Università Commerciale
Luigi Bocconi

MSc. Finance/CLEFIN
2018/2019 Edition

THEORY OF FINANCE – PART 1

Mock Question 4 (total 5 points) + Sample Optional Question (1 point)

Time Advised: 20-21 + 8 minutes (for these questions)

Difficulty Level: MEDIUM

Question 4.A (3.75 points)

Provide a heuristic (it means that it matters to understand key conditions and implications not the full list of technical conditions) statement of Cass-Stiglitz theorem. Make sure to discuss its implications for the architecture and development of modern financial systems.

Question 4.B (0.75 points)

John is characterized by quadratic Von Neumann-Morgenstern felicity function but he is non-satiated, i.e., his initial wealth is currently below his bliss point. Does Cass-Stiglitz theorem apply to John's portfolio of risky assets, i.e., will we able to describe how he selects his optimal portfolio using a two-fund monetary separation theorem? Make sure to justify your answer. Complete the following table with *plausible* numbers in the light of John's preferences (Hint: there are infinite sets of plausible configurations, but no exact, precise answer)

Initial wealth	**Stock A**		**Stock B**		**Stock C**		**Cash**		Tot. risky
	Total	% risky	Total	% risky	Total	% risky	Total	% total	
100	20	50	10	25	10	25	60	60	40
50	25								
150	15								

Question 4.C (0.5 points)

You know that Mary has preferences such that: (i) when her wealth increases, she invests at least some portion of the increase in her wealth in risky assets; (ii) when her wealth increases, she keeps the structure of her risky portfolio constant, i.e., her optimal risky portfolio weights are independent of her wealth. Among the Von Neumann-Morgenstern (VNM) utility functions that were covered in the lectures, what it the VNM function that is most likely to characterize Mary's behavior? Make sure to carefully justify your answer.

Optional Question (1 point)

Explain the difference between the rebalancing optimally implied by a fixed-proportion investment rule and the rebalancing optimal as a result of timing strategies. In the former case, discuss why rebalancing implicitly makes an investor a contrarian (i.e., "sell high, buy low"). In the latter case, briefly discuss why timing strategies may be compatible with a momentum strategy (simply buy as prices get higher, hoping they keep going higher).