

Quiz 8 — Romer's (1990) model

Questions	Answers
1. In Romer's (1990) model, why must the cost of an invention be exactly equal to the profit of the inventor-producer?	☐ Otherwise there would be infinitely many final-good producers, and so the loan market would not clear. ☐ Otherwise there would be infinitely many intermediate-good producers, and so the loan market would not clear. ☐ Otherwise consumption would not be bounded. ☐ Otherwise consumption would be bounded. ☐ The inequality is perfectly possible if $\rho \leq r$.
2. We may use $\eta N_t = B_t$:	☐ When the labor market clears. ☐ When households are indifferent between lending to other households and lending to inventor-producers. ☐ When B_t is the integral of all the profits of the intermediate producers. ☐ When the loan market clears.
3. Romer's (1990) model has a scale effect:	☐ No. ☐ Yes. It means that the larger N_t is, the higher the growth rate. ☐ Yes. It means that the larger L is, the higher the growth rate. ☐ Yes. This is not borne out empirically, however.
4. In Romer's (1990) model, the benevolent planner demands the same quantity X_t from every intermediate-good producer j because:	☐ In the (intermediate good, final good) plane, taking two different quantities of j , production lies on the chord between the two abscissae and therefore yields less final good. ☐ In the (intermediate good, final good) plane, taking two different quantities of j , production lies on the chord between the two abscissae and therefore yields less final good. ☐ The returns to each type of good are strictly decreasing. ☐ The returns at the extensive margin are constant.

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5. The social returns to the (intermediate) good varieties are larger than at the market equilibrium because:	☐ That is false: the returns at the extensive margin are constant. ☐ That is false: this question does not compare the same concepts. ☐ In the absence of a patent, and therefore of a monopoly, an invention benefits every firm. ☐ The benevolent planner internalizes the (positive) externality of invention. This suggests subsidizing investment, that is $\eta \dot{N}_t$ (loan market equilibrium).