



## SJMMA 2022 C 题

### 拉弗纸巾曲线

经济学家亚瑟·拉弗在纸巾上画了一条曲线，影响了 20 世纪 80 年代美国国家经济政策的走向。简而言之，这条大致呈钟形的曲线背后的论点是：在零税率下，政府的税收收入为零；在 100% 的税率下（这意味什么？），政府的税收收入也为零。因此，除了在曲线的峰值，对于每一个需征税的收入，都有高低两种税率可以为政府产生相同的收入。拉弗的观点是，政府应该能够选择一个较低的税率，以产生相同的税收收入。

建立一个合适的模型，证实或证伪拉弗的假设。确保该模型足够复杂（即非线性），能够捕捉到模仿美国经济所需的特征。

一个可能的思路是（你可以采取其他思路）：

1. 建立模型，模拟家庭与企业的收入与纳税情况。
2. 建立政府税收模型。
3. 在市场平衡下，推导出所得税，消费税，消费，劳务价值，资本，以及其他经济变量之间的关系。
4. 以所得税率和消费税率为自变量，寻找政府税收收入是否存在拉弗峰值。

**提交** 你的团队所提交的报告应包含 1 页“总结摘要”，其正文不可超过 20 页（总页数限于 21 页）。附录和参考文献应置于正文之后，不计入 21 页之限。



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### Laffer Curve

Economist Arthur Laffer drew a curve on a paper napkin that influenced the course of national economic policy in the USA in the 1980s. In abbreviated form, the argument behind the roughly bell shaped curve was at zero tax rate the government derived zero tax revenue and at the 100% tax rate (what does this mean?), the government also derives zero tax revenue. Thus, except at the peak of the curve, for each derived revenue, there are higher and lower tax rates that will produce the same revenue for the government. Laffer's point was that the government should be able to choose a lower tax rate that produces the same tax revenue.

Create a suitable model for the economy and determine whether Laffer's hypothesis is true or false. Make sure the model is sufficiently complex (i.e. non-linear) that it captures the features required to mimic the US economy.

Possible **sub-problems** to follow:

1. Model income and taxation on economic entities such as households and firms.
2. Model government tax revenue based on the models in sub-problem 1.
3. Deduce the relationships between income tax, sale tax, consumption, value of labor, capital, and other economic variables under market equilibrium,
4. Using income tax rates and consumption tax rates as independent variables, find whether there is a Laffer peak in government tax revenues.

**Submission** Your solution paper should include a 1-page Summary Sheet. The body cannot exceed 20 pages for a maximum of 21 pages with the Summary Sheet inclusive. The appendices and references should appear at the end of the paper and do not count towards the 21 pages limit.