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THE USE OF SHADOW PRICES IN PLANNING FOR DEVELOPMENT

The call for the use of shadow prices (or accounting prices) in planning for development stems from the obvious fact that actual market prices do not reflect social benefits and social costs. Some are fixed by administrative *fiat*. Others are 'free', but influenced by restrictive practices or monopolies. Others again are determined by quantitative controls. The shadow price is the price which would prevail if prices were equilibrium prices, reflecting marginal social benefits and marginal social costs.

But such a definition creates a spurious precision. In order to establish the equilibrium price for *any one* factor or product, full equilibrium would have to prevail in *all* markets. Knowledge of the full equilibrium conditions for a whole economy which, *ex hypothesi* is suffering from a number of fundamental disequilibria, is not easy to get, even if determinate meaning could be given to such a concept.

But the assumption of full equilibrium in the whole economy is ambiguous, and, unless further specified, indeterminate. In order to discover equilibrium prices, we must know demand and supply curves and the underlying production and consumption functions. But these functions will be different according to what institutional arrangements and what human responses we assume. Land prices will depend upon the system of land tenure and on agricultural policy generally. The supply price of labour will depend upon the motivation and education of potential workers, on the acceptability of employing women and on the attitudes to different kinds of work. The price of capital will depend upon degrees of monopoly in the economy. The prices which are intended to guide policy are therefore themselves a function of public policy.

The next difficulty is to specify the time dimension of the equilibrium price: are we considering instantaneous, short-term, or long-term equilibrium? If we postulate instantaneous equilibrium, the price will be altered in the short run, if short-run equilibrium in the long run. If we eliminate a scarcity by using a scarce factor, its short-term shadow price may make its use prohibitive, whilst its long-term shadow price would not show up its present scarcity value. Obviously inputs and outputs must be valued at consistent shadow prices, and benefits and scarcities at different times must be properly discounted, but nevertheless the different valuation may give contradictory results according to which time span is considered.

Another difficulty is that the notion of 'shadow price' becomes indeterminate if a lumpy project A uses an input which is complementary to, or a substitute for, an input into (or an output of) a lumpy project B, which is complementary to, or a substitute for, A. The decision to construct a power station and to electrify a railway line or the decision to construct a railway line and a road, raise the question as to the shadow prices of inputs of labour, capital and foreign exchange. These prices will be different according to which decisions are taken and cannot therefore be a guide to the decisions themselves. Non-infinitesimal decisions are typical of development planning and shadow prices reflecting marginal valuations are therefore not always useful.

To these theoretical difficulties must be added the practical difficulty of using shadow prices in an economy in which businessmen pay actual market prices, workers receive actual wages and money lenders lend at actual interest rates.

None of this is intended to detract from the importance in development planning of modifying judgments of profitability by considerations of social policy. But the impression of spurious precision must be avoided, and it should be made clear that the policy objectives are implicitly contained in the use of shadow prices and the latter can therefore not be used to justify the former.