

I. C. Economics of Shortage (短缺經濟學)

Summary and Assessment

Shortage is mostly about centrally planned economies as a result of political ideology or developmental catch-up process which is not well balanced.

The concepts of equilibrium, optimality and efficiency are not unified.

(A) Kornai's Classification of Constraints

(B) Reproduction of Shortage

(C) Possible criticisms of Kornai's Economics of Shortage

(A) Kornai's Classification of Constraints

Constraints at the firm level: microeconomics

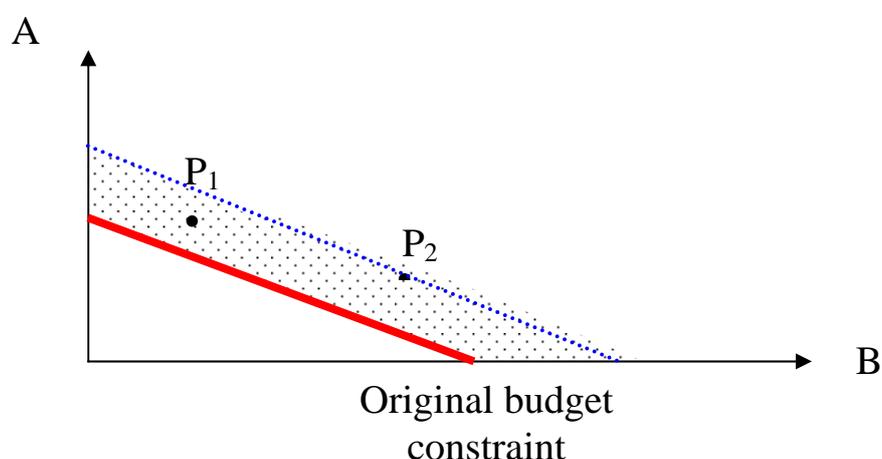
1. resource constraints (labour, capital, intermediate inputs);
2. demand constraints (applied to various outputs);
3. budget constraints (finance)

Differences between capitalist and socialist firms

Constraint	Classical capitalist firms	Traditional socialist firms
Resource	Rarely effective	Nearly always effective
Demand	Nearly always effective	Rarely effective
Budget : Hard	Production plan autonomous: the firm lays it down at the level of demand constraints; within resource constraints	
Soft		Production plan prescribed by superior authority at the level of resource constraints; within demand constraints

In resource-constrained economies, it is the bottlenecks (瓶頸) of production and not buyers' demand that limit production. The phenomenon is related to the “hardness” of the budget constraint. If it is hard, spending of the firm will be effectively limited by its financial abilities. If it is soft, as in the case of CPEs, then because losses are almost automatically compensated by the state, the firm's demand becomes almost insatiable.

In Kornai (1986), the following figure is used to illustrate "the softening of the budget constraint" (軟預算).



This is because of the availability of external financial help from the state even in cases where actual expenditure exceeds the constraint (e.g. P₁ or P₂).

Now as the strict relationship between earnings (the budget constraint) and expenditure does not apply, the Say's Law (“supply creates its own demand”) will not hold! So a permanent disequilibrium (shortage: $S < D$) is possible.

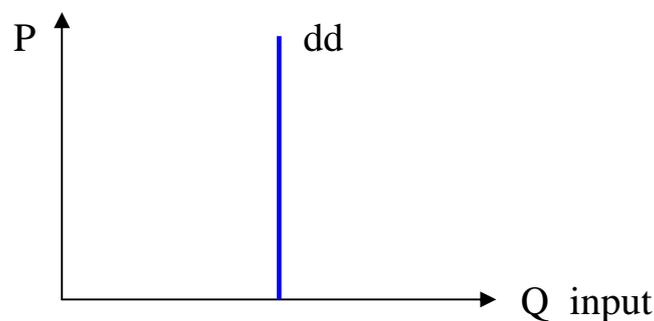
The "softening" of the budget is a result of:

- (1) Soft subsidies;
- (2) Soft taxation;
- (3) Soft credit;
- (4) Soft administrative prices.

Kornai (1986) concedes that there are more reasons to think in terms of a stringency scale of "hardness" or "softness", instead of in a "yes" or "no" framework, as it is obvious that the budget constraint facing MNCs (Multi-national companies) in modern financial capitalism is not as hard as that once faced the "classical capitalist firms".

In any case, the soft budget constraint has three major impacts on the behaviour of the firms in the CPE:

- (i) price responsiveness: in the extreme case of a perfectly soft budget constraint, the own-price elasticity of demand for inputs by the firm is zero.



In less extreme cases, the sensitivity of the firms to prices, interest rates and exchange rates is very small.

*** price insensitivity \neq price rigidity
(or shortage \neq disequilibrium)**

- (ii) efficiency: insufficient stimulus or incentives to maximize efforts and weak performance are tolerated. "The state is acting like an overall insurance company taking over all the moral hazards with the usual well-know consequences: the insured will be less careful in protecting his wealth" (Kornai, 1986, p.10). More importantly, this will affect innovation and invention efforts.
- (iii) the formation of excess demand: because of the soft budget constraint, the demand for inputs becomes effectively unconstrained. Excess demand for inputs would turn "permanent". This is aggravated by the lack of evaluation criteria on the firm's performance other than quantity output indicators. The firms would maximize inputs so as to maximize outputs, neglecting quality considerations in the process. This is the so called "quantity drive". Moreover, "hoarding" (屯積) of inputs and

inventory emerges as a widespread phenomenon. This in turn leads to a gap between notional and effective demands for inputs, and a gap between notional and effective supplies by the firms.

(B) Reproduction of Shortage

(i) control by norms:

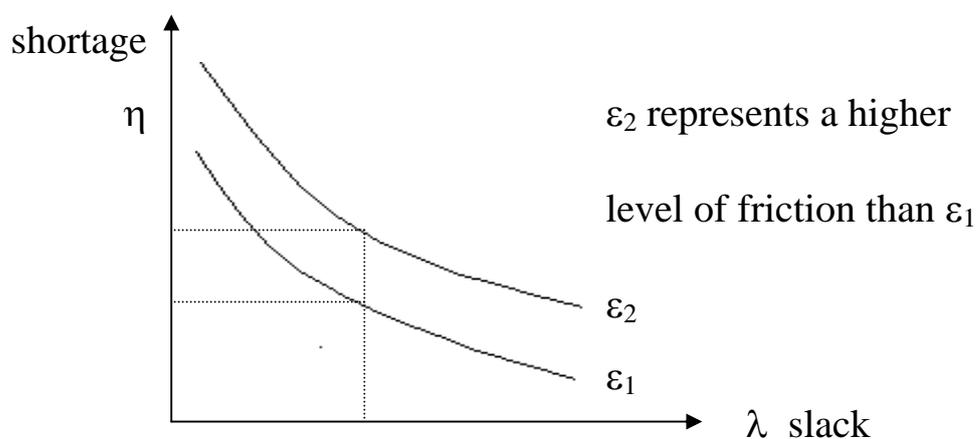
centralized reproduction of shortage

- the normal degree of shortage: e.g. the average time of queuing up for goods; the average amounts of rations.

(ii) decentralized mechanism through which a given established normal intensity of shortage can be reproduced through control by norms. The firms observe quantity (not price) signals given out by the central authority as a normal indicator. Non-Walrasian state could continually be reproduced. (see Hare, pp.57-59)

To measure deviations from norms, Kornai (1980, p.161 and elsewhere) uses the concept of friction. In a very general way, we may think of a tripartite relationship between intensity of shortage, η ; productive slack, λ ; and some measure of friction, ε :

$$\eta = \phi(\lambda, \varepsilon)$$



(C) Possible criticisms of Kornai's Economics of Shortage

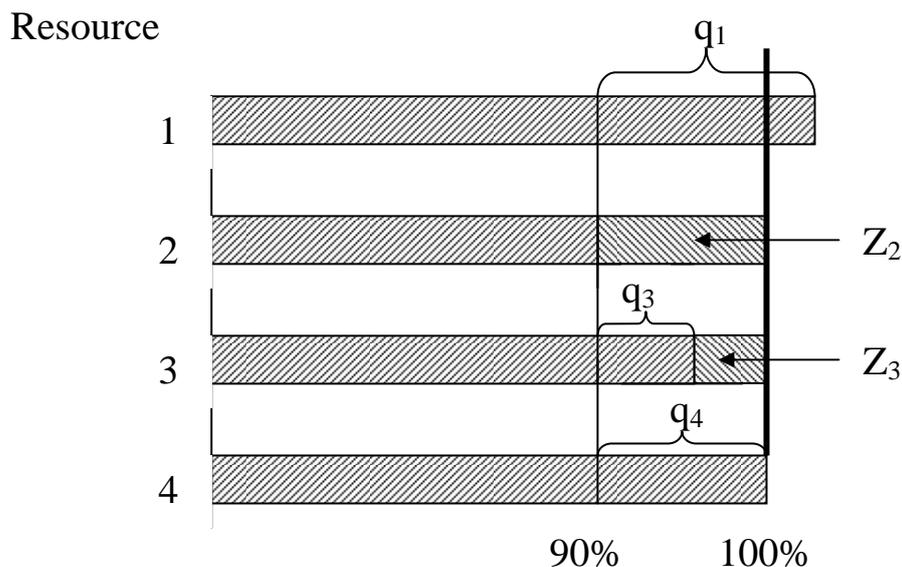
1. The sort of diagrammatic representation of Kornai's (also his figure

11-3 and p.250) is, however, highly **problematic**, since it assumes **a smooth trade-off between slacks and shortages**. Such a trade-off is highly **unlikely** given the institutional reality of the CPEs and the rigorous microeconomics of rationing, as explained in Tsang (1990). In other words, Kornai has not addressed the problems of structural shortage and the coexistence of slack and shortage, explained above. It seems that Kornai has not been truly consistent with his own microeconomics when he attempts general ideas. It also shows how difficult it is to avoid simplistic macroeconomic conclusions!

2. Implications for Measurement

The co-existence of slack and shortage

Look at the following diagram. Also read a piece by Chinese economists in 1987: 鄧英陶、羅小朋,《經濟研究》,一九八七年六月,頁三至十五.



Each resource is associated with a strip. Both the available quantities of the resources, indicated by the shaded part, and their actual uses are given in % form. The heavy line represents a 100% fulfillment of the plan while the thin line shows a 90% execution, which turns out to be the actual level of production. Let us first consider shortage. Of resources 1 and 4, enough is available for the fulfillment of the plan. There are, however, shortages of the other resources as indicated by the shaded areas Z_2 and Z_3 . With regard to slacks, resource 2 proves to be the bottleneck: there is no slack in it.

Slacks q_1 , q_3 and q_4 , on the other hand, are present for the other resources. It is clear from the figure that as a consequence of complementarity, slacks and shortages may coexist at the micro level. Actual production is constrained by the bottleneck resource. As a result, various amount of "precipitation" (沉澱) (inventory accumulation) may occur for the other resources.

Now, given an n-sector economy, the extent of "resource precipitation" in various sectors will be very difficult to estimate, not to mention to predict. There is little reason, moreover, to imagine that they would remain the same under different situations, particularly during different phases of a macroeconomic cycle or a developmental stage in any CPE. This brings us back to the aggregation problem.

** But more fundamentally, despite slacks q_1 , q_3 and q_4 , is the economy in "shortage"?

3. The soft budget constraint: the concept "explains too little and too much" (Hare, p.72)

- too little because as Gomulka points out, **every firm's budget is at least partly soft**, and yet one does not observe shortage everywhere.
- too much because there are other important factors for shortage, e.g. lack of entry and exit (bankruptcy), price inflexibility etc.

4. Soo's explanation: **firms have an interest in preserving shortage because it makes life easier!** If there is only a soft budget constraint, an increase in demand will eventually lead to an increase in supply. However, frequently that does not occur. Why? Not just because of the budget constraint. Supply is inelastic because of other institutional factors. In other words, suppliers are "lazy" not just because of the soft budget constraint.

5. Structural imbalances, shortage and hoarding could also arise as a result of **RESOURCE IMMOBILITY (資源不流動)**, which in turn stems from:

- (1) Planners' bias against mobility;
- (2) Under-development in transport and communication (e.g. China before

reforms).