel's reaction has demonstrated that it does not concede to such promises and does not support similar Turkish claims at Greece's expense.

The Israeli President, when asked by a Turkish journalist of the Turkish Daily News (11 March 1996) if Tel Aviv considers that the Turkish-Israeli Agreement for Military Training and Cooperation<sup>2</sup> "was likely to

result in a wider cooperation in the fields of Defense and strategic collaboration” answered: “Defense collaboration against whom? Thank God, we have no common enemies. You have the P.K.K. and we have terrorists (sic).”<sup>3</sup> However, Greek foreign policy must at last realize that Greece, Cyprus and Israel have common interests and decide to explore ways for their common satisfaction before Israel is seduced by the proposals of Turkey.

At this point I would like to stress the importance of the Cyprus-Greece Unified Defense Doctrine, particularly its aspects concerning the consolidation of an important and stable military training between Greece and Israel, Cyprus serving as a junction point.<sup>4</sup>

From the above we draw the conclusion that the Aegean Sea is a very important space in the context of geopolitical dynamics and control, and that this space is an asset to the power that is able to exercise its sovereign rights on it. The main feature of this area is that it is a commercial passageway through which enormous quantities of Azeri and Russian oil as well as natural gaz will move resulting in the decrease of the prices of corresponding Middle-East products. Thus, the big multinational cartels will conveniently proceed to investments in the new markets of China and India.

2. The problems which the ambitious administrator of the Aegean - apart from Greece and Turkey- will have to “resolve” are as follows :

- a) The issue of the Greek territorial waters;
- b) The status of domination on the rocky islands;
- c) The issue of the continental shelf of the Greek islands in the Aegean;
- d) The issue of the Exclusive Economic Zone of both littoral countries which is directly linked to the continental shelf;
- e) The extent of the Greek air space;
- f) The control over the civil air corridors over the Aegean and within Athens F.I.R.;
- g) The defense issue of certain Greek islands; and,
- h) The Cyprus affair.

I will make a brief analysis for each of the above issues.

### a) The issue of the Greek territorial waters

If we take into account that (i) in the Aegean Sea there are 2,400 islands and island clusters which almost “touch” Turkey and (ii) each of these islands has its own territorial waters which, under the present status of the 6 miles, join and overlap the territorial waters of continental Turkey, we can easily understand the rhetoric of our neighbour, friend and ally aiming at the revision of the International and Bilateral Treaties.

However, in my effort not to create false impressions, I must underline that under the present status of the 6 miles there are strips of international waters between Aegean islands and islets providing for the so-called “Sea Crossing” from the Mediterranean to the Dardanelles and the Black Sea, linking the ports of Asia Minor with Europe.

According to estimations taken seriously into account by the American Government, the extension of the Greek territorial waters from 6 to 12 miles -which is absolutely legitimate according to the International Sea Law - would cede 72% of the Aegean to Greece and only 9% to Turkey; at the same time, the percentage of the international waters would fall to some 19%, closing almost all sea-passages and “transforming the Aegean Sea to a Greek lake” creating “similar ‘stifling’ situations” in the air space, according to Turkish declarations.

However, things are different. The Sea Law Treaty provides for important exclusions from the delimitation of the territorial waters. For instance, it provides for the right for “safe crossing” according to which warships of any nationality may rapidly cross the territorial waters of a littoral country under some preconditions.<sup>5</sup>

The new forms and classes of the passage rights, as they apply to passages through international straits and sea routes within an island archipelago which they are defined as not being extensions of the continental country, are considered less troublesome by the international users. This is the reason why, according to the American position, the passages within international waters between Greek islands are defined as “International Straits” and, consequently, they are excluded from the limitations of the “safe crossing”. It is obvious that Turkey and other countries, particularly the naval countries, have the same view on the subject.

What Turkey probably does not understand is that its reformist behaviour against any legal status in the Aegean Sea, as this derives from the

Treaty of Lausanne (24 July 1923), also doubts the legal status of the Bosphorus Straits as determined by the Convention of Montreux (20 July 1936) that is subordinate to Article 23 of the Treaty of Lausanne. We must also note that the validity of the Convention of Montreux has expired since July 1976.

An Aegean without “Straits” lacks substance. One must control the block of Aegean-Straits, otherwise the control of the Aegean Sea or the Straits alone is meaningless. The geostrategical unity of those two countries is obvious if we consider Turkey’s intentions during World War II. Its aims were then focused to the control of the Port of Thessaloniki in order to stabilize its control over the Straits and the Dodecanese which would permit the control of the sea traffic in South Aegean. Besides, the Imia case did not involve only two rocky islands. Turkey aimed much higher, specifically at the repeal of the legal status of the Dodecanese through its official and rather intensive claims against Greek sovereignty over this area.

### **b) The status of domination of the rocky islands**

Here I focus only on the geopolitical dimension of the subject and I shall point out that the status of domination (“possession” according to American texts) is particularly important because it influences the determination of both the extent of the territorial waters and the Zone of Exclusive Exploitation.

### **c,d,e,f) The issue of continental shelf, air space, civil air corridors and littoral zone**

Taking into account that (i) the Montego Bay Convention in 1982, signed immediately by Greece and subsequently ratified in January 1995, and (ii) the legal definition of continental shelf, as presented in the Convention text, the largest part of the Aegean continental shelf belongs to Greece.

The Turkish view, which ignores the continental shelf of the Greek islands, reaches questionable results.

As far as the Greek national air space is concerned, we know Turkey’s

opposition to the 10 miles of Greece's air space which are intended to serve as a wider neutral zone that will function as an early warning zone against a sudden Turkish air attack.

Under the spirit of those concepts we must try to interpret the Turkish NOTAM 714 issued by the Turkish Airlines Service in 6 August 1974. This NOTAM was withdrawn in 22 February 1980 following the issue of the Greek NOTAM 1137 which declared the Aegean a dangerous area, resulting in the interruption of civil aircrafts flying over the Eastern Aegean air corridors. The Greek NOTAM was withdrawn by NOTAM 1157, issued one day after the withdrawal of the Turkish one.

## **2. So, what would be the approach of one or more hegemonic metropolitan naval powers having particular interests in the Dardanelles-East Aegean commercial sea channel?**

At the outset, we must ascertain that both the Convention of the Sea Law<sup>6</sup> concerning the Greek continental shelf and territorial waters and the Treaty of Montreux about the Straits, mainly in their last form as given - contra legem- by the Turkish side, are not very attractive to some users of this commercial sea channel.

This is evidenced by the fact that even though President Clinton signed the Convention in 7 October 1994 and sent it to the Senate for ratification, the latter has not yet finished its task.

This rather "disturbing" hesitation of the USA to accept the Convention of the Sea Law is explained by the dominating concept in the Defense Department of the USA according to which "the acces to oceans, including the coasts of foreign countries, even in great distance from the USA, is vital for both the political and economic interests of the USA".

We cannot but consider USA's concerns, mainly those of reliable and important policy planning centres, such as the Council of Foreign Affairs (C.F.R.), relating to a final proposition concerning the American international activity which aims at national security and the protection of the American national interests within the current international conjuncture. This understanding becomes more factual when we consider the words of Les Aspin, Defense Secretary of State under Clinton's Presidency and

member of the C.F.R.:

“In the ‘old world’ there was only one danger, the Soviet Union. In our world there *will be many dangers*.

In the ‘old world’ our nation’s survival was a bargain. In today’s world *our national interests will be endangered*.

In the ‘old world’ we knew what threatened us. In today’s world *we are obliged to know what threatens us (sic)*.<sup>7</sup>

In the ‘old world’ the policy of ‘prevention’ diminished the danger of a nuclear war. In today’s world ‘prevention’ cannot always stop an opponent from threatening the *Americans and American interests*.<sup>8</sup>

In the ‘old world’ the two superpowers possessed thousands of nuclear weapons and were ready to use them. In today’s world *many countries and groups will compete for the acquisition of nuclear weapons*”.

Of course, an important lesson of political realism is also taught by President Clinton (September 1994) who clarified the theoretical guidelines mentioned above by his Secretary. The President said that the main objectives of American international intervention are: “Peace and Prosperity, Stability and Security, Democracy and Defense” and continues saying that “the objective of Democracy is subject to limitations imposed by the co-evaluation of the other goals for the making of USA’s foreign policy. All countries are not equally able to support a democratic regime nor have they the same importance for the strategic interests of the USA (sic).<sup>9</sup> *Thus, the successful strategy or the shapping of the foreign policy [of the USA] demands the preference of certain countries while neglecting others, including some countries that must be preferred despite the fact that authoritarian regimes are in office (sic)*”.<sup>10</sup>

“Otherwise American patience and American natural resources will go through a severe test to the point of exhaustion”, according to the historian and member of the C.F.R. Francis Fukuyama.<sup>11</sup>

“In this case, the importance of Stability and Security as far as the continuous and unhindered oil flow [to the USA] is concerned predominates over the demands for Democracy (sic)”.<sup>12</sup>

Of course, those “political and economic” interests become more clear if we mention that this channel will trade the oil reserves of the wider region of Caspian Sea, which reserves amount 2,200 million tons of which Kazakhstan only drills 512,000 barrels, on a daily basis, namely 25,6 million tons yearly.<sup>13</sup> In May 1992, Chevron signed a contract for the exploi-

tation of the oil-wells of Tenguiiz/Kazakhstan for the production of 72,000 barrels per day which will rise to 780,000 per day within 17 years following the will signing of the contract.

A year later, in June 1993, the consortium of Total, British Gas, British Petroleum/Statoil, Agip, Mobil and Shell signed a preliminary contract for seismological research on a 100,000 square kilometers area in the Listau region, according to which the drillings would start in 1996.<sup>14</sup>

The transport of those enormous quantities of oil -which they do not include the oil-wells of Azerbaijan, Turkemenistan, Uzbekistan and Kirghizia- depends mainly on the existing network of Russian pipelines which lead either to the Dardanelles or to Alexandroupolis via Burgaz. That is, in both cases we have to deal either with the entire channel or with a part of it. In any case, this channel cannot be by-passed.

The issue of the "oil triangle" between the Caspian Sea, the Black Sea<sup>15</sup> and the Eastern Mediterranean, with new geopolitical features arising in its geographical coefficients due to the dissolution of the USSR, needs a detailed analysis; particularly, the issue concerning the pipelines and the strategic interests hatched around their axes.

We shall try to analyze the strategic importance of each oil route in this region and the role of Turkey as the centres of strategic in Ankara conceive it.

a) The case of Ukraine is of particular interest when talking about oil pipelines on her soil. The Russian pipelines which cross Eastern Ukraine and end in Odessa and Cherson will be easily subjected to a combined Ukraine-Turkish blackmail in the form of serious increase of transit fees, the "rights" over the percentage of the passing oil etc., if Turkey accomplishes the connection between Ceyham-Samsun and joins the end of Samsun with Baku through Georgia (Northern Route) or Nakhichevan (Southern Route). In this case, Ukraine will accept with pleasure to undertake the refinement of Baku oil transferred through the Samsun facilities. This fact could make Ukraine independent of Russian oil.

The importance attributed by the USA to the strategic role of Ukraine against Russia is characteristic. It has become obvious during the last year (1995) by the common American-Ukrainian aeronautical exercises in the Black Sea. To the same conclusion we are lead by the signing of the Cooperation Treaty between NATO and Ukraine on 14 September 1995.

b) The oil route Azerbaijan (Baku)-Georgia (Gory)-Turkey (Ceyhan) seems attractive to the USA<sup>16</sup> for it deprives Russia of a very strategic advantage which made her a dominant factor in the issue of energy transport to the Mediterranean through the dipole Caspian Sea-Black Sea. The consortium concerned must spend approximately 4 years and about USD 1,1 billion for the completion of the project.

c) The Northern Route, namely the route Baku-Aktau-Agdaz-Ghianza (Azerbaijan) and its continuation in Georgia, namely Tbilisi-Caspi-Koutaysi, ending at the strategic Georgian ports of Batumi and Poti<sup>17</sup> in the Black Sea appears equally attractive to the USA.

Surely, the exodus into the Mediterranean will have to be chosen out of three choices: (i) the planned Burgaz-Alexandroupolis pipeline through the Black Sea, (ii) the pipeline to Ceyhan, proposed by Turkey, (iii) transfer its oil through the Bosphorus Straits.

Solution (i) is rejected by Turkey because it reinforces Greece, Bulgaria and Russia strategically. Solution (iii) does not offer the possibilities for the transport of large quantities because of transit restrictions imposed by Turkey, invoking the environmental pollution due to the numerous tankers crossing the Dardanelles. This solution of course may be chosen as auxiliary to solution (ii) because it increases Turkey's strategic position and her ability to negotiate through the blackmail which she already exerts on any interested party.

Solution (ii) is the most preferred for Turkey's strategic interests, but it entails a high risk because of Kurdish rebellion and the political and ideological instability in Turkey at present.

d) To the above oil routes we must also add the following:

- 1) The Russia-Kazakhstan pipeline which connects Samara (Russia) with the Kazakh Gurev port in the Caspian Sea.
- 2) To the east of the above pipeline is that of Orsk (Russia)-Makat (Kazakhstan)- Gurev (Kazakhstan)<sup>18</sup> as well as
- 3) The branching of this pipeline from Makat towards the Kazakh port of Aktau in the Caspian Sea.

The terminations of these pipelines in the Kazakh ports of the Northern and Central Caspian Sea lead to the choice of the Gronzy (Chechnya)-Novorissysk (Russia) route which ends in the Black Sea.

Consequently, we can easily conclude that the Baku-Gronzy Novorosysk-Alexandroupolis route is of "major" importance as far as the geopolitical and geostrategical role of Northern Greek space and the island networks of the Aegean Sea is concerned, because they control one of the most important oil routes in the Mediterranean. We must also stress that the behaviour of Turkey until now with respect to the use of the Straits by the ships of the former USSR cannot be ignored and properly evaluated.<sup>19</sup> Despite recent protests by Turkey for "excessive environmental pollution" in the Straits, caused mainly by some procedural problems in the Russian Confederation,<sup>20</sup> the extortionate repetition of the same procedures on Ankara's side is a geopolitical teleology which cannot be ignored but by people ignorant of the issue.

The NATO administration of the Aegean space in this case is the best geopolitical counterbalance and geostrategical countermeasure for the naval metropolitan powers. The "gray zones" in the Aegean Sea projected by Turkey and seemingly "tolerated" by Washington belong neither to Greece nor to Turkey: most probably, they will belong to NATO. This point must be studied by Greek foreign policy makers, for it endangers the territorial sovereignty of the country. On the other hand, the appropriate diplomatic manipulations of Athens may ensure NATO support for Greece, protecting the interests of the western collective security systems in the SE Mediterranean.

Consequently, we conclude that since the Western Collective Security Systems risk losing the geopolitical control of the Straits, the strategic importance of the Aegean space becomes stronger, particularly at present where the geopolitical "fluidity" in the SE Mediterranean, the Middle East, the Gulf and the Balkans have transformed the Southern Wing of NATO to a pre-eminently juxtaposition front, marked by changing strategic interdependencies, political and ideological contradictions and broadened defence gaps.

However, the above geostrategical and geopolitical analysis supports our contention that the historical event of the collapse of the Berlin Wall has not affected negatively the geopolitical position of Greece with respect to the Western Collective Security Systems. On the contrary; it strengthened it. So, we must formulate proposals which would serve as fundamental guidelines for cohesion and coordination of these advantages for Greek foreign policy.

At this point, it is necessary to stress that the sterile over nationalistic views and xenophobia do not offer any solutions, but create the conditions for isolationism which harm the economic role of the country in the Mediterranean, the Balkans and Europe. So, we have to make clear that:

*The exploitation of the off-shore oil deposits in the Aegean and the Ionian sea may proceed in collaboration with Overseas (ARAMCO) and European (B.P.-R.D. SHELL) cartels. However, this must be done honestly and fairly for our country, without delay and with no drum-like noises.*<sup>21</sup>

There is however an opposite route of commercial flow for which the above mentioned channel is irreplaceable: this is the route Middle East-Thessaloniki or Middle East-Piraeus or Middle East-Volos, particularly the first option.

This route makes the geo-economic role of Cyprus, Crete and Malta emerge. Those are islands situated on the same parallel crossing the Gibraltar Straits, i.e. the 35th parallel.

However, if this commercial route is to offer its services, it must be secured from any possibility for a hot event between the two littoral states, a hot event that would set this route “out of use” while it would endanger the stability of the entire SE Wing of NATO.

### **3. Which “reformist” institutional status -on the basis of these considerations- could be imposed to the complex of the Aegean-Straits, and how could it transform the new status of Greek sovereign rights?**

The formula that seems likely to dominate is that the Aegean Sea tends to be considered an “International Sea Strait” and not a “Sea” where both littoral countries have rights.

This means that the Aegean must be ruled by a “special status” which, through “special agreements” will give the right for free crossing to all eventual users. However, we must stress that this international status is much different from that of the “Sea Strait” and the obligatory rules imposed by the state (or states) to which it belongs, as it is the case with Dardanelles.

In the case of “International Sea Strait” a special institutional status is proposed with the participation of many countries. Thus, in case of an eventual Greek-Turkish conflict the intervention of Security Council of the UNO would be absolutely legitimate; the Security Council might authorize the settlement of a multinational (i.e. NATO) force on a certain “green line” which, in a partitioned Aegean, would create all the prerequisites for a “creative distribution of the continental shelf”. This is what some in the Defense Department of the USA seem to believe.

The same people consider that “above all, the dominant role of the UNO in the Aegean would change the today bilateral image and release USA from the responsibility to elaborate and impose a compromise to those two ‘narrow-minded’ competitors”.

According to the same people, these ‘narrow-minded’ competitors are Greece and Turkey. It is rather difficult for me, being a geopolitics analyst of the Realist School, to take for granted the impartiality of the United Nations and, particularly, of the Security Council which -by its structure of 5 permanent members- violates the notion of the equal participation of its member-states in the taking of decisions concerning the lack of nations. I must also note the recent evolutions in the approach between Russia and NATO, evolutions which strengthen my doubts about the uncommitted decisions of this international institution.

On the other hand, I agree with Prof. P. Iphestos<sup>22</sup> that the U.N. Security Council is an instrument of political character functioning on the basis of hegemonic criteria, which remains inactive when there are no big interests imposing actions on its behalf and the resolutions of which are not impartial. I have also to stress the self-evident truth that it is impossible for a normative system (either international or state system) to be built and survive with such criteria.

I completely agree that a reliable collective security system must first and foremost fulfill the precondition of collectivity, provide security to all participating member-states and effectively deter any threat deriving from those outside this system that tend to disturb the international world order in force.

For a successful function of such a system the following factors must exist:

(a) the existence of common interests between the nations-states participating in the system; (b) a common perception about danger between

all member-states; (c) the exclusion of hegemonism as a concept for the creation of an international normative system; and (d) the use of its military power for defense reasons only.

If the above conditions are not fulfilled, particularly in the scenario which we have unfolded, the above security system will be placed under doubt and tossed aside with destructive consequences for peace and stability in this region.

The insistence on what the above circles of the American Department of Defense call “dominant role of the UNO” leads with mathematical accuracy to the decision to transfer competencies to the collective security system called NATO which is a familiar environment to the Anglo-Saxon political concept of the Naval -and consequently Nuclear- Powers.

Of course, it is impossible for the process of transformation of the Aegean to an “International Strait” with “neutral spaces” and “green lines” to start without the previous mediation of a certain factor for the formation of the necessary prerequisites which will lead to the “solution” known as Hot Regulation.

The establishment of a new collective security status in the plexus Straits-Aegean-Cyprus will probably derive from the July NATO Summit in Madrid where -if everything evolves well for Mr. Solana- a new NATO with new structures, competencies, members and architecture will emerge. The prospects show that an upgrading of the WEU will be decided, *yet always within the framework of NATO*<sup>23</sup> and the UNO Security Council which will take the essential final decisions. This form is realistically predictable in view of the afore-mentioned amelioration of the relations between Russia and NATO and other Eastern European countries with NATO.

It seems that the constitution of “Combined Joint Task Forces” is almost certain; these will be multinational forces under the new enlarged NATO Commands in the form of multiple tasks forces.

The number of Commands is expected to be reduced with the purpose of abolishing the dominating element of “settlement” and promoting the new concept of mission; in brief, the Responsibility Area will be determined by the kind and magnitude of the crisis to be confronted and by the multinational forces involved. The concept of “geographical distribution” will be limited at the top of the hierarchy and in a large scale.

The international structure is expected to result in two Supreme Com-

mands: one Atlantic Command comprising the USA and Canada and one European Command linked to the former. The final goal is to ensure an inter-atlantic relation and to preserve the American presence in Europe, which is positive in my opinion.

The two Regional Commands, namely AFNORTH (Allied Forces North) and AFSOUTH (Allied Forces South) will remain under the European Command. The first Combined Joint Task Forces will be constituted within the framework of those Commands.

Our interest of course is focused on the South Wing; as it seems the AFSOUTH will remain in Naples (Italy) and its area of responsibility will be the region from Spain to Eastern Turkey. The South Wing Commander (CINCSOUTH) will have two Commanders under his authority: the COMNAVSOUTH of the Navy and the COMMARSOUTH of the Airforce.

Moreover, there will be new Commands with *areas of responsibility* the sub-regions of Spain, Italy, Greece, Turkey and, probably in the future, of South France. Those subregions under CINCSOUTH will have operational responsibility only within the territory of the countries where they are settled. This means that the open seas and the air space above them will not belong to the Sub-Regions but will be under CINCSOUTH control.

The conclusion is that the Aegean, as an area of responsibility, will not belong to Greece, yet we shall be responsible for the defense of our islands and territorial waters. Naturally, we can understand why some of our NATO allies are annoyed when we refer to the extension of our territorial waters to 12 miles, which will be nothing but the implementation of our legal right.

It is obvious that the notion of the Area of Responsibility in the form of command and control that we know so far and which NATO, based on the Turkish objections, did not let us to acquire, is substantially downgraded under the new architecture. The so-called Task Force Concept will apply to sea operations, which means that NATO forces will dominate in Central Aegean whose operational control will belong to them.

As for air defense and information exchange (Cross Tel) it is almost certain that the Turks will try to promote the geographical limit to Information Exchange in the middle of the Aegean! If this is accomplished, it will undoubtedly bring about the loss of the Aegean Sea.

## NOTES

1. Paper presented at the International Congress “International Collective Security Systems and their Role in SE Mediterranean”, Corfu 27, 28, 29 July, Ionian Conference Centre, 1997. The present paper has been translated in English by : Panayotis I. Kelandrias, Teaching and Research Fellow in the Ionian University and edited by: Pete Nanopoulos, Teaching and Research Fellow in the Ionian University.
2. Signed on 21 February 1996 in Israel. The Turkish side had been represented by the Deputy Chief of the Turkish Joint Army General Staff, General Cevik Bir. The Turkish newspaper Sabah (22 February 1996) characterizes this agreements as a “historical cooperation against Greece and Syria”. This agreement will create the preconditions for the military training of Turkish Officers in the Israeli Army and of Israeli Officers in the Turkish Armed Forces. Additionally, there will be collaboration between the two countries for the exchange of military information at technical level, common exercises and mutual ship visits (author’s note).
3. It must also be noticed that Mr. Weizman did not call the P.K.K. “terrorist” but used its name (author’s note).
4. Israel must attribute importance to the “good” relations of Greece with Syria and Iran as well as to the excellent relations between France-Iran, Germany-Iran based on the Iranian oil reserves and their exploitation. As an example I may refer the effort of the French Total and the English-Dutch Shell oil companies to conclude an agreement for oil production on Iranian ground amounting USD 3,5 billion; this agreement will be finally concluded between Iran and Total.
5. In this case warships will have no right to proceed to pre-determined actions such as field exercises, aircrafts landings and information collection. Submarines will have to travel on surface while merchant vessels will be submitted to safety and environmental protection regulations of the off-shore country.
6. Set in force in 1994 and signed by 109 countries until now.

7. Underlining by the writer.
8. The permanent and respectable (at least for the writer) refrain about the American nation, Americans, and American [national] interests sounds very 'nationalistic' to someone who exorcises nationalism wherever he finds it. Of course, the attention paid to the protection of the national interests of a country, without any ideological brainwaves and fancies about 'chosen people', is not 'nationalism' but protection of the territorial integrity, prosperity and social and political dignity of her citizens (author's note).
9. The same venue about the interests of the USA. President Clinton's position is absolutely legitimate in relation to the national interests of his country. However, he must recognize the right of other countries to have their own opinion for their national interests without being accused of 'nationalistic' attitude, (author's note).
10. Underlining by the writer.
11. F. Fukuyama, 1992, *The Beginning of Foreign Policy*, **New Republic**, August 17 and 24, pp. 24-32.
12. See also Charles W. Kegley, Jr.-Eugene Wittkopf, *American Foreign Policy*, 5th Edition, St. Martin's Press, New York 1966.
13. See IMF Report, 1993 in *Business Eastern Europe*, 25 October 1993.
14. *Monde Diplomatique*, March 1994, p. 5.
15. At the beginning of the 1990's the specialists estimated, following the Russian elements, that the Caspian Sea resources amounted to 16-19 barrels and 139-324 tcf of natural gaz. According to Dr. Fiona Hill, only the Persian Gulf reserves are larger (15-17 January 1996-Conference of the Research and Development Centre of Cyprus-Intercollege, main subject: "Security and Cooperation in East Mediterranean"). The exploitable reserves of the Azerbaijan resources are estimated to 3-4 bill. barrels. Real Reserves of about 6 bill. barrels have been discovered in Tengiz of Kazakhstan, with additional inferred reserves of about 3 bill. barrels. The actual reserves in both countries could be larger, exceeding these calculations : even the most conservative specialists estimate that the production of the Caspian Sea will be 750,000 barrels at the beginning of the century. As far as Turkmenistan is concerned, it is already the fourth bigger natural gaz producer in the world, with an annual production of 120 billion m<sup>3</sup>. This quantity can satisfy half of the energy requirements of Europe, which are expected to reach 240 billion m<sup>3</sup> until 2005 (author's note).
16. The USA are present with the following companies that are operating or are

- interested in operating in Azerbaijan: Pennzoil, Amoco, Occidental, Unocal and Mobil (author's note).
17. In the Black Sea, the Russian ports of Novorossiysk and Tulapse and the Georgian ports of Batumi and Poti are today the main and most likely terminals of the oil pipelines. According to the Security Agreement with Georgia in 1995, Russia controls all ports, either directly or indirectly, since she has a naval presence in Poti and a planned military presence in Batumi (author's note).
  18. The following companies are interested in the fields of Kazakhstan: Chevron (USA), British Petroleum, Total (France) and Agip (Italy) (author's note).
  19. The first Soviet aircraft carrier crossed the Straits in 1976; it had been characterized as anti-submarine equipped only with helicopters. The Soviets had then argued that it was not equipped with the proper equipment for the braking of aircrafts. However, when the Soviet ship was in the open sea, it was upgraded to aircraft carrier which had been used for aircrafts of vertical of small-runway take off. The argument of the Turkish General Staff to the West was that "it would be unfair on the allies' side to ask Turkey to destroy her relations with the U.S.S.R. because of an aircraft carrier (sic)" (author's note).
  20. These problems, at least the part that concerns oil transport, can be easily solved through the planned pipeline Burgaz-Alexandroupolis. Besides, this Turkish blackmail aimed at the energy aspect; yet, she had not taken well into account the geographical potential of the region (author's note).
  21. Underlining by the author.
  22. P. Iphestos, *Η εξωελληνική νοοτροπία και τα αίτιά της: Το ζήτημα του Διεθνισμού, Πατριωτισμού, Εθνικισμού και Εθνική Στρατηγική της Ελλάδας*, ed. PIOTITA, Athens 1997, p. 9.
  23. Underlining by the author.

**Abstract**

JOHN MAZIS : *Geopolitical Analysis of the Commercial Channel Dardanelles-Aegean Sea.*

In the present paper we examine the geopolitical function of the commercial channel in the Dardanelles-Aegean Sea. We analyze all the risks for peace and stability in the region due to the Turkish claims on the Aegean Sea. We also analyze the strategic interdependence of the two parts of the channel and the position of the Big Naval Powers towards a possible globalization and transformation of this channel to an "International Strait". The paper ends with a description of NATO's role in the materialization of the scenario for the globalization of the above-mentioned channel.

## A GENERAL NATURAL PRINCIPLE

GEORGE S. BARANESCU

*Romanian Academy*

### 1. General Characteristics of Natural Processes

The natural processes are of infinite variety. However, these processes have a common characteristic: they are irreversible. This fact suggests that there must be a common reason which generates the irreversibility of natural processes. The reason should be sought in what the natural processes have in common.

Any natural process occurs if there is a disequilibrium either inside the system, or between the system and its environment. A disequilibrium implies the existence of two potentials, the disequilibrium itself being the difference of potentials. For example, the flow of a gas occurs if there is a pressure difference, therefore when the upstream gas has a pressure potential greater than that of the downstream medium. Heat interaction between two bodies occurs when there is a temperature difference, therefore when the two bodies have different thermal potentials.

As any process, a natural process modifies the state of the system. The natural process ends when the disequilibrium has been eliminated, therefore when the difference of potentials is zero, i.e. when the two potentials become equal.

The effect is common to all natural processes. Consequently, a natural process can be regarded as the way used by matter to eliminate the cause which modifies its state. This objective is achieved by the irreversibility of natural processes.

## 2. A general natural principle

The previous discussion evidences a general and invariable behavior of matter, which can be described by the following statement:

**The matter acts against any cause which tries to modify its state.**

This statement does not constrain any spatial or temporal restriction. It does not include any restriction regarding the composition of matter of the considered system under disequilibrium, or the conditions in which the process occurs. Therefore the statement is general. It is a principle since the reason of the respective behavior of matter is not known, but is experimentally confirmed. This principle will be called further “the principle of action of matter” for reference purposes.

One may consider that the principle of action of matter is a generalization of the inertia principle. Such opinion is not true. Newton has commented the inertia principle as follows:

“That all bodies are movable, and endowed with certain powers (which we call inertia) of persevering in their motion or in their rest...” [1, page 339]

From this statement, which applies to bodies on which no force is acting (isolated bodies), it results that Newton has considered inertia as a property of matter.

In fact, the inertia principle as stated by Newton is not valid. The validity of a natural principle is considered to be the experimental confirmation of the consequences of the principle. However, the status of principle requires the fulfillment of another condition: the consequence of the principle cannot be derived in any other way.

Indeed, a principle expresses the consequence of a natural phenomenon which cannot be explained by humans. If there is another way to derive the consequences of the principle, this means that those consequences are explained. Consequently, the respective principle loses the status of principle.

Newton’s statement of inertia principle says: “A body conserves the state of the rest or rectilinear and uniform motion as long as no force acts on the body”<sup>1</sup>.

The second condition mentioned above is not satisfied by inertia principle. Indeed, a body in motion has kinetic energy. Because no force is

acting the body, its kinetic energy is constant. At speeds achieved in mechanics the mass of the body is practically constant. From the mathematical expression of kinetic energy

$$e = \frac{1}{2} \cdot mv^2 \quad [1]$$

it results that, if the kinetic energy  $e$  and mass  $m$  are constant, the speed  $v$  is also constant. Because no force acts on the body, the motion is rectilinear with constant speed. If the body is at rest the kinetic energy is zero. From (1) it results that  $v=0$ , therefore the body remains indefinitely at rest. These two conclusions is what Newton's principle of inertia says. The body moves rectilinearly with constant speed, not because of the presumed property of matter called inertia, but because of energy conservation. The body remains at rest when its kinetic energy is zero. The consequence is that inertia concept does not exist.<sup>2</sup> Implicitly the Newton's statement is not a principle, since what it says can be derived from the principle of energy conservation. Thus the principle of action of matter is an independent one.

The principle of action of matter shows the reason of irreversibility of natural processes : irreversibility is the means used by matter to eliminate the disequilibria to which it is subjected. The principle does not give any information on how the irreversibility of natural processes is achieved.

The identification of the causes of irreversibility of natural processes has generated a considerable activity in science. Several theories have been formulated in this respect. One theory considers that the irreversibility of natural processes is related to the present expansion of the universe. The idea that the origin of irreversibility of natural processes can be found by using both the quantum principle and general relativity has been advanced. These and other theories on the causes of irreversibility of natural processes are in an early stage.

More adherents have the theory which involves the concept of entropy. According to this theory "The ultimate origin of most irreversibility is the low entropy conditions of the smooth universe at its origin a finite time ago".

This reason of irreversibility of natural processes includes the hypothesis of low entropy condition at the origin of the universe, which cannot be verified because it is not accessible to experiment. The statement is also based on the characteristics of entropy as shown in phenomenological

thermodynamics: 1) entropy is a property of physical systems; 2) entropy increases in all irreversible processes; and 3) the characteristics of entropy have universal validity. However, these characteristics are not true. Therefore the cited statement is not valid.

A starting point in the identification of causes or irreversibility is to determine the level at which irreversibility occurs. The equations of motion at microscopic level remain unchanged if the sign of time is reversed. This means that the microscopic processes are reversible. At macroscopic level the natural processes proceed only in one time direction. These facts lead to the conclusion that irreversibility occurs at macroscopic level.

In section 1 of this paper it was shown that a process requires a difference of potential, the process taking place from the high to the low potential. Therefore, the process is unidirectional. This circumstance cannot justify the irreversibility of natural processes, because even reversible processes occur in the same way. Thus, it is logically to infer that something happens during a natural process that makes it irreversible.

The process occurs because the two potentials create a disequilibrium. Any disequilibrium can be used for the production of work, if corresponding means and resources are used. Therefore, any disequilibrium has work potential defined as the maximum work which can be obtained by using a disequilibrium.

As shown in section 1 of the paper, a natural process ends when the difference of the two potentials has been eliminated. During the natural process, the work potential, which is “the driving force” of the process, decreases, because the disequilibrium decreases. When the disequilibrium is eliminated the work potential is zero. The loss of work potential during the process evidences the causes of irreversibility of natural processes: 1) matter has not created means to produce work from disequilibria, because work can be a source of disequilibrium, and matter is against any disequilibrium; 2) matter has created means, such as friction, mixing, hysteresis effect, etc., which destroy the work potential.

### 3. Domain of application of principle of action of matter

The principle of action of matter applies to inanimate matter, to living matter, as well as to human society.

For example, if two systems of different temperature are in thermal contact, the system of low temperature is submitted to a thermal disequilibrium. The heat transfer from the system of high temperature increases the temperature of the system of low temperature, which is a modification of its state. The latter system acts against the disequilibrium in several ways. The heat transfer from the system of low temperature<sup>3</sup> increases which compensate partially the disequilibrium of the system. As the temperature of the system increases the molecules of the system of low temperature start to rotate. This fact increases the specific heat of the system, which slows down the temperature increase. If the system continues to receive heat, the atoms of the molecules start to vibrate which further increase the specific heat, slowing down more intensively the increase of temperature. At even higher temperature the molecules dissociate. As a result a portion of the heat received by the system becomes chemically bonded. Therefore only the remaining portion of the received heat raises the temperature of the system.

The latent heats of fusion and vaporization are means by which the system acts against the change of its state of aggregation.

Another example which illustrates the principle of action of matter is the chemical equilibria. The general law of chemical equilibria shift, known as the principle of le Chatelier, states: When one of the conditions which determine the chemical equilibrium of a system is modified, chemical equilibrium shifts so that the modification of the condition is partially compensated.

The chemical equilibrium depends on temperature, concentration of substances, pressure, as well as on the concentration of substances included in the mixture which do not participate to the chemical reactions.

The following examples illustrate the reaction of chemical substances in chemical equilibrium when the equilibrium is perturbed.

The increase of concentration of a substance which participates in the respective chemical equilibrium produces a shift of chemical equilibrium in the sense wherein a larger quantity of that substance is consumed.

The increase of temperature produces a shift of chemical equilibrium towards the formation of substances which contain more chemical energy. By this way, a portion of the heat transferred to the system becomes chemically bonded, which slows down the increase of temperature.

The principle of le Chatelier is valid only for systems in equilibrium, while the principle of action of matter has universal validity as previously shown. Therefore, the principle of le Chatelier is a particular case of the principle of action of matter.

The living matter has developed protection systems which are activated specifically when the respective matter is subjected to disequilibria. Adaptation to the environment is also a reaction of living matter when a disequilibrium between the respective matter and environment occurs.

In human society any social group submitted to a disequilibrium acts against it. For example, the advent of capitalism has created a major social disequilibrium of feudal formations, who have opposed vehemently the capitalism.

New scientific theories such as those regarding the structure of matter, or the theory of evolution, as well as the discovery of natural laws, were strongly opposed by the partisans of the old theories. The imbalance of power between state generates actions aiming to its elimination, such as the arming or the conclusion of military alliances.

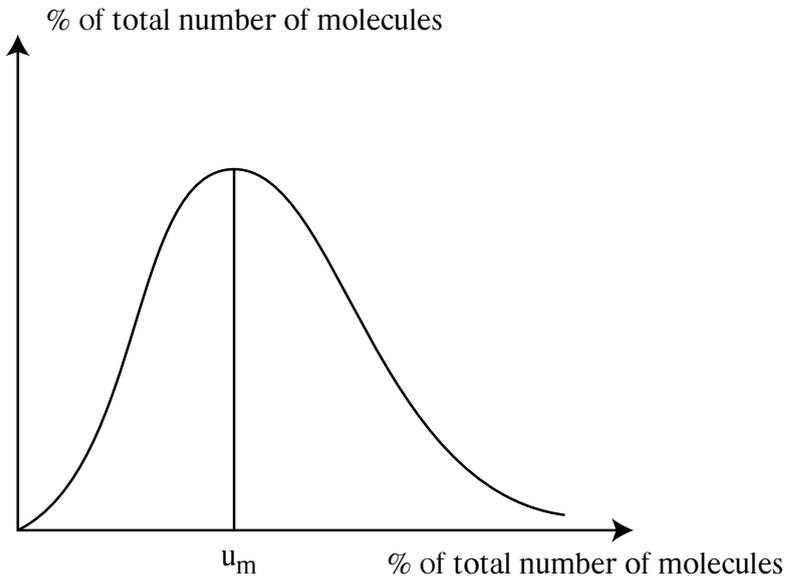
#### **4. Concluding remarks**

The principle of action of matter shows the reason of irreversibility of natural processes. Consequently, the principle of irreversibility of natural process becomes obsolete since the reason of irreversibility has become known.

The principle of action of matter evidences the unity of the world, because it shows a common behavior of inanimate matter, living matter and human society.

The principle of action of matter shows that the inanimate matter can identify the disequilibrium to which it is submitted and can react accordingly. In this respect, the shift of chemical equilibria is illustrative. Such behavior may suggest the existence of a certain transition inanimate and living matter.

An exception to the principle of action of matter are the humans, which try hard to obtain as much work as they can by using the available desequilibria. Therefore, humans act against nature. In this respect the existence of humans appears to be an aberration of nature.



**Figure 1**  
**The law of distribution of the speed of molecules**  
**in a perfect gas in thermal equilibrium.**

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## NOTES

1. The statement of inertia principle with reference systems is equivalent to Newton's original statement.
2. In mechanics several examples are given to justify the existence of inertia. Those examples are not true. Let's consider the example with a passenger in a vehicle. Before the start of vehicle, the passenger stays on its feet in the vehicle without using any support of the vehicle. When the vehicle starts and accelerates the passenger has the tendency to fall on its back. When the vehicle reduces its speed, the passenger has the tendency to fall ahead. These tendencies are supposed to be the effect of the presumed property of matter called inertia.

In fact, the passenger can maintain his initial position in the vehicle during the travel, if his speed is at any moment equal to the vehicle speed in the respective moment. To satisfy this condition the passenger uses a support in the vehicle through which he receives during acceleration the necessary amount of kinetic energy from the vehicle. Through the same support the passenger delivers to the vehicle its kinetic energy during deceleration of the vehicle.

Consequently, instead to support the existence of inertia, the analyzed example evidences the inexistence of this concept of mechanics, considered as a universal property of matter.

3. In thermodynamics, it is considered that heat flows only from high to low temperature. This is a macroscopic appearance. According to kinetic theory of matter, heat transfer between two systems of systems of different temperatures is the transfer of kinetic energy achieved by the collision between microscopic particles (molecules, ions, atoms) on the way from the system of high temperature to the system of low temperature.

At any temperature a system contains microscopic particles of high kinetic energy. Figure 1 (at the end of paper) shows the law of distribution of the speed of molecules in a perfect gas in thermal equilibrium, against the proportion of molecules having the same speed. The large majority of molecules have the most probable average speed. The proportion of molecules with very high speed decreases fast, without becoming zero even for the range of highest speeds.

Because of this fact heat transfer occurs also from the system of low

temperature to the system with high temperature. However, the proportion of microscopic particles having high kinetic energy is smaller at low temperature. Therefore the thermal flux from the system of low temperature is smaller than the thermal flux from the system with high temperatures. The heat transfer macroscopically observed is the difference between the two thermal fluxes. When the temperature of the two systems becomes equal, the heat transfer in the two senses indefinitely if the systems remain in thermal contact. The two thermal fluxes are equal, which gives the macroscopic impression that heat transfer has ceased.

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**Abstract**

GEORGE S. BARANESCU : *A general natural principle.*

The fact that all natural processes are irreversible evidences the existence of an invariable behavior of matter, whichever is its composition and the conditions under which the process occurs.

From the characteristics of natural process a principle which describes the behavior of matter submitted to disequilibria was inferred.

The causes of irreversibility of natural processes have been identified.

The inferred principle applies to inanimate matter, to living matter, as well as to human society.

**Note:** The Director of the Archives would like to apologise to Professor Baranescu for having excluded figures and mathematical formulas which accompanied the text. Nevertheless he did so as it will help the economist who wants as it will help the economist who wants to explore the impact of the entropy law on the economy.

## BIBΛΙΟΚΡΙΣΙΑΙ - BOOK REVIEWS

ANNA PELLANDA : *Lecture per lo Studio dell' Economia Politica: produzione, consumo, distribuzione del reddito, moneta, impresa, inflazione, dissocupazione sviluppo*, Edizioni Unive-rsitarie di Lettere, Economia, Diritto, Casa Editrice Ambro-siana, Milano 1996, pp. 410.

1. In her publication, the distinguished Italian economist Anna Pellanda presents in **Part One** (*The Economy between scarcity and esogeny*) some pages (49-61) from the main work of Lord Lynol Robbins: "Essay on the Nature and Significance of Economic Science" (1932) as well as from another one of Giovanni Demaria's : "Trattato di Logica Economica, L' esogeneità" (1974), pp. 63-78.

In his aforementioned work, Robbins formulated his neomarginalist ideas, based on the elements of scarcity and of economic time. In his work, Demaria combined the Aristotelian concept of εντελέχεια with his aspect about the esogenic forces which rule the economic facts and phenomena, through the economic calculus which concerns the economic choices of the individuals.

In **Part Two** entitled *Productions economy supply and costs*, Prof. Dr. Anna Pellanda publishes the article of C. Wicobb/P.H. Douglas: "A Theory of Production", *The American Economic Review* (Vol. XVIII, No 1 supplement, March 1928) translated in Italian by her mentor Giulio Bagioti (pp. 79-112). It is an article in which the historian of economics can find very interesting material. In the same Part, Anna Pellanda published some pages (113-133) from Nassau Senior's "An Outline of Political Economy" (1835) in which the English classicists explore the factors of production and the formulation of their rewards giving preponderance to the concept of abstinence which is different from providence and frugality (p. 110). In the same Part, there is a very interesting session from N. Laundhardt "Mathematische Begründung der Volkswirtschaftlehre" (1895.

pp. 135-174).

Part Two is ending with Ronald H. Coase's : "The Problem of Social Cost" in *Journal of Law and Economics*, October 1960 (pp. 143-174) in which Coase refers to Pigou's, doctrine of "Welfare Economics" as well as to the Pigouian tradition.

In **Part Three** entitled *Economy and Utility, Demand and Income*, Anna Pellanda presents a very interesting Chapter (3) from Stanley Jevons' "Theory of Political Economy" (1871) about utility and its functions (pp. 175-200). In the same part follows Alfred Marshall's "Principles of Economics" (1890) (pp. 201-217) in which the leader of the Neoclassical School seeks to present the different functions of the elasticity of demand. The reader also has the opportunity to study again a main point of John Hicks "Value and Capital" (1938) (pp. 219-231) in which the English nobelist formulates his theory of the marginal rate of substitution and the theory of the expenditure curve.

**Part Three** is ending with J.S. Duesenberry's contribution on economic development with his "Income, Saving and the Theory of consumer behaviour" (1949) (pp. 233-250). As we know, in this book Duessenberry formulates his concept about the demonstration effect and presents a deep elaborated theory about the choice of the individual.

In **Part Four**, entitled *Distribution and Taxation of Income*, Anna Pellanda begins with Vilfredo Pareto's "Cours d' Économie Politique" (1896) (pp. 251-264) in which the co-founder of the School of Lausanne explores the social pyramid, rich people occupying its top while poor people its base. The income of those two strata try to achieve the maximum of their ophelimity which for the rich people is of less importance compared with the ophelimity enjoyed by the poor people. Thus, it is an action of justice when, through taxation, effort is made to as part of the income of the former to the latter so that it is obtained the maximum of satisfaction for the majority of a national community.

In the same Part (pp. 265-269), Pellanda includes Luigi Einaudi's article "L' attuazione della giustizia tributaria", *La Stampa*, 21 February 1901, where Einaudi refers to his "Per la giustizia tributaria" (1901), very few pages indeed but of a very interesting matter.

In **Part Five** entitled *Money, veil of money or liquidity preference* the Italian distinguished economist begins with Irving Fisher's "The Purchasing Power of Money" (1911) devoting pages 273-284 so as to present the

equation of the form  $MV = SpQ$  completed as  $P = \frac{Mv + M'V'}{T}$ , where  $T$  is expressed by  $Q$  and the trade's volume as well.

In the following, Pellanda published a very important part from John Maynard Keynes "General Theory of Employment, Interest and Money" (1936), where the great English economist explores the existing differences from his "Treatise on Money" (1930) by passing from the equation  $MV = PO$  to the equation  $M = M_1 + M_2 + L_1(Y) + L_2(R)$  governed by liquidity preference namely the rate of interest in combining with speculative motive.

In **Part Six** entitled *The evolution of the enterprise, the Firm with shares and the great concentrations*, Anna Pellanda begins with A.A. Berle and G.C. Means writers of "The Modern Corporation and Private Property" (1932) (pp. 295-303) which is a research about the big corporation in accordance with the institutional doctrine. The big corporation transforms the whole economic morphology and creates new phenomena for further exploration. In the following, Anna Pellanda publishes a part (pp. 305-313) from E.T. Penroses book "The Theory of the Growth of the Firm" (1959) which concerns to the different obstacles for the integration as well as the different difficulties for investments within the frame of complex problems of the economic system and the competition between the industrial giants as well.

In **Part Seven**, Pellanda presents texts concerning *inflation and unemployment, prices and wages*. She begins with R.L. Hull and C.J. Hitch, "Price Theory and Business Behaviour", *Oxford Studies in the Price Mechanism*, 1951 (pp. 315-342). Followingly, Pellanda publishes the famous article of Alban W. Phillips entitled "The Relationship between Unemployment and the Rate of Change of Money Wages Rates in the United Kingdom" 1861-1957, *Economica*, Vol. 25, 1958 (pp. 343-364) in which Phillips formulates his approach concerning the economic activity which reflects the rate of prices or the rate of money wages in relation to unemployment. Phillips approaches a Cleiometric Model on which many debates have appeared today, especially because of the stagflation of the year 1973 after.

The book of Pellanda closes with **Part Eight**, entitled *The Economic development between the progress of technology and the scarcity*, which includes interesting pages from Robert M. Solows "Investment and Technical Progress" (1959). Solow formulates his approach inspired by Alfred

Marshall and other neoclassicists on economic development through the productivity.

After these interesting pages (365-389) follows Roy F. Harrod's article "Domar and Dynamic Economics" in *The Economic Journal*, Vol. 69, September 1959 (pp. 391-410 in Pellanda's book). In his article Harrod underlines that the individuals confronting investment from their ex post side of view in a definite period of time, the necessary investment must become equal to the total quantity of fix capital and circular capital must not be less or more in relation to the level at which the individuals consider as important to increase their demand for this period of time.

2. Professor Pellanda's book is also rich in bibliographical sources with a fine translation in Italian of the presented texts.

Here I must refer to Pellanda's large discussion in the introduction about the whole material she published (pp. 7-43). I left it to review it at the end as it is a very thorough analysis which requires a further presentation.

Pellanda underlines at first the existing relation between Economics, Philosophy, Sociology as well as Religion, Mathematics, Statistics and Psychology but -as she says- economics are impacted in its first steps by Philosophy and Religion.

From the XVI century begins -according to Pellanda- a more deep research upon economic phenomena so as the different writers of this century after to advice the king about what he must do for the welfare and the sovereignty of his State, i.e.. which coincides with himself.

Economics as a science -says Pellanda- passed an era influenced by Law and History while in our days is influenced by Psychology and Sociology (p. 8). At this point Pellanda could also say Mathematics. But she exerts a vigorous critic against the abolition of the use of the mathematic tool and the today appearance of a reaction against this extremist use. Pellanda, being a doctor of Sociology having a large education has not disregarded the social element. Here I must also mention Hayek who in his individualist approach contains the individuals culture. Adam Smith and his School marks a basic stage of the evolution of Economics governed by the policy of "laissez faire-laissez passer" in an economic system of perfect competition. This is the era of the triumph of *homo æconomicus* and the invisible hand. The realistic mentality which exists in the concept of *homo economicus* also predominates in the modern School of Econom-

ics, namely the Marginalist, the Neoclassical and the Mathematical School of Jevons, Walras and Pareto who tried to find the maximum of satisfaction into an ideal system of general equilibrium which means efficiency for the production and welfare for the collective distribution (Walras and Pareto) (p. 9). At this point Pellanda distinguishes the inductive aspect of the difference between the fertility of lands in accordance with David Ricardo and industry which produces piles in accordance with Adam Smith. The other aspect is the deductive one into which we can include the necessary social time conception of Karl Marx and the deductive doctrines of the marginalists and other individualist Schools (ibid.). The magical intervention of the invisible hand concerns a perfect competitive economy whereas market in reality concerns a monopolistic and imperfect competition. This was the contribution of Cournot about monopoly and Robinson and Chamberlin about imperfect competition. But the Neoclassical School was criticized by the Institutional School although Marshall also accepted the importance of the social element we can say. Pellanda adds rightly that Walras and Pareto did not disregard the social element as both passed from the strictly economic consideration to the social consideration of economic phenomena (p. 10). Finally, Prof. Pellanda maintains the logic of the combining of the two methods: the inductive and the deductive without rejecting the mathematic and statistic tools in the economic research. In the following, Pellanda presents the differences between Walras and Keynes' views leaving to the former the honour to be more neighbour to truth (pp. 10-11). At this point, Pellanda does not omit to underline the Keynesian contribution concerning macroeconomics (p. 11) while Beveridge from his side, earlier, in 1909, announced the menace of the unemployment and the importance for a Welfare State. Thus -she says- Keynes found a fertile ground to develop his own doctrine and to this direction he was encouraged also by the "New Deal" of Roosevelt and the earlier George's spending policy for the purpose to avoid unemployment. Pellanda referring to the "five giants of bad" (need, ignorance, sickness, desolation, indolence) as it was given this terminology by Beveridge in following speaks for Bawerk's distinction between *Law* and *Force*. The former connected with production, the latter connected with distribution or free competition for the former and institutional environment for the latter. From this point of view, Pellanda proceeds to an exploration of the different economic Schools, as well as in a deeper analysis of the terms

law and force (pp. 12-14).

I must refer here to Pellanda's respect to her professor Sir L. Robbins and to G. Demaria.

Robbins in his research on the formulation of the economic phenomena was based on the economic calculus governed by economic choice through scarcity concerning the importance of the element of time as well. He has a dual aspect concerning Economics which means individual and social estimations through the aspect of view of human behaviour as a relation between means of production and of consumption dominated by scarcity. For Robbins, the economic problem is straightway connected with scarcity which determines the behaviour of the producer (cost) as well as of the consumer (value). At this point, Pellanda also refers to Cobb-Douglas who tried to measure the quantity of the product for which labour and capital were spent governed by scarcity.

In this part of the **Introduction**, Pellanda says that after Walras and Pareto who followed Cournot and Gossen mathematics became "bagaglio a mano" of every economist (p. 19). Mathematics -says Pellanda- serve to make more simple and clear the expression of the economic thought which otherwise should be a science into an experimental and disordinate observation (ibid.). Of course, this way of thinking it concerns the mathematical tool is not relevant to the laws but only to generalizations. mathematics concern a logical calculus and not abstract calculated variables. The mathematic tool formulated models of divine "laws" so as to predict well and undoubtedly to be well applied (ibid.). Thus, Economics is the perception of today economists because a more exact science in comparison with other social sciences staying in a distance from the inductive heterogeneity. Economics today have also an institutional frame ("force") with measurable data (law) and as a science has a linear development. At this point Pellanda refers to Nassau Senior (1836) who conceived the right concept of capital while John Maynard Keynes (1936) conceived it with his theory of liquidity preference (ibid.). Pellanda in following analyzes the theory of abstinence which predominates until our days. She speaks for the significance of the economic choice which presupposes the formulation of prices in a free competitive market for a low level of rewards but in tandem for a high improvement of "conditions" under an institutional environment so as to achieve a constant level of wages and a reduction of labour hours (p. 21). Thus, economics concerning wages are passing from

a stage of “necessity” to a stage of “sufficiency” but through the point of productivity. Pellanda does not omit to mention F.Y. Edgeworths contribution as well as W. Laudhardt theories of wages. The Italian colleague could refer here the theories of Henri Denis and Jean Marchal and mine concerning the cost of dependence effect. Perhaps she preferred -because of the structure of her edition- to avoid a larger exploration of the matter.

Pages 22-23 are devoted to economic equilibrium starting from Walras and including Pigou and Coase as well. Pellanda concludes that the publication by her of the article of Coase consists the starting point of the Neo-Institutional School (p. 23). The Italian economist also discusses the main work of Stanley Jevons “Theory of Political Economy” (1871) analyzing the ideas of the English economist concerning the concepts of utility and disutility (p. 24). In following, Pellanda devotes some important lines on Marshall’s “Principles of Economics” (1890), exploring the elasticity of demand -subjective point of view- and the elasticity of supply -objective point of view. In following, Prof. Anna Pellanda explores Hicks concept of the marginal rate of substitution as well as the expenditure curve by which Hicks tried to prove why the individual with an increase of his income prefers in order to buy more quantity of the good buys a quantity of a more expensive good.

Concerning Duesenberry, Pellanda underlines his contribution to present a new theory of saving which is the point of view of the individual’s behaviour to improve his level of life so as to attend for a better welfare through saving (p. 27). Duesenberry also maintained the theory of the demonstration effect for which in underdeveloped countries people spend more, especially on luxuries with the increase of their income. The prerequisite of this behaviour as a result of the increase of income concerns the existence of luxuries goods. The above aspect of Duesenberry was -as Pellanda- says a contribution to Keynesian psychological law (p. 27). Pellanda, being a sociologist too, concludes that Duesenberry’s theory except its rational logic includes also the sociological element taking into account social stratas imitation in behaviour as well as social precedence (p. 28).

Pareto -says Pellanda- elaborated a new theory on distribution (p. 29) based on the principle of the ophelimity and the economic behaviour: (a) of the producer to reach the top of the hill of his maximum satisfaction (less cost), and (b) the consumer to reach the top of the maximum satisfaction of his wants. In these behaviours the new equilibrium of the pro-

ducer and the consumer formulate the general equilibrium. This economy means an hedonistic behaviour of homo oeconomicus in a system of free competition and the factors of production- each of them searching to obtain its maximum reward into an absolutely free market without any monopolies except of the land's monopoly which formulates the land rent. Pareto did not present a theory of economic development but an equilibrium of just distribution and through it a social welfare. In other words, Pareto proposed from the point of view of the maximum satisfaction for the more of individuals a new order. Taxation interferes into their order so as to obtain social justice changing individuals to work in accordance to their possibility of satisfaction. Taxation means reward of the State for its services concerning justice, national defense, public works, education etc. Taxes must change production until the point at which does not impede supply to furnish consumption at a level of prices enough to absorb the quantity of goods supplied. Thus, cost of production and consumption are familiar with the concept of economic equilibrium.

Pellanda, discussing Fisher's equation underlines its weakness and does not omit to refer that interest is a temporal variable combining the future plus of income with the present quantity of working capital in relation with its stock. Money and interest for Fisher -says Pellanda- are two economic magnitudes which are not combined between them as money per se has no utility. Thus, money has not price while interest is on temporal discount of a future value. Thus, interest interferes in any process of production which is passing from the present and the value of which is formed in the future (p. 32).

Pellanda analyzes Keynes' equation of the *General Theory*, into, the concept of interest which becomes a monetary phenomenon combined with income and then with full employment through the efficiency of demand.

From page 36 and on, in her introduction, Prof. Pellanda writes about the years which followed the *General Theory*. In the years 1937-38 appeared R.L. Hall and C.J. Hitch empirical investigation with R. Harrod's in the British Economic Association. Pellanda refers also the works which were published before the *General Theory* as the works of P. Sraffa, J. Robinson and E. Chamberlin who inquired the phenomenon of monopoly and the theory of production based on the equilibrium, productivity and cost (Sraffa) and imperfect competition (Robinson, Chamberlin) (p. 37).

Hall and Hitch, from their part, proceeded to a research based on questions they imposed on 38 entrepreneurs so as to know the most conven-

ient method concerning the volume of production by fixing the price of the selling. Their inquiry was limited in only 38 entrepreneurs but from their general aspect inducted positive results for all the entrepreneurs (ibid.). The entrepreneurs by a rational way equalize cost and marginal revenue from the point of view of the elasticity of demand, in other words to be fixed the price in a condition of monopoly.

Pellanda writes that the businessmen try to obtain the maximization of their profits through the equality between cost and marginal revenue and much more to estimate the elasticity of demand with marginal cost (ibid.). But as the market is not characterized by its perfect competition but of oligopoly's market in this case the entrepreneurs are oriented to realize a price equal to aggregate cost. If it should be impossible the effort consists to change the rate of wages or of the price of raw materials or to apply innovation into the production.

A problem which appeared in the evolution of Economics -says Pellanda- is also the relation between economic activity, level of prices and employment and particularly between the rate of wages and the volume of the employment. To this direction contributed Phillips' curve who studies the periods 1861-1913, 1913-1948, 1948-1957. Phillips' with his research enriched the indices of Phelps Brown, S. Hopkins and A.C. Bowley as well. These writers take data from the International Organization of Labour which determined the rate of the unemployment at a rate of 2,5% if the productivity of labour is 2% prices being stable, but if wages are constant the unemployment becomes 5,5% (p. 39).

Pellanda does not discuss at this point the phenomenon of stagflation and the debates about Phillips conclusions. Pellanda prefers to explore the Cobb-Douglas, Sollow and Harrod theories (pp. 40-42) and she finishes her Introduction with Harrods characteristic expression *I debate when [the teacher is wrong] and I agree with him if he is right* (combatto quando ha torto e l appoggio quando ha ragione).

Anna Pellanda published very interesting books and thoughtful articles as well. With the above mentioned book she proves once more her large education, her original spirit and systematic work.

G.P. VLACHOS : *Problems and Prospects of the Greek Shipbuilding and Shiprepairing Industry (in Greek)*, ed. A. Stamoulis, Athens 1996, pp. 315.

Obviously, the author decided to publish this monograph partly because of his knowledge of the shipbuilding economics and partly because there is a more or less intensive demand for a rapid restructure in the Greek shipyards.

Before examining the contents of this work we must note that the Preface has been prepared by the President of the Industrial and Technical Chamber of Piraeus, something that adds considerable value to this monograph.

Most of the world's shipyards are involved in a mixed activity that combines the building and launching of new vessels and the repair and conversion of existing ones. The author work does not concerns concerns only on structural matters. He explore his subject from the point of view of macro and microeconomic elements as well.

**Chapter 1** begins with a basic distinction of the various shipyards and how these units are managed and operated. Furthermore, the author attempts successfully to describe the way a ship is being built by inserting a classical example of the facilities and equipment used in the Greek Shipyards of Scaramanga. It would appear useful for the reader to have a general idea of the structure and operation of a shipyard before entering into more details.

In **Chapter 2** the author concentrates on the presentation of the gradual development of the Greek shipbuilding and shiprepair industry. In other words a historical background from the establishment of the shipbuilding yards till the acknowledgement of the sector's current problems is being examined. The author strongly expresses his views based on the economic, managerial, operational, substructure and production problems that these units are facing today.

In **Chapter 3** the author analyses the international economic and institutional environment of the shipbuilding and shiprepair industry. Firstly, he presents a statistical review of the world ship-borne trade focusing on supply and demand of world tonnage as well as the international shipbuilding production. Secondly, he illustrates the current picture of the shipbuilding market in the Mediterranean region. Finally, the state of the Greek shipbuilding and shiprepair production at the macroeconomic level is presented.

The above analysis of the institutional framework of the shipbuilding

industry would not be complete without the necessary maritime policies applied to this sector. In particular, **Chapter 4** contributes to this part. The first step is the analysis of the European Union's shipping policy in respect of the shipbuilding market, i.e. protectionist practices, shipbuilding aids, moitoring, dependent upon the Community renewal programmes. The second step is entirely devoted to the shipbuilding policy of the O.E.C.D. The author notes that quite recently the organisation established new stricter measures in respect of the new shipbuilding contracts by cancelling all subsidies.

In **Chapter 5** Vlachos proceed to the techno-economic part of this work. The author attempts a thorough analysis of shipbuiding economics to such an extent possibly for the first time in a specialised work. The first part covers matters such as international supply and demand of the shiprepair industry, drawing attention to the costs of shipbuilding and shiprepair services. The second part is the essential supplement of the previous part, that is to say, the basic elements of shipbuilding technology, i.e. the technology equipment of the Greek shipbuilding units and the importance of CAD/CAM systems applied in this sector.

**Chapter 6** examines a very important but usually ignored or unexplored part of the shipbuilding and shiprepair industry, the social cost that stems from these operations. In other words what has been illustrated is the pollution of the marine environment form the shipbuiding units, particularly at the stages of construction, maintenance and scrapping of the vessel. This is combined with all necessary guidelines and methods related to health and safety of the working environment.

In **Chapter 7** Vlachos encompasses all conclusions, recommendations and prospects of the shipbuilding and shiprepair industry at the international level, both in short-term and long-term planning. This part of his thoughtful work must be consulted by all those involevd in the sector, practitioners, policy-makers, government agents, international agencies and researchers. The work is accompanied by a selected bibliography, notes and documentation. In more detail, most sources used are divided into monographs, handbooks, scientific and commercial journals, statistical reviews a wide list of valuable tables and a brand new chosen list of photographs.

LAZAROS HOUMANIDIS  
Professor Emeritus, University of Piraeus