

# The overarching principle of Market: Its interface with Law

Ranita Nagar

Professor of Economics,

Dean, Department of Research & Publications.

Gujarat National Law University, Gandhinagar – 382426, Gujarat, INDIA.

**Abstract:** The doctrine of the market exchange system is not limited to the exchanges concerned with profit maximisation rather the maximisation of any positive value and to limit the exchange of any value deteriorating outcome and in the process creation of surplus i.e. surplus maximization. This principle is applied to an understanding on the liability system in law to bring forth the understanding of efficient internalization of a social harm. To understand this the paper differentiates between efficient and inefficient market exchange as both an ex ante and ex poste mechanism of surplus maximization and applies the same to the liability systems as ordained in law. Further the differentiation of the two systems, i.e., market exchange system and liability system is explained in terms of voluntariness and involuntariness, in order to highlight the mechanisms required for efficient internalization of costs. The paper also differentiates between the public goods nature of liability system from the private good nature of the market mechanism to develop insights for an efficient liability system drawn from the application of an efficient market mechanism.

**Keywords:** market exchange system, the liability system, ex ante ex post mechanism, social goods private goods, voluntary and involuntary exchange

## 1. MARKET EXCHANGE SYSTEM

The doctrine of the market exchange system is not limited to the exchanges concerned with profit maximisation rather the maximisation of any positive value and to limit the exchange of any value deteriorating outcome and in the process creation of surplus i.e. surplus maximisation. Accordingly, efficiency is the desired benchmark of the market exchange and the outcome is generation of surplus. Outcomes such as Rule of Law, Safety, Satisfaction and Joy are non- economic aspects resulting from exchange holding the force of releasing surplus by the production of a positive good as also limiting the supply of a negative good. Also, market exchange system can be efficient as well as inefficient. An instance of an efficient exchange system would be where the role of the Competition Act, 2002 is induced in reducing Monopolies. An efficient exchange system ensures that only efficient costs or cost that can pay for themselves are imposed. That means the factor market is working competitively. As a consequence, the price charged is the efficient price which is the only point of exchange that maximises the consumer as well as the producer surplus. Which means that the reallocation of property rights in the factor market as well as the product market is attained at the equilibrium exchange price. In an exchange a surplus is created. E.g. If I have Rs. 100 and derive 'x' utility for an ice-cream, and I buy an ice-cream, when the utility of the ice-cream gives me more utility than the utility of money. In this process the producer is left with something over and above his cost of production and the consumer is left with something more than what he pays for with her units of money. This something more for both the producer and the consumer is a surplus.

An Exchange system can have varying degrees of efficiencies and thus creates surplus of varying degrees i.e. perfect market, monopolistic market, oligopoly and monopoly. Exchange at the equilibrium price in a perfect market ensures maximum efficiency in terms of allocative, productive and distributive efficiencies. To ensure maximum surplus, one should ensure that production cost is most efficient and consequently the selling price is efficient. If the price is above the efficient price, lesser unit of the good will be sold and lower factors of production will be employed, both erode potential surplus. The fact that factors of production are optimally employed and there are optimal buyers for the good demonstrates allocative efficiency in terms of resource utilisation and efficient allocation of resources by the buyers. The distributive efficiency is identified where the returns to the factors of production are spread over the largest numbers of the owners of the factors of production and the end product of the process of production is distributed across the high valuing owner of the product, again maximising surplus. The productive efficiency is reflected by the fact that efficient cost of production is only achieved at least cost production methods which are synchronised with the possibility of selling at efficient price. The price mechanism as the Universal signalling system ensures all of this by generating the forward and backward signals to the market.

## 2. THE LIABILITY SYSTEM

The liability system, it is also an exchange system which provides ex ante and ex post signals in an attempt to internalise outcomes/products that are classified bad goods, i.e., goods having disutilities in consumption. These disutilities can be private or social disutility in nature. The private disutility is internalised by the liability price in an ex ante sense by the price mechanism of the market and by the payment of the liability price in the ex post scenario.

A Contract by supplying efficient levels of information to the parties concerned. The remedies / liability price provided under contract law is a mechanism to account for the harm created by the breach of contract. Which means that contracts enhance transactions by reducing risk through the tool of contractual remedies i.e., the liabilities faced by the one who breaches the contract and thus creating a disincentive to breach by signalling the consequence of the liability cost of breach. E.g. If A causes loss to B by way of breach of Contract, and results in B suing A for breach of contract and the Court awards damages to B, this will be completing the exchange system which started by A imposing a cost on B and B paying back the cost to A on account of being held liable. A will repay the loss which was caused to B on account of Court awarded damages to B. Here, a part of the exchange took place when the contract was breached and a part of it only took place post the awarding of damages by the Court. In case of a Tort also some harm is imposed and should be accounted for and if not accounted for, it will multiply. The cost imposed has to be internalised and this is done through ex ante rules, regulations and legal standards and upon violation of the interest of the individual, the harm imposed is accounted for by just compensation or the liability price. In case of property law, if the right is not protected, the value of the right diminishes and there might be more theft than sale and this is a case of erosion in surplus. In the economic analysis, the purpose of property rights is to ensure movement of property rights from a lower valuing owner to a higher valuing owner and this process of exchange creates a surplus. Therefore, when a flat-buyer purchases a property, there is a minimum asking price by the seller and a minimum buying price by the buyer which takes the form of a bargain resulting into a surplus maximising exchange. Here, the threat value (the price below which the bargain will not take place) is important for the bargain to take place. The discovery of the threat value and the bargain price based on the threat value makes the exchange take place. The more efficient the exchange price, higher surpluses get released. In absence of a law safeguarding property, value of the property will be eroded and it will lead to more theft than sale. Thus the erosion in the value of the property right is addressed by legal or equitable remedies which are different forms of liability price. In case of criminal liability, taking the example of retribution and deterrence, a crime occurs in the past and retribution is the measure of the cost imposed by the criminal thus the offender is made to pay for the social cost which he imposed on the society by facing the liability price for crime. Therefore, the price of the product, be it market price or liability price must internalise the cost of the product/ outcome. When harm is done, one cannot undo it but minimise the loss and minimising the loss creates a surplus. This illustrates the liability system as an exchange system and would hold across the classification of private and public law, as briefly discussed.

If the costs imposed in the factor markets are not accounted for, reallocation of the factor market will take place bringing in temporary periods of disequilibrium. These periods of disequilibrium will be demonstrated by both under and over supply of factors of production reflecting in both under and oversupply in the product market. If cost imposed on society is not accounted for, the factor market of cost imposing factors will reallocate creating disequilibrium. This disequilibrium is not efficient and will erode surplus in terms of excessive intervention in the interest and rights of people by way of inadequate assignment of property rights, excessive breach of contracts, excessive accidents, and excessive crime Thus through legislations, regulations, legal standard of care and liability prices, these costs are internalised. Once the social cost and the cost of the liability price exchange, the efficient amount of social cost gets to be imposed.

### 3. DIFFERENCES IN THE EXCHANGE SYSTEM AND THE LIABILITY SYSTEM

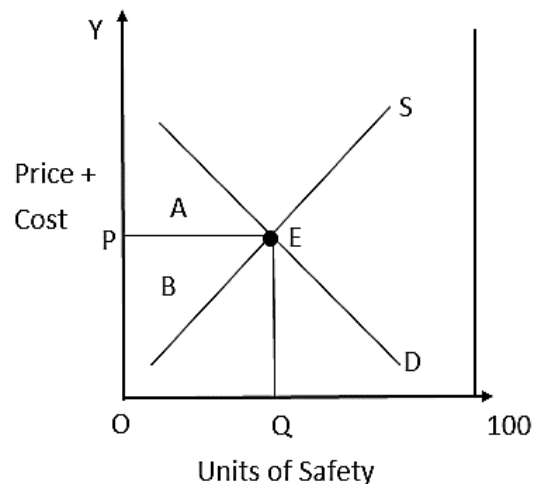
**Table 1** The exchange system v/s the liability system

<i>LIABILITY</i>	<i>EXCHANGE</i>
Involuntary	Voluntary
Not of a continuing nature	Continuing in nature
Uncertainties much more	Uncertainties less
Time gap and probability	Less time gap and much more surety

### 4. EXAMPLE OF RETRIBUTION AND DETERRENCE

Retribution arises because a crime occurred in the past (the backward signal) and the offender was made to pay for the social cost which he imposed on the society (the forward signal) with the goal to create deterrence. Efficient Liability system is one where only efficient crime take place at optimum level of deterrence. In terms of Retribution, the cost imposed on society by the criminal is accounted for by the criminal sanctions. If the cost imposed and the liability price paid are same, then there is no surplus for the criminal. This is a perfect exchange of the market exchange system. This means that since there is 100% certainty of the criminal paying the liability price, he or she would have no incentive to commit the crime. This would result in the forward signal of the idea that crime does not pay and would bring forth deterrence once again the allocative goal of an efficient market exchange system. Allocative efficiency does not mean that costs will not be imposed but the costs imposed will be internalised by the price of the product as in voluntary exchange and the price of the punishment or the liability price in case on an involuntary exchange. The opposite would happen when the liability price is too low or the probability of imposing the liability price too high. This becomes an incentive to the criminal and too much crime gets committed because the truth of the liability price is that it is encouraging crime. Allocative efficiency is not achieved in an imperfect exchange system as also optimum deterrence or efficient crime is not attained in an imperfect liability system. The current state of affairs reflects an imperfect liability system and we have tools to address the imperfections and move towards more efficiency with the tools of micro economics.

Thus Retribution and Deterrence is an exchange, split over two time lines. Clearly, it is desirable but not efficient to attain 100% deterrence but it is more important to determine the efficient level of crime (Efficient level of crime will mean, given the resources that an economy can allocate to crime prevention will determine the cost of crime prevention and thus the equilibrium between what people are willing to pay for less crime will have to equate to the cost of making more deterrence available). This increase in units of deterrence creates a surplus (reduction in crime). Cost effective measures of deterrence create the possibility of more units of deterrence. This goes on to explain that just like the market exchange exists in varying degrees of efficiencies and corresponding degree of surplus, the liability system also exist in different degrees of efficiencies leading to different degree of surplus. Just like the efficient market provides micro economic tools to address the imperfections in an exchange market, in an identical sense we apply micro economic tools like the cardinal utility analysis, consumer behaviour theories, expected utility analysis, the ordinal utility analysis, game theory, production functions, short run and long run costs, type of markets etc. to address the inefficiencies of the liability system by asking questions about the liability price and the associated outcome.



**Figure 1** Optimal units of safety (market exchange) (voluntary exchange)

D = Demand for Safety

S = Supply of Safety

More safety is equal to lower harm

Lower safety is equal to higher harm

As more units of safety are available, downward movement on the Demand Curve, we see the marginal utility for the units of safety decrease because in a safer world, we are ready to pay less and less for an additional unit of safety.

The marginal cost of safety increases, with every unit of safety produced, because more safety is supplied at a higher price and cost.

Thus the optimal level of safety supplied and demanded is at equilibrium point E, with OP Price OS quantity.

## 5. THE LIABILITY PRICE IN TERMS OF SOCIAL BENEFIT VERSUS PRIVATE BENEFIT

The example of Safety as a social good is the focus of discussion. Units of safety can be transacted in the private market and while doing that we see one equilibrium price and quantity. In a private market MU is equal to MC. Is this level of safety the efficient level? When the private and social benefits are the same (reflected in the demand curve) as also the private and social costs are the same (as reflected in the supply curve) the private exchange results in efficient units of safety available at efficient price. This also means that an efficient level of harm is taking place. Price of safety reflects forward signals to the market i.e. how many units of safety are demanded at what price and backward signals i.e., how many resources should be allocated for production of safety. These price signals ensure allocative, distributive and productive efficiency. For example a Safe Car has higher cost of production and sold at a higher price, reflected through the private exchange

The units of safety reflected by a private exchange does not reflect the social benefit of safety because safety is a public good and the demand curve or the willingness to pay curve will face the free rider problem. All would show a preference for safety but all will not pay for reasons genuine and not so genuine. Thus the private market will always undersupply units of a positive public good. For instance, people unable to pay for safety as in the very low income earners also have a preference for safety but do not have the ability to pay.

The two curves reflected are private benefit of safety and social benefit of safety. The social benefit of safety is higher than the private benefit.

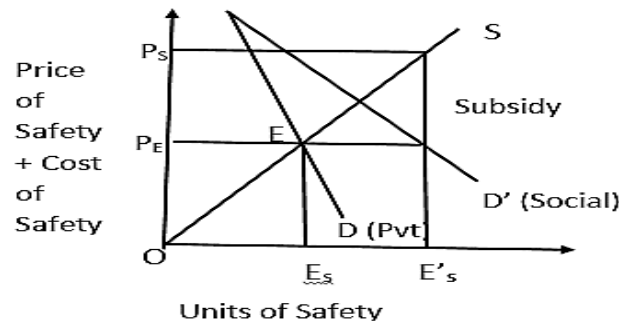


Figure 2 Safety as a public good and voluntary exchange

D = Pvt Benefit

D' = Social Benefit

S = Supply

$P_E$  = Exchange Price and  $E_s$  is units of safety supplied at  $P_E$  Price through Market Exchange

$D'$  is the Marginal social benefit of Safety  $D' > D$

$E'_s$  is the optimum level of care, by taking  $D'$  into consideration. But  $E'_s$  is available at Supply cost higher than  $P_E$  that is  $P_s$ . This difference in demand and supply has to be reconciled taking safety as a public good, this higher cost can be borne by the government in terms of subsidy for safety, like maintained roads, traffic lights, traffic Signal etc.

In the diagram, the intersection of private benefit curve, i.e., demand curve reflects the willingness of consumers, i.e., the marginal utility of safety and the supply curve, i.e., the private cost curve shows the marginal cost of supply of safety. Although equilibrium level of safety is arrived at for exchange of safety as a private good but that is not socially efficient level of safety because safety is a public good. We calculate for the social benefit of safety and show a new demand curve by a pivotal shift of the original demand curve. This new point on the horizontal axis shows the social demand for safety. This additional units of safety can only be supplied at the higher cost as reflected in the supply curve. The question is who will pay for this additional units of safety? One possibility is that the government can subsidise the provision of safety by the help of law enforcement agencies. In spite of these arrangements, we regularly see wilful or accidental violations of safety. This reflects the case of an involuntary transaction, where in one's interest is harmed and till the time the harm is not accounted and compensated for, the exchange in terms of internalisation will not take place. In this event the mechanism to internalise the creation of harm by violating safety is in terms of imposing liabilities on the violator. Unless the liability is imposed the harm will not be accounted for and there will be too much of harm and too little of safety in society leading to allocative, productive and distributive inefficiencies. This harm will be accounted for/internalised by the liability price in the liability system.

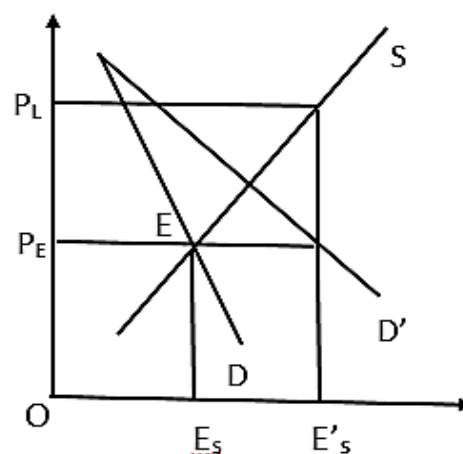


Figure 3 Safety as a public good and involuntary exchange

The interest of an individual is violated which reduces the optimum level of safety from  $E'_s$  to  $E_s$ . To ensure return of units of safety to  $E'_s$ , the person responsible for creating the deficit in safety, has to pay back for the harm in terms of paying the liability price  $P_L$ . The deficit  $E_s - E'_s$  is compensated by an equivalent liability price, i.e. from  $P_E$  to  $P_L$ . Thus by paying  $P_L$ , the social harm is compensated.



The difference between the exchange price and the liability price is that the exchange price accounts for the justified cost imposed by the process of production in the exchange system and the liability price accounts for the unjustified costs of the producer of harm through the liability system.  $D'$  is that what is demanded by the society (the marginal social benefit) and  $D$  is what private individual is willing to pay for safety (the marginal private benefit).  $E_s$  is the efficient level of safety and  $E$  is the equilibrium in case of a private exchange. As previously stated, a consumer would be willing to pay when his marginal social benefit equals his marginal social cost. But since we've moved on from safety as a private component and have ventured into its public component, we must look at what accounts for/internalises the 'social cost' of reduced safety/more harm. The social cost of reduced safety/more harm, provided the market is producing adequate units of safety, is internalised by making the person responsible, by making him pay the price for the additional units of the harm caused (for e.g. in the form of tortious liability or sentencing in case of crimes etc.) through imposing the liability price. With the payment of this liability price, the social cost is internalised which completes the exchange system.

The differences between private and social benefits are not amenable to market corrections. Therefore, the deficit between what was efficient (exchange price) and what was desired (social benefit) is addressed by an agency other than the market.

Let us first be clear as to where the deficit lies on the diagram. The deficit lies between  $E$  and  $E_s$ , i.e. the equilibrium level of safety ( $E$ ) and the efficient level of safety ( $E_s$ ). Such deficits of a positive good, in case of an involuntary transaction, is addressed by the liability system.

We can say that allocation of safety is working fine at point  $E$ , however, we can still obtain a better and more efficient level of safety i.e. by reaching point  $E_s$ . Even with respect to contract law, there can be an equilibrium  $E$ , but there still exists at that point the risk of a breach which has to be covered or corrected by contractual remedy. For torts, you'd address a similar deficit with tortious liability and for crimes, with sentencing. Let us look at the example of the 2012 Nirbhaya Gangrape case. Before 2012, there still existed laws protecting women against rape and sexual harassment. A woman walking the streets of (say) Delhi pre-2012 would also be considered protected under the laws. However, the 2012 Nirbhaya gangrape case was a startling reminder of the deficit that existed between the rape laws as it existed and the rape laws as desired for the women of India. Hence, the J.S. Verma Committee went on to write its landmark report, which then went to frame the 2013 Criminal Amendment Act, thereby taking the safety level of women from point  $E$  to point  $E_s$ . Now, women in India can be said to be safer than what they were before 2012, if not a lot safer.

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