PPFs and the LRAS
Economics 1102

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Remember from class that we ran into an issue explaining how the long-run aggregate supply (or natural rate of output) relate to each other in the case of a boom. I will try to better relate the LRAS and PPF below while building up to the boom.

Let's start with the definition of the natural rate of output: *production of goods and services in the long-run* (and, of course, we assume this is fixed). Notice we make no assumptions about the long-run output *except* that it is some fixed amount. Now, recall the assumptions for the PPF:

1. Full employment of resources
2. Fixed resources
3. Fixed technology
4. Efficient production plans form the frontier

Theorem 1: An expansion (contraction) of the PPF implies an expansion (contraction) of the long-run output and vice-versa. How does the PPF expand? ... an improvement in production factors, production technology, or demand. Notice that a change in production factors and technology are precisely what we claimed would lead to a shift in the LRAS. So, a positive (negative) shift in the LRAS occurs under the same conditions that would cause the PPF to expand (contract).

Theorem 2: In reality an economy never produces on its production possibilities frontier. Notice that the PPF assumes *full employment of resources*. For the LRAS (and natural rate of output) we have some level of unemployment (recall from lecture 3 that unemployment is never 0) and thus the economy cannot be fully employing its resources.

So, although the LRAS and PPF are certainly related concepts, in reality we may need to think of a functional PPF (FPPF) as well (one that exists beneath the PPF at a natural rate of unemployment). Note I have only made up this term FPPF to help with the intuition. With that second PPF, a boom that expands production beyond the FPPF is still shy of the PPF, i.e. the most that could possibly be produced in the best of circumstances in the economy.