

Student's name: _____ N^o USP: _____

Instructions: The exam is **individual**. Students can check their hand-written notes written in **their personal and identified** colored paper, anything else is forbidden. It is strictly forbidden to share notes. The exam is worth 10 points. The time allotted to completing the exam is **1 hour and 40 minutes**. All answers to be valid need to be well explained, but answers that do not respond the *exact* statement of the exam question will be ignored. **Answers should be based on the course content**. The maximum *suggested* answer size for each question is *half a page*. The exam should be answered **entirely in pen**, either in English or in Portuguese.

1. (1 point) The **Second Fundamental Theorem of Welfare Economics** makes a strong defence of separating the analysis of efficiency of public policies (which should be done by economists) from the equity impact of these policies (which would be a matter of political philosophy or ethics). Current economists, however, mostly dismiss this separation, due mainly to what Piketty calls the **fallacy of the 2nd FTWE**. Explain what the 2nd FTWE states and what is the problem that Piketty refers to which invalidates its application.
2. (1 point) In a news article of March 2025 in Valor Econômico, titled “Brazil considers lowering price ceiling on medicines”, it is stated that the Drug Market Regulation Chamber (CMED) in ANVISA is considering lowering the price ceiling on drugs in Brazil, a ceiling intended to control price hikes during shortages. A quote from the news article reads:

“However, Nelson Mussolini [sic], president of Sindusfarma, Brazil’s pharmaceutical industry association, said that the sector has not been consulted by the government on this issue and firmly opposes the proposal, warning of potential disruptions to market competition.”

Discuss the effects of a price ceiling on the Brazilian pharmaceutical market, stating clearly and thoroughly its effects on consumer and producer welfare as well as whether (or when) that policy is desirable. Is it surprising that the pharmaceutical industry association is against it?
3. (1 point) In the Public Economics Lab policy brief 1/2024, FEA students Dimitri, Emilly and Rayne implemented under my supervision a cost-benefit analysis of the “Programa Estratégia Saúde da Família” (Family Health Strategy). Evidently, a major goal for this program is to reduce Brazilian mortality rate. To understand to what extent these statistical lives saved compare to the cost of the program, we need to calculate the **value of statistical lives** (VSL). Explain what the VSL is and discuss the 3 ways economists can estimate this value.
4. (1 point) Environmental disasters like the one in Mariana in 2015 and in Brumadinho in 2019 show that probably mining companies do not internalize all the external costs generated by

tailings dams collapses. Discuss why it is not surprising that a direct negotiation between residents of affected regions and the mining companies was not able to resolve this (likely) inefficiency, explaining clearly both halves of the **Coase Theorem**.

5. (1 point) Is education a **public good**? Be precise. Discuss then some (potentially other) reasons why in almost all countries in the world basic education is provided by the government.
6. (1 point) Acemoglu and Robinson, in the paper that is included in the course bibliography, add to the usual concepts in economics of *first best* and *second best* the idea that there is a **third best**, equally important to take into account. Define what these "three bests" mean, and explain why the authors believe that ignoring the third best constraints can lead to bad public policies.
7. (1 point) In a news article of August 2025 in G1 titled "Retirement pension reform is a debate that needs to be held within 10 years, says Treasury Secretary", it is reported that the Brazilian Treasury Secretary Rogério Ceron defends another reform to the Brazilian social security system, only 6 years after the last one was implemented. Discuss the problems with Brazilian retirement system that might lead to the necessity of further reforms.
8. (2 points) As we have seen in class, the optimal unemployment insurance equates the benefit of consumption smoothing with the harm of generating moral hazard. It maximizes household welfare of $\mathbb{E}U(p) = (1 - p)u(w - t) + pu(b)$, where b is the unemployment benefit, w the wage, p is the search effort and (to simplify) also directly the probability of finding a job, and t is the tax that finances the unemployment benefit.
 - (a) Assume that the government finances the unemployment benefit through a **balanced budget**. Explain what that means. Now write the government budget constraint in terms of the variables of the model.
 - (b) When deciding the optimal unemployment benefit, the government must separate its effect on the job search effort $p(b)$ of the individual and the **fiscal externality** it generates. Explain what that concept means. Substitute the government budget constraint in the household welfare function and show where is the fiscal externality.
9. (1 point) The new Programa Bolsa Família (PBF) has a "protection rule", which states that families that receive over the income ceiling of the program (R\$ 218 per person) but under R\$ 706 per person can still receive 50% of the benefit. Draw the recipients budget constraint for the PBF (considering a family of one), with consumption (or disposable income) in the y axis and leisure in the x axis, up to 100 hours a month with a wage of R\$20 per hour. What is the **implicit tax** for a single person that moves from unemployment to 25 hours of work per month?