

Vintage Capital and Inequality

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Abstract

If machines are indivisible, a vintage capital model must give rise to income inequality. If new machines are always better than old ones and if society cannot provide everyone with a new machine all of the time, inequality will result.

I explore this mechanism in detail. If technology resides in machines and if a firm or worker must use just one technology at a time, a variety of machines will be in use, and workers' productivities will differ. This is because not everyone can be given the latest vintage machine all of the time. Inequality thus originates in the limited capacity of the capital goods sector. If machine quality and skill are complements, a worker who is paired with the best machine will acquire more skill, and inequality persists indefinitely. Moreover, if the used equipment market or the process of labor turnover function without frictions, a perfect positive assignment between the quality of labor and of capital can be maintained by a process of continual reassignment. This serves to enhance the degree of equilibrium inequality.

Paradoxically, in this type of model, free migration of labor across borders raises cross-country inequality instead of lowering it as it does in some other models.

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