

In the Ricardian model of international trade, the Marginal Product of Labor (MPL) is a crucial factor in determining comparative advantage.

**1. MPL Can't Be the Same for Different Goods in Each Country:**

- **Assumption of Different Technology:** The Ricardian model assumes that different countries have different technologies for producing goods. These differences in technology lead to varying MPLs for each good within a country. For instance, if Country A has a more advanced technology for producing Good X compared to Good Y, the MPL for Good X will be higher than for Good Y. This is because the technology affects how much output is produced with each unit of labor.
- **Specialization and Comparative Advantage:** Each country specializes in the good for which it has a comparative advantage—where it has the highest relative MPL. If MPLs were the same for all goods within a country, there would be no basis for comparative advantage, and specialization would not occur. Hence, different MPLs are essential for comparative advantage and trade.

**2. MPL Can't Be the Same for the Same Good in Both Countries:**

- **Different Technologies:** The Ricardian model assumes that each country uses different technologies to produce the same good. Therefore, even if two countries produce the same good, their MPLs will differ because the technology and efficiency of labor in each country differ. For instance, if Country A uses more advanced machinery than Country B to produce Good Z, the MPL in Country A will be higher for Good Z compared to Country B.
- **Opportunity Costs and Trade:** The difference in MPLs for the same good between countries is what drives trade. If MPLs were the same, there would be no comparative advantage, and countries wouldn't benefit from trading with each other. Each country needs to have a comparative advantage in producing certain goods to gain from trade, which is only possible if MPLs differ.

In summary, the Ricardian model's assumptions of varying technology across countries and differing MPLs for different goods are fundamental to explaining why trade occurs and how comparative advantage is established. If MPLs were uniform across goods or countries, the model's core principles of comparative advantage and the benefits of trade would not hold.