

## The Influence of the Public's Behaviour on Liquidity Creation<sup>(\*)</sup>

1. - Not everybody is always clear about who creates the economy's liquidity, understood as liquidity of the "public", that is, of all the operators (public and private) who have dealings with the credit system and the Treasury. To put it in a better way, while it is easy to realise that the liquid funds in the hands of the public cannot be created except by the credit system and the Treasury, since these are responsible for those funds, as debtors towards the public, it is not equally easy to grasp how and with what weight the public's behaviour can affect the amount of liquid resources in existence.

In this respect one can well say — as frequently it is said — that the monetary authorities, in causing increases of liquid resources, aim at meeting demands for liquidity by the public, who in this way is said to make its influence felt, indirectly, on liquidity creation. Yet the question arises whether such influence of the public makes itself felt solely indirectly, through the evaluations of those demands by the monetary authorities, or directly and autonomously as well. In other words, the question arises whether the public's influence can also develop independently of, or even in opposition to, the influence of the credit system and the Treasury, to such an extent as to lead to the public being regarded as an autonomous "factor" as far as the determination of the amount of existing liquid resources is concerned.

2. - In order to reply to this question — as we propose to do in the present study — it is as well to recall some elementary notions which, while rather obvious, are not always borne in mind.

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In the first place, there is the distinction between nominal liquidity, as this emerges by expressing the overall volume of the existing liquid resources on the basis of current prices, and real liquidity, as this emerges by evaluating the said volume on the basis of steady prices. The difference, as is obvious, lies in leaving out of consideration or not the variations of the monetary yardstick. Since operators can now be regarded as being almost completely immune from "monetary illusion" (1), it is necessary to refer, in considering the effects of liquidity on the various aspects of economic activity, not only to nominal liquidity but also, and indeed primarily, to real liquidity.

Secondly, it is necessary to recall the distinction between the liquidity of the credit system (and, in particular, of the banking system) and the liquidity of the economy (or of the economic system), understood, let it be repeated, as the public's liquidity. As far as the trend of global demand is concerned, it is the public's liquidity rather than the credit system's liquidity which counts. In fact the variations of the latter are, it can be said, of instrumental importance, since they contribute to determining the variations in the public's liquidity. From this point of view, there can be a contraposition between the credit system's liquidity and the public's liquidity whenever the increases of liquidity, in one sense or the other, are not determined by contributions to liquidity made from abroad for surpluses in the balance of payments. In that case the increases of the public's liquidity, since they are determined by increased credit concessions by the credit system, cannot fail to result in a reduction of the liquidity of the credit system itself (2).

Thirdly, one must recall the innovations that have occurred in the composition of the public's liquidity. What precisely must be born in mind is that the creation of liquidity by the Treasury, through the issue of its short-term bills, has ended by being primarily directed to feeding the credit system's liquidity (and particularly that of the banking system) rather than the public's liquidity. The latter is now composed for the most part of short-term credits to the credit

(1) As defined by PATINKIN, in *Money, Interest and Prices*, 1956, pp. 23-24.

(2) The reduction can show itself in absolute figures, that is, in the amount of the credit system's monetary reserves. It can, however, show itself, and mostly does so, in the ratio of monetary reserves to liabilities, even without a decrease of the reserves (the numerator), by the very fact of the increase of the liabilities (the denominator).

system, both with a monetary nature, as true and proper money (legal and banking), and without a monetary nature, as quasi-money. It thus corresponds to a share, generally very notable, of the financial assets in the hands of the public (3).

3. - The problem of the public's influence on the creation of liquidity can, then, be brought within the wider problem of the creation of financial assets in relation to the credit system. To facilitate their solution it is expedient to adopt a very simplified framework of the credit system's overall budget, just as if central bank, banking system and financial institutions all formed a single unit. For that matter, this is what happened in the past when no clear differentiation had yet been made between central banks and ordinary banks on the one hand, and between ordinary banks and financial institutions on the other hand. At the present time frequent use is made in financial statistics, and especially in figures of "flows of funds", of the aggregation of the budgets of the "financial firms", the credit system being regarded, in fact, as forming a single unit.

Against the budget of the credit system outlined in this way would be set the budgets of all the other sectors. In order to simplify our exposition, we have limited ourselves to illustrating, with an analogous framework, the budgets of the households' sector and the non-financial firms' sector, leaving out of consideration those of the "public administration" and the "rest of the world".

Here are the illustrations; the figures given in them represent not the situation data at the end of a given period but the movement data during any period of time whatsoever (as, for example, the variations during one year).

4. - The first of these illustrations enables us to bring out the influence of the credit system on the creation of financial assets, considered in their nominal aspect.

(3) In the financial assets, understood in a broad sense, can be included all the outstanding credits of each sector (or of each individual) in respect of all the others and, in a narrow sense, solely the public's credits in respect of the credit system. According to the figures I gave in a study *The Ascertainment of Savings Flows* (in this review, June 1963) the financial assets in the public's hands ("households" and "non-financial firms") increased in 1959 by 2,195.8 milliard lire compared with all the other sectors, while compared with the credit system alone they increased by 1,976.9 milliards, of which 1,770.6 milliards were in liquid form (for bank notes and deposits).

## CREDIT SYSTEM

<i>Assets</i>		<i>Liabilities</i>	
Monetary reserve . . . . .	+ 4	Capital funds . . . . .	—
<b>Credits:</b>		<b>Debt commitments:</b>	
— to the households . . . . .	+ 1	— in banknotes . . . . .	+5.-
— to the firms . . . . .	+10	— in monetary deposits . . . . .	+2.5
	<u>+11</u>	— in non-monetary de- posits . . . . .	+2.5
		— in bonds . . . . .	+5.-
			<u>+15</u>
Overall assets . . . . .	<u>+15</u>	Overall funds . . . . .	<u>+15</u>

## HOUSEHOLDS' SECTOR

<i>Assets</i>		<i>Liabilities</i>	
Investments in real assets . . . . .	+ 3	Capital funds . . . . .	+12
<b>Financial assets:</b>		<b>Debt commitments:</b>	
— in banknotes . . . . .	+3	— to the credit system . . . . .	+1
— in monetary deposits . . . . .	+1	— to the firms . . . . .	+2
— in non-monetary deposits . . . . .	+2		<u>+ 3</u>
— in bonds of the credit system . . . . .	+3		
— in bonds of the firms' sector . . . . .	+3		
	<u>+12</u>		
Overall assets . . . . .	<u>+12</u>	Overall funds . . . . .	<u>+15</u>

## FIRMS' SECTOR

<i>Assets</i>		<i>Liabilities</i>	
Investments in real assets . . . . .	+18	Capital funds . . . . .	+13
<b>Financial assets:</b>		<b>Debt commitments:</b>	
— in banknotes . . . . .	+2.-	— to the credit system . . . . .	+10
— in monetary deposits . . . . .	+1.5	— to the households' sector . . . . .	+ 3
— in non-monetary de- posits . . . . .	+0.5		<u>+13</u>
— in bonds of the credit system . . . . .	+2.-		
— in bonds of the house- holds' sector . . . . .	+2.-		
	<u>+ 8</u>		
Overall assets . . . . .	<u>+26</u>	Overall funds . . . . .	<u>+26</u>

N.B. - Against an overall variation in the capital funds of 25 units (12+13), there is an overall variation in the real assets of 21 units (3+18) since the difference emerges in the variations of the monetary reserves of 4 units.

In view, in fact, of the need to balance the budget of each economic subject and therefore of the whole body of the credit system, every increase in the loans granted to the households and firms would tend to end in an increase of the debt commitments assumed, in respect of the households and firms, for bank notes issued or deposits collected or bonds given. Indeed, provided that no variations occur in the other items of the budget and especially in the "monetary reserves", the variations in the whole body of credits could not fail to end in a corresponding variation of the whole body of debits. There should be, that is, a close parallelism between "impieghi" and "raccolta", that is, between credits in loans and investments on the one hand and debt commitments in bank notes, deposits and the like on the other hand, sufficient to allow it to be assumed that the credit system, by developing the "raccolta" through the expansion of the "impieghi", can not only influence but also determine at its own discretion the volume of the financial assets.

The fact is, however, that the monetary reserves of the entire credit system (just like, for that matter, each of its parts) are by their nature subject, according to circumstances, to more or less wide variations, which consequently have the effect of more or less determining the limits of the discretionary powers of the credit system. These variations, rather than being subject to a direct influence of the credit system, are subject to a direct influence of the public, considered especially in its capacity of creditor of the credit system. And it is precisely in this capacity that the public — as we shall see — makes its influence felt not only on the nominal volume but also on the real total of financial assets.

5. - To realise the validity of our thesis it is necessary to examine against the first illustration, regarding the credit system, the successive illustrations concerning the households and the firms.

It is then seen how variations in the deposits of the credit system, taken as debits entered under the liabilities of the system's budget, should be reflected in identical variations of the public's assets, distributing themselves in the budgets of the households and firms, as financial assets of the public itself.

The creation of financial assets can only take place when, jointly or alternatively, two diverse conditions are fulfilled: when there are

corresponding variations in the "holding capacities" of the public; and when appropriate choices can be made by the public itself as to the way such capacities are used (4).

6. - This does not mean that the credit system is deprived of the possibility of developing the "raccolta" through expansion of the "impieghi" and of thus exercising a persistent influence on the nominal volume of financial assets. Expansion of loans by the credit system can, in fact, bring about the first of the two conditions just laid down for the creation of financial assets, that is, it can promote a correlative expansion of the public's holding capacities.

In this connection it should be borne in mind that the public's holding capacities — as can be seen by examining in the illustrations the "overall funds" with which they are identified — can vary for manifold reasons. In the first place they can vary with the variations of the capital funds, formed through the accumulation of savings: their expansion, that is, can be determined by the expansion of the public's savings, which in its turn can be influenced by the expansion of the credit system's loans and investments. This expansion, in fact, is anything but neutral as regards the formation of income and the correlative formation of savings. It would be erroneous to assume that in reality income forms itself independently of credit and that only when it is formed can a part of it be handed over as credit. The formation of the one comes within the same context as the creation of the other. This applies primarily in the modern economies with exclusively credit money; in these, expansion of the credit system's loans tends to end in an increase of the public's supply of liquidity and, consequently, in an expansion of effective demand, which can well be regarded as the propulsive factor of the process of income formation.

This is one of the aspects that afford a glimpse of the so-called "productivity" of credit, which can however be considered also

(4) First and foremost recent developments in monetary analysis have made it possible to bring out, with a wealth of concrete data of a continuous character, the contraposition between financial assets and liabilities of the diverse sectors of the economic system, with the proper balancing of the relative budgets. The incomprehensions which sometimes arise still today regarding the public's influence on the creation of financial assets (and in particular on the creation of bank deposits) arise primarily from insufficient account being taken of such contrapositions.

under the aspect of the offer of goods (5). The expansion of the credit system's loans can therefore exercise a substantial influence on the process of formation of income and of the correlative savings. This occurs too if, according to circumstances, that expansion can — as we shall see — give rise to price level increases, in which case the increases of income and savings would, even if only in part, be purely nominal.

In the second place, it must be borne in mind that the public's holding capacities are fed not only by savings but also by the contraposition between debts and credits which generally is encountered in the budget of every sector and, indeed, in the budget of every individual. Precisely as a result of this contraposition the public's holding capacities can be extensively dilated, so much so that in the final analysis they can be wholly detached from the trend of savings. This, too, is seen in the above illustrations, in which we have also endeavoured to show how the contraposition between debts and credits is far more prominent in the case of the firms' sector (13 against 8) than in the case of the households' sector (3 against 12). The result is that the firms' sector is in a position — as is well known — to increase the holding of financial assets to a far greater extent than the households' sector, without increases of its capital funds, by resorting to borrowing, especially in respect of the credit system, to a degree exceeding its needs for real investments. It thus becomes more evident how, as a result, let it be repeated, of the contraposition between debts and credits, the expansion of the credit system's loans can end in a greater holding capacity of the public, capable of being used precisely in the holding of financial assets created by the system itself.

7. - In one way or another, therefore, the credit system can influence by means of loans, the public's holding capacities and, in consequence, can exercise a persistent influence on the nominal volume of financial assets.

But this does not signify that the credit system can decide at its own discretion the volume of financial assets to be held by the public; that it can "force" the public to include in its budget the

(5) Ferrara deliberately dwelt on this aspect when illustrating the possibility of overcoming, by means of credit, the difficulties of synchronizing the different phases of the productive process. I would like to refer in this connection to my note on "Il ritorno del Ferrara", in *Bancaria*, 1962, No. 3.

increases of financial assets to which the increases of loans could give rise. It is very true, instead, that the creation of financial assets, even though detached, let it be repeated, from the trend of savings, is by no means dissociated from the public's behaviour. This behaviour must be considered not only and, indeed, not absolutely, from the point of view of the demand for financial assets to spend, regarding which one can say — as Ricardo once said in connection with money — that the question is one of an "insatiable" demand. It must rather be considered from the point of view of the demand for financial assets to hold, that is, of the offer of credit by the public in its capacity as creditor of the credit system, in relation to its more or less extensive propensity to retain financial assets in its hands. This is more noticeable in the case of credit money, which is the main component of financial assets: in relation, that is, to the more or less extensive propensity of the public to hold money as "idle" money to be retained rather than as "active" money to be spent.

Under this aspect, in the modern market economies where wide scope is still left to individual initiatives, the opportunity is always open to the public of making its influence felt with regard to the second of the two conditions laid down for the creation of financial assets. The public, that is, has always before it manifold alternative choices as to how it can use its holding capacities. This is exactly why the credit system must take account of the public, whose behaviour always represents, no matter what the institutional regulations may be, a tie that governs the creation of financial assets, the more so if these are evaluated at their real total.

The public, in fact, is not only free to choose between consumption and saving — a choice that, as we have seen, is fundamental in determining the holding capacities — but is also free to choose where those holding capacities should be used. A choice is offered, that is, between investments in financial assets and direct investments in real assets or, in other words, between credit mobilization of its savings and their retention "in kind", both in durable consumer goods or in stored-value goods ("beni rifugio"), especially in the case of the households, and in capital goods, especially in the case of the firms. According to the choice made the so-called "financial surplus" of each individual and each sector is determined; one determines, that is, the amount of financial assets which each individual and each sector intends to hold and ends by holding.

This choice, like that between consumption and saving, is certainly formed within the framework of all the stimuli connected with the development of economic activities, and therefore depends on the cyclical and structural aspects of such development. Both choices nevertheless tend to end in respect of the credit system — as we shall now see — in variations of the monetary reserves, thus influencing by this means the nominal volume of financial assets. And inasmuch as that influence on the volume cannot be realised, they end by having an influence on the real total of the assets themselves.

8. — The first of such influences, that on the nominal volume of financial assets, can have a more or less decisive effect according to whether the degree of convertibility of those assets is more or less wide. This convertibility, in the ultimate analysis, is always centralized, today as yesterday, in respect of the central bank (and connected "foreign exchange offices").

On the other hand, as has been clearly proved by the vicissitudes of the last decades, the convertibility of today is very different from that of yesterday, that is, from the full convertibility that existed under the gold standard. Then, convertibility — meaning the possibility of converting into gold and silver, as well as into foreign currency, the obligations of the central banks, represented by the bank notes these institutes issued — was available to all unconditionally and indiscriminately. Subsequently, instead, convertibility, meaning the possibility of converting national money into foreign currency (or of transferring national money abroad), has become more or less available according to complex and changing foreign exchange regulations that include among other things manifold discriminations (such as that between residents and non-residents). From this point of view we have not today a sharp change from full convertibility to full inconvertibility: there is rather a whole range of more or less wide methods of convertibility. Nevertheless, even when convertibility has been subordinated to a severe "exchange control", there has never been an absolute ban on it: some way has always been left of obtaining foreign currency against national money. And to the extent that convertibility has been made available, the public, in addition to availing themselves of it directly for the conversion of bank notes, has been able to, and still can use it for every other financial activity as well. The public, can, that is, avail themselves of it for deposits in respect of the

banking system by means of their "conversion" (or, as it is called, reimbursement) into legal money, as well as for bonds in respect of the financial institutes by means of their disposal on the financial market (6). The result is that convertibility has ended by leaving the door open, or at least ajar, so that the choices offered to the public regarding the holding of financial assets are made to weigh upon the monetary reserves of the whole credit system. In every country these choices can be traced back, in the final analysis, to the trend of price levels and the yield rates on capital in the particular country compared with those in other countries.

9. - Thus, by means of convertibility the public can make its influence felt on the monetary reserves and, in consequence, on the nominal volume of financial assets. And it can do so more or less — we repeat — according to the more or less wide availability of convertibility. This on the other hand means that, precisely according to the extent of this availability, the public also makes its influence felt, to a greater or lesser extent, on the real total of those assets.

To illustrate this influence it is best to imagine two extreme cases. As such they serve only as a framework for the real cases which stand in an intermediate position. Let us assume, as the first case, that full convertibility is in force, and as the second case, that complete inconvertibility exists. In the first case an increase in the loans and investments of the credit system, instead of being matched by a parallel increase in debt commitments, that is, of financial assets (as initially pointed out *sub* 4), can turn into a reduction of the monetary reserves, to the extent to which the public avails itself of convertibility. In the second case, such availability is lacking, but the public always finds it possible to make the influence of its behaviour felt through the goods markets, both directly by means of the assets of a monetary character and indirectly by means of those not of a monetary character (after in the latter case conversion of the deposits into bank notes or the disposal of bonds on the financial market). Bank notes, in fact, even if incon-

(6) The disposal on the financial market, unlike the conversion of bank notes, can have an influence on the volume of financial assets solely in that the bonds are purchased by the central bank or by the banking system, and solely in that such purchases subsequently give rise to withdrawals from the monetary reserves. This is a condition that applies also to reimbursements of bank deposits.

vertible, still constitute, since they are legal money, a credit on the collectivity, capable of being realised precisely on the goods market. Then an increase of the credit system's loans, even if matched by a parallel increase of financial assets, can end by causing a rise in price levels. It can therefore augment the nominal figure of the credit system's loans and of the financial assets in the public's hands, but not the real total of one or the other. In other words, expansion of financial assets parallel with expansion of the credit system's loans can be nullified, even though only partly, by the public's behaviour by means of price increases. It can therefore be stated that not only in the case of full convertibility but in that of absolute inconvertibility as well, the public can make felt the weight of its behaviour, which would make itself perceptible on, respectively, the nominal volume and the real total of financial assets (7).

10. - Neither one nor the other of the two extreme cases we have just considered occur in modern credit systems. Intermediate positions are registered, more or less close to one case or the other according to circumstances, and especially according to the more or less wide extent of convertibility. Therefore the two contingencies of an influence on the nominal volume and an influence on the real total of financial assets must not be seen as two alternatives which eliminate one another in turn.

The two contingencies, in fact, can occur together, even though in opposing degree: the more it is found possible to influence the volume of financial assets, the less the influence on their value and therefore on the real total is felt. In the final analysis, such influence on the value may be regarded as the "reaction" of the public to any "forcing" by the credit system with regard to the volume of

(7) This conclusion can find support by going to the classic  $K$  of Marshall, and more precisely by introducing an analogous ratio ( $K_f$ ) of the volume of financial assets which the public "would like" to hold at a given moment to the volume of capital funds possessed by the public at that same moment. It is easy to infer that an increase in financial assets as the counterbalance to an expansion of the credit system's loans leads by itself alone (unless it is not accompanied by a proportionate increase in the public's capital funds) to an increase of the ratio  $K_f$ , an increase that might not be desired by the public. Then in the case of full convertibility the public can use it to reduce the volume of assets in its hands, to the point of restoring the desired level of ratio  $K_f$  through reduction of the numerator. On the other hand, in the case of absolute inconvertibility, the level desired would be attained through the increase of the denominator, and precisely through the nominal increase of capital funds, which would occur as a reflex of the price level increase consequent upon the employment of financial assets of a monetary character on the goods market.

financial assets it intends to create. It is just because such reactions are possible that the public can never be forced to take on an amount of financial assets, considered in their real total, beyond the limits corresponding to its holding capacities and its choices (8). This is more than ever the case in that the influence on the value can intensify, and normally ends by intensifying, the influence on the volume of financial assets. The raising of the price level can, in fact, exert an influence in a negative sense, through the indicated play of comparisons with the level of the other countries, on the trend of the balance of payments and can therefore have an influence, always in a negative sense, on the volume of financial assets, according to the extent of convertibility.

The public's influence must not be considered solely in its negative aspects, that is, in order to establish how the public's behaviour may constitute, let it be repeated, a tie that governs the creation of financial activities by the credit system; it must not be considered solely as resistance to taking up the financial assets to which increases of the credit system's loans could give rise. It must also be regarded as an active element that can promote the creation of financial assets. Instead of being satisfied with the first approximations, in which the assumption of operating in "closed markets" is made, it is necessary to take relations with abroad into account. One then sees how in the case of countries that carry on a large foreign trade the creation of financial assets, and especially the issue of bank notes and the formation of deposits, takes place, sometimes to a major extent, through the conversion of foreign currencies into national money, by means of the intermediation of the central bank or the banking system. In that case the trend of the volume of financial assets, to the extent that can be attributed to the inflow and outflow of foreign currencies, must again be linked up with the behaviour of the public as creditor of the credit system, independently of every eventual stimulus of the credit system itself through expansion of its loans and investments.

(8) The public's influence on the value of financial assets, with particular reference to bank deposits, has been illustrated first by ROBERTSON, in the "third proposition" of his lesson on *Theories on Banking Policy* of 1928 (reproduced in the "Essays in Monetary Theory" of 1940) and then by KEYNES in his *Treatise on Money* (vol. I, p. 224). They have not realised, however, that the public can influence not only the value but also the volume of deposits, just as it can influence, in general, the volume of the other financial assets and of their whole.

II. - The considerations that we have so far outlined and the conclusions that we have reached relate to financial assets considered in their entirety, and can also be related, with suitable adaptations, to their individual categories, such, for example, as bank deposits. In fact, in referring in general to financial assets, the considerations and conclusions in question regard, in particular, also the assets that appear in liquid form, that is, as short-term credits in respect of the credit system, which now constitute — as was seen *sub 2* — the public's liquidity.

The considerations that aim at emphasizing the influence of the public's behaviour acquire greater weight as far as liquid assets are concerned. In fact, as was stated (*sub 8* and *9*), the possibilities of recourse to convertibility, as also the possibilities of recourse to the goods market, can be exploited directly only in the case of liquid assets in respect of the central bank (legal money), which constitute a notable part of the liquid assets. In the case of the other financial assets, those possibilities can be exploited only after their transformation into legal money. Therefore what has been stated concerning financial assets in general holds good, with greater reason, for the creation of liquid assets: the public's behaviour governs such creation as an immanent tie, no matter what the institutional regulations may be. The latter have an influence rather on the channels through which the effects of the public's behaviour are shown. Depending on the regulations that control convertibility, the effects of the public's behaviour can be more or less considerable as far as the nominal volume of liquidity is concerned, while they are always considerable and, indeed, are preponderant as regards the real total of liquidity, no matter what the regulations may be.

12. - How can this conclusion be squared with the common notions according to which the monetary authorities, as the supreme regulators of the whole credit system, have ample powers in the "government" of liquidity? The answer is found by pointing out that such powers, although wide, are in no wise unrestricted, provided that — as is now universally the case — the monetary authorities are pledged to maintain monetary stability as this is reflected in the trend of the prices level and the trend of the balance of payments.

It is true, indeed, that the powers of the monetary authorities are almost unlimited from the operative point of view: under the

present institutional regulations they are now able to make use of a multiplicity of instruments for the control of liquidity. They are therefore always in a position to counterbalance the public's behaviour, as much in its negative as in its positive aspects, which are emphasized above, by acting primarily through the liquidity of the banking system which, precisely for this reason, we have indicated as being "instrumental" in connection with the economy's liquidity. But it is a matter always of powers that concern exclusively the determination of the nominal volume of liquid assets and not of their value. Therefore the trend of the real total of liquidity always depends on the behaviour of the public — considered as a creditor of the credit system — in relation, that is, to its more or less wide propensity to give credit in liquid form to the credit system and especially to the central bank and the banking system.

To sum up, therefore, as long as one is operating in a market economy where — let it be repeated — wide scope is left to individual initiatives and choices, and as long as among the various aims of economic policy first priority is assigned to the maintenance of monetary stability, the monetary authorities have very few margins left to their discretion in regulating the trend of the liquid assets placed at the market's disposal. They must essentially take into account the behaviour of the public, considered as households and as firms: they must, that is, take into account the behaviour of those who save and those who invest. This comes within the economy's "natural laws", which — as the old saying goes — "cannot be dominated except by obeying".

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