

KALDOR-HICKS COMPENSATION CRITERION: A MEASURE OF SOCIAL WELFARE

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Abstract: Welfare economics is concerned with the evaluation of alternative economic situations from the point of view of the society's well-being (welfare). However, ability to measure the welfare of the society remains a greater challenge to economists. Therefore, amongst several attempts made by economists to construct tool for measuring social welfare is Kaldor-Hicks criterion. A Kaldor-Hicks criterion, named after the originators, Nicholas Kaldor and John Hicks, is a tool of measurement of economic re-allocation of resources among people that captures some of the intuitive appeal of a Pareto efficiency, but has less stringent criteria and is hence applicable to more circumstances. It claims that in certain circumstances, it is possible to change available rules for obtaining more economic benefit and efficiency, while this change may create loss to some specific groups. Kaldor-Hicks criterion is used as a tool for decision making. In this regard, Kaldor-Hicks criterion is observed as basis for making some social-economic decisions. However, applying this criterion has other consequences as well that attracts critical attention. Therefore, this article attempts to evaluate these critiques with respect to its assumptions and convenience of its application to social-economic issues by the decision makers.

Keywords: Kaldor-Hicks compensation criterion, social welfare, possibility curve.

1. INTRODUCTION

The concept of efficiency has great importance in the economics. After all, economics is efficient allocation of resources to "satisfy the insatiable human wants". Amongst different efficiency criteria, Kaldor-Hicks Efficiency Criterion has received several criticisms. A fundamental issue in economic analysis of government policy is to change such policy to give room for more efficient one. Kaldor-Hicks criterion claims that in certain circumstances, it is possible to change available rules for obtaining more economic benefits and efficiency, while this change may create loss to some specific groups. This action has specific practical importance; since, social economics decisions should be made according to advantages and disadvantages and their impact on different classes of society. In fact, those suggesting this criterion have offered a rule for making collective decisions that are not applied by Pareto criterion. In this regard, Kaldor-Hicks criterion is observed as basis for making social economic decisions.

The compensation criteria also known as the New Welfare Economics was formulated by **Nicholas Kaldor** and **John Hicks**. Accepting Pareto's ordinal measurement of utility and the impossibility of its interpersonal comparisons, they tried to show that social welfare could be increased without making value judgment. Kaldor-Hicks postulated that each individual's satisfactions are independent from the others so that he is the best judge of his welfare. There is the absence of external effects in production and consumption. The tastes of each individual are constant. It is possible to separate the problems of production and exchange from the problem of distribution. It is assumed that utility is measured ordinarily and interpersonal comparisons are impossible. A Kaldor-Hicks improvement is an economic re-allocation of resources among people that captures some of the intuitive appeal of a Pareto improvement, but has less stringent criteria and is hence applicable to more circumstances. A reallocation is a Kaldor-Hicks improvement if those that are made better off

could hypothetically compensate those that are made worse off and lead to a Pareto improving outcome. The compensation does not actually have to occur (there is no presumption in favor of status-quo) and thus, a Kaldor–Hicks improvement can in fact leave some people worse off. A situation is said to be Kaldor–Hicks efficient, or equivalently is said to satisfy the Kaldor–Hicks criterion, if no potential Kaldor–Hicks improvement from that situation exists.

2. KALDOR – HICKS CRITERION

A reallocation is said to be a Pareto efficient, if at least one person is made better off and nobody is made worse off. However in practice, it is almost impossible to take any social action, such as a change in economic policy, without making at least one person worse off. Even voluntary exchanges may not be Pareto efficient if they make third parties worse off.

Pareto efficiency occurs where at least one party benefits and nobody is made worse off. Kaldor- Hicks states that a decision can be more efficient as long as there is a net gain to society. The criterion enables any potential losers to be compensated from the net gain.

Kaldor–Hicks criterion is an improvement on Pareto efficiency. A resources allocation is considered efficient and an improvement if those that are made better off could in principle compensate those that are made worse off so that a Pareto improving outcome could (though does not have to) be achieved. For example, a voluntary exchange that creates pollution would be a *Kaldor–Hicks improvement* if the buyers and sellers are still willing to carry out the transaction even if they have to fully compensate the victims of the pollution. Kaldor–Hicks does not require compensation actually be paid. It means mere existence of possibility for compensation. Under Kaldor–Hicks efficiency, an improvement can in fact leave some people worse off while Pareto efficiency require making every party involved better off (or at least none worse off). While every Pareto efficiency is a Kaldor–Hicks criterion most Kaldor–Hicks criterion are not Pareto efficient. This is because the set of Pareto efficient is a proper subset of Kaldor–Hicks criterion. This reflects the greater flexibility and applicability of the Kaldor–Hicks criterion relative to the Pareto criterion.

Hypothetical Example

ITEME	BENEFITS	COSTS
Passengers	N200m	
Airline company	N220m	
Local residents		N40m
Environment		N60m
Total benefit	N420m	
Total cost		N100m
Net gain to society	N320m	

The total benefit is N420m. But, two groups lose out – local residents and the environment.

To build the airport would not be Pareto efficient because although there is a net gain of N320m, two groups lose out and are worse off.

However, according to the Kaldor-Hicks criterion, it would be efficient to go ahead because of the net-gain and the fact that, in theory, the groups losing out could be compensated.

Under Kaldor Hicks, the key principle is the idea that, in theory, people could be compensated. This compensation doesn't actually have to occur. Under Pareto efficiency, this compensation would have to occur through voluntary agreements between two parties. Kaldor-Hicks criteria may be used to judge the effectiveness of a Cost-Benefit Analysis scheme.

According to Kaldor, the test of increase in social welfare is that if some people are made better off and others worse off, the gainers from the change could more than compensate the losers and yet be better off themselves. The actual payment of compensation is regarded as a political or ethical decision.

Assumptions

The compensation criterion of Kaldor – Hicks is based on the following:

- Each individual's satisfactions are independent from the others so that he is the best judge of his welfare.

- There is the absence of external effects in production and consumption.
- The tastes of each individual are constant.
- It is possible to separate the problems of production and exchange from the problem of distribution.
- It is assumed that utility is measured ordinarily and interpersonal comparisons are impossible.

3. MATTER ARISING FOR KALDOR HICKS

- Just because, in theory, compensation may be given to those who lose out, in practice it may not. Local residents would feel unfairly treated if the airport went ahead.
- Kaldor-Hicks criteria can lead to an increase in inequality and be perceived as unfair. For example, those under flight path may feel it is unfair they have been singled out to have to put up with an airport nearby.
- It places economic welfare and total economic utility above other moral considerations. Utilitarianism verses notions of fairness

Kaldor does not require that the losers should actually be compensated. Rather he requires that the gainers should be able to compensate the losers out of their gains. Hicks presents the same criterion in a little different way thus: "If A is made so much better off by the change that he could compensate B for his loss, and still have something left over, then the reorganisation is unequivocal improvement. "

Thus the Kaldor Hicks criterion implies that if an economic change leads to the production of more goods and services they can be so distributed as to make some people better off and none worse off. Actual redistribution being a political or ethical issue, need not take place. It is enough that reorganizations create such conditions that redistribution can be effected.

This criterion is illustrated with the help of utility possibility curves for two individuals. If A and B are two individuals, each utility possibility curve represents the locus of all combinations of their utility levels. Each curve is related to a given fixed bundle of goods and the various points on each curve are obtained by costless lump sum redistribution of a fixed commodity bundle.

Let X and Y be the two bundles of goods represented by the utility possibility curves B1A1 and B2A2 respectively as utility possibility shown in the below diagram. Starting from a given bundle of goods represented by Q2 in terms of the Paretian criterion any change which leads to a movement to any one of the points C,D and E is a Pareto improvement on the B1A1 curve because it makes both individuals better off or at least one better off without making the other worse off. But any movement outside C and E to Q1 cannot be evaluated by the Paretian criterion for the reason that it improves A's welfare at the expense of B. Nevertheless, a move from Q2 to Q1 can be evaluated in terms of the Kaldor-Hicks criterion

This can be done by (i) asking B how much he would be willing to pay A to prevent this move and (ii) asking A how much he would be willing to pay to B to forgo it. If (ii) > (i), the change increases welfare for the reason that A would potentially compensate B for his loss and still be better off at Q1 than at Q2.

A simple test for an improvement of welfare according to the Kaldor-Hicks criterion is that the initial bundle should lie below the utility possibility curve representing the new bundle. Thus a move from Q2 to Q1 satisfies the Kaldor – Hicks criterion for the reason that Q2 lies below the utility possibility curve B1 A1 of the final bundle Q1.

To present it differently, a move to Q1 can be contemplated to generate the point D on the same utility possibility curve B1A1 which is unambiguously better than Q2. After compensation one can move from D to Q1.

4. USES OF KALDOR-HICKS CRITERION IN POLICY-MAKING

The Kaldor–Hicks methods are typically used as tests of potential improvements rather than as efficiency goals themselves. They are used to determine whether an activity moves the economy toward Pareto efficiency. Any change usually makes some people better off and others worse off, so these tests consider what would happen if gainers were to compensate losers.

An economic activity meets Kaldor-Hicks criterion and moves the economy closer to Pareto optimality if the maximum amount the gainers are prepared to pay to the losers to agree to the change is greater than the minimum amount losers are prepared to accept; the Hicks criterion is that an activity moves the economy toward Pareto optimality if the maximum amount the losers would pay the gainers to forgo the change is less than the minimum amount the gainers would accept to

agree *not* to proceed with the change. Thus, the Kaldor test supposes that losers could prevent the arrangement and asks whether gainers value their gain so much they would and could pay losers to accept the arrangement, whereas the Hicks test supposes that gainers are able to proceed with the change and asks whether losers consider their loss to be worth less than what it would cost them to pay gainers to agree *not* to proceed with the change.

The Kaldor–Hicks criterion is widely applied in welfare economics and managerial economics. For example, it forms an underlying rationale for cost–benefit analysis. In cost–benefit analysis, a project (for example, a new airport) is evaluated by comparing the total costs, such as building costs and environmental costs, with the total benefits, such as airline profits and convenience for travelers. (However, as cost–benefit analysis may also assign different social welfare weights to different individuals, e.g. more to the poor, the compensation criterion is not always invoked by cost–benefit analysis.)

The project would typically be given the go-ahead if the benefits exceed the costs. This is effectively an application of the Kaldor–Hicks criterion because it is equivalent to requiring that the benefits be enough that those that benefit could in theory compensate those that have lost out. The criterion is used because it is argued that it is justifiable for society as a whole to make some worse off if this means a greater gain for others.

5. CRITICISMS

Ignores Income Distribution: The Kaldor Hicks compensation principle, according to Dr. Little, is merely a definition and not a “test” of increase in welfare for the reason that it ignores income distribution. In fact, the problem of distribution cannot be ignored where the problem of productive efficiency is involved. To say that one ‘bundle of goods’ is greater than the order is meaningless without reference to income distribution. For any comparison between two bundles of goods involves their money values at their market prices.

No universal Validity

Scitovsky has criticised Kaldor for the view that the state is fully responsible for maintaining an equitable distribution of income. If there is unequal income distribution in a community, it is corrected as a matter of course by the state through a system of compensations. According to Scitovsky, “This is likely to be the case in a socialist economy.” But in a free enterprise economy, the effects of a certain economic re-organisations on efficiency and equity cannot be separated for the reason that compensation payments are not feasible politically. Thus the Kaldor Hicks criterion has no universal validity, according to Scitovsky.

6. WELFARE ECONOMICS

General Welfare economics refers to all economic and non-economic goods and services that provide utilities or satisfaction to individuals living in a community. In this sense, general welfare becomes a very wide, complicated and impracticable notion. Pigou therefore defines economic welfare as that part of general welfare which can be brought directly or indirectly into relation with the measuring rod of money.” In the Pigovian sense economic goods and services of those that can be exchanged for money.

But Dr. Graaf does not agree with Pigou’s concept of economic welfare for two reasons. First, money as a measure of welfare is neither accurate nor satisfactory for the reason that value of money changes with variations in the price level. Second, economic welfare does not depend upon exchangeable goods and services for the reason that it is not possible to separate economic factors from non-economic factors, so far as an individual’s state of mind is concerned.

In fact, an individual’s welfare depends upon both economic and non-economic factors. Since non-economic factors are not capable of assessment, Graaf opines that in welfare theory only in economic factors are considered, assuming non-economic factors to be constant.

Robertson while accepting Pigou’s distinction between general and economic welfare prefers to use the world welfare for economic welfare, Boulding on the other hand, defines economic welfare in terms of the opportunity cost of exchangeable goods and services.

According to Prof. Pigou, an individual’s welfare resides in his state of mind or consciousness which is made up on his satisfactions or utilities. But modern economists explain it in terms of a given scale of preferences. An individual’s welfare is said to have increased when he is better off, when he himself believes that his welfare has increased or not.

Measuring Welfare

There are mainly two concepts for measuring welfare. The first relates to a Pareto improvement whereby social welfare increases when society as a whole is better off without making any individual worse off. The proposition also includes the case that when one or more persons are better off, some persons may be neither better off nor worse off. It is thus free from making interpersonal comparisons. Hicks, Kaldor and Scitovsky have explained social welfare in the Paretian sense in terms of the 'Compensation Principle'.

In the second place, social welfare is increased, when the distribution of welfare is better in some sense. It makes some persons in society better off than others so that the distribution of welfare is more equitable. This is known as distributional improvement and relates to the Bergson social welfare function.

Value Judgments

All ethical judgments and statements which perform recommendatory, influential and persuasive functions are value judgments. According to Dr. Brandt a judgment is it entails or contradicts some judgment which could be formulated so as to involve any one of the following terms in an ordinary sense; 'is a good thing that' or 'is a better thing that'; is normally obligatory'; is reprehensible; and 'is normally praiseworthy'.

Value judgments describe facts in an emotive way tend to influence people by altering their beliefs or attitudes. Such statements as 'this change will increase economic welfare', 'rapid economic development is desirable', 'inequalities of incomes need be reduced', are all value judgments.

Welfare is an ethical term. So all welfare propositions are also ethical and involve value judgments. Such terms as 'satisfaction', 'utility' are also ethical in nature since they are emotive. Similarly, the use of a highly emotive word as 'social', 'community' or 'national' in place of 'economic' is ethical.

Since welfare economics is concerned with policy measures, it involves ethical terminology, such as increase of 'social welfare' or 'social advantage' or 'social benefit'.

Thus welfare economics and ethics cannot be separated. They are inseparable, according to Prof. Little, "because the welfare terminology." Since welfare propositions involve value judgements, the question arises whether economists should make value judgements in economics.

Positive Economics and Welfare Economics

Positive Economics is concerned with 'what is'. It has generalisations, principles, theories or laws which trace out a causal relationship between cause and effect. As a pure or positive science, economics seeks to explain what actually happens and not what ought to happen. Welfare economics on the other hand is a normative study. It also deals with causal relationship between cause and effect. But in addition to deriving conclusions from this relationship, it seeks to evaluate various results and to distinguish between them from a normative point of view.

In other words, of Scitovsky, "welfare economics is that part of the general body of economic theory which is concerned primarily with policy. Whenever the economist advocates a policy, for instance, when he favours full employment or opposes government interference in economic affairs, he makes a welfare proposition." Thus positive economics is to explain and welfare economics is to prescribe.

7. CONCLUSION

Having realized the cumbersomeness in ensuring efficient reallocation of resource, the policy makers should continue to strive hard to ensure that no one is worse off. They should ensure adequate compensation is made for new policy. It is also note-worthy that welfare economics and ethics are inseparable and interpersonal comparisons or value judgements are inseparable from welfare economics.

REFERENCES

- [1] A Koutsoyiannis.(1979), *Modern Microeconomics*, Macmillan Press Ltd, London.
- [2] Buchanan, James. [1969] 1999. *Cost and Choice: An Inquiry in Economic Theory*. Volume 6. The Collected Works of James M Buchanan. Indianapolis, Ind.: Liberty Fund.

- [3] Blackorby, C., & Donaldson, D. (1990). A review article: The case against the use of the sum of compensating variations in cost-benefit analysis. *Canadian Journal of Economics*, 23(3), 471– 494.
- [4] Boadway, R. (2000). *The economic evaluation of projects*. Kingston Canada: Queen’s University: 51 pp. Retrieved on 14 Dec 2013.
- [5] Bossert, Walter, 1996. The kaldor compensation test and rational choice, *journal of public economics*, 59: 265-276.
- [6] Calabresi, Guido, 1991. The pointlessness of Pareto: carrying Coase further, 100 *Yale L.J.*
- [7] Hoppe, Hans-Hermann. 1993. *Economic and the Ethics of Private Property: Studies in Political Economy, Philosophy*. Boston: Kluwer Academic Publishers.
- [8] Hasnas, John. 1995. “Back to the Future: From Critical Legal Studies Forward to Legal Realism, or How Not to Miss the Point of the Indeterminacy Argument.” *DukeLaw Journal*45:84.132.
- [9] *Henderson, J M and Quandt, R E. (1958), Microeconomics Theory: A Mathematical Approach. McGraw-Hill Book company, Inc. New York.*
- [10] Herbener, Jeffrey M., 1997. The Pareto rule and welfare economics *Review of Austrian Economics*, 10: No. 1.
- [11] Markovits, Richards, 2008. *truth or economics*, USA, Yale university press.
- [12] Michael P. Todaro and Stephen C. Smith (2015). *Economic Development*. 12th ed, Pearson Education Limited, Edinburg Gate, Harlow CM20 2JE, United Kingdom.
- [13] M. L Jhingan, (2013), *The Economics of Development and Planning*.40th ed. Vrinda Publications (P) Limited, B-5 Ashish complex, Delhi.
- [14] Salerno, Joseph. 1990. “Ludwig von Mises as Social Rationalist.” *Review of Austrian Economics* .4(2) : 26–54.
- [15] Stringham, Edward. 1999. “Market Chosen Law.” *Journal of Libertarian Studies* 14(1): 53–77.
- [16] Zerbe, Richardo, jr and Bellas, Allen, S.,2006. *A primer for benefit–cost analysis*, Massachusetts, USA, Edward Elgar publishing, inc.