

Solutions A2 Exam

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June 29, 2017

Question 1 - Conceptual Questions (5.8 points)

Evaluate if each sentence is True or False (if any part is false the whole item is false). YOU DO NOT NEED DO COMMENT WHY. JUST Indicate if each small letter is true or false (0.2 points each).

I) - Inequality and Welfare

a.

The Gini Index dual can replace with some advantages the Gini index in the Social Welfare Indicator proposed by Amartya Sen.

Solution

The sentence is FALSE.

b.

Measures of inequality using annual income tend to overestimate by construction inequality of monthly incomes.

Solution

The sentence is FALSE.

c.

Simple Lorenz curves enable us to compare directly levels of welfare between societies.

Solution

The sentence is FALSE.

d.

National wide price indices do not affect inequality measures.

Solution

The sentence is FALSE.

e.

While inequality is related to adding up between groups and within groups components, polarization is related to the difference between these components.

Solution

The sentence is TRUE.

II) - Poverty and Social Targets

a.

The Theil-T index is not very sensitive to changes in the basis of income distribution, and thus it is useful for analyzing the relationship between inequality and poverty.

Solution

The sentence is FALSE.

b.

If we adopt a social goal system based on the poverty indicator known as the poverty gap (P0) we will implicitly assume that priority is given to the least poor of the poor.

Solution

The sentence is TRUE.

c.

Poverty targets based on P1 have difficulty in inducing actions aimed at the poorest.

Solution

The sentence is TRUE.

d.

The non-linearity of the Quadratic Poverty Gap (P2) indicator does not compromise its decomposition among groups of the society.

Solution

The sentence is TRUE.

e.

A system of targets based on international indicators such as MDGs and SDGs allows to create insurance against systemic shocks.

Solution

The sentence is TRUE.

III) - Other Social Indicators

From the equation below, evaluate the following propositions:

$$W = u(x^*) = \int_0^\infty u(x)w(x)f(x)dx$$

a.

The literature of subjective happiness seeks to study directly the utility function $u(x)$ from the answers given by the people about their own lives. But it is not possible to observe empirically the relationship between policy related attributes and well-being.

Solution

The sentence is FALSE.

b.

Inner subjective indicators capture empirically less well individuals information than Outer indicators.

Solution

The sentence is FALSE.

c.

Traditional objective literature on welfare studies through the function $w(x)$ how to aggregate people's well-being in a single number. This approach is inconsistent with poverty related studies.

Solution

The sentence is FALSE.

d.

This approach on the equation above can generate through $u(x)$ component identification measures and through $w(x)$ component alienation measures.

Solution

The sentence is FALSE.

IV) - Temporal Choice

a.

Imperfections capital markets imply that a greater smoothing of the individual's income between different moments of time and states of nature results in possible individual and also social welfare gains.

Solution

The sentence is TRUE.

b.

In a competitive equilibrium where economic efficiency is affected by distorting taxes, distributive policies can generate an increase in welfare if they increase borrowers' collateral in a context of imperfect information.

Solution

The sentence is TRUE.

c.

One way of explaining excess of demand for credit is to the existence of stickness in capital prices, for example in the case of usury laws.

Solution

The sentence is TRUE.

d.

Liquidity constraints can explain two empirical regularities, namely that consumption tracks income during the life cycle and that consumption is affected by expected income changes.

Solution

The sentence is TRUE.

e.

Life-Cycle savings model can explain the effects of savings rates on GDP growth.

Solution

The sentence is FALSE.

f.

According to the precautionary savings model, falls in the variability of income have a positive impact on both current and future levels of consumption.

Solution

The sentence is FALSE.

g.

Consider the intertemporal consumption model with quadratic and additive utility function

$$\text{Max } E_t \left[\sum_{i=0}^{\infty} (1 + \theta)^{-i} \left(aC_{t+i} - \frac{b}{2} C_{t+i}^2 \right) \right]$$

It explains the relation between savings and uncertainty.

Solution

The sentence is FALSE.

V) - Empirical Methods

a.

Stepwise regression is a method of fitting regression models in which the choice of predictive variables is carried out by an automatic procedure without any theory.

Solution

The sentence is TRUE.

b.

A regression discontinuity design allows us to the returns to schooling at the basis of the income distribution without any institutional information.

Solution

The sentence is FALSE.

c.

Cohort analysis requires the use of longitudinal data that follows the same individual across time.

Solution

The sentence is FALSE.

d.

Big data captured from the internet have potentially a selectivity bias while Random Control Trials (RCTs) try to detect causality.

Solution

The sentence is TRUE.

e.

The multidimensional poverty index (MPI) literature transform for each individual the scalar x into a vector of attributes. While the income imputation literature (e.g. imputed rents or permanent income imputation) follows the opposite path.

Solution

The sentence is TRUE.

f.

The multidimensional poverty index (MPI) is more related to head-counts than to the intensity of poverty.

Solution

The sentence is FALSE.

g.

Inequality adjusted Human Development Index (HDI) are irresponsive to mean changes in HDI components.

Solution

The sentence is FALSE.

h.

Following Shorrocks (1978) income mobility approach, inequality as we measure in Brazil and income mobility are completely independent issues.

Solution

The sentence is FALSE.

Question 2 - Specific Public Policies (1.2 points)

Provide the intuition and point out how to formally capture the main conceptual differences between the operating channels of the following policies (0.4 points each):

a.

Cash Transfers x Improving the quality of professional education

Solution

A generic model would have a social welfare function of the type

$$W = \int_0^T \int_0^\infty [u(c)w(c)f(c)dc]g(t)dt$$

s.t

$$A_{t+1} = [A_t + F(r; \text{education}; \text{physical assets}; \text{social capital}; \text{health}; \dots) - T_t + \text{Transf}_t - C_t](1+r)$$

$$A_t \geq 0, \forall t$$

Education positively impacts the labor income of the individuals, shifting the short term production function $F(\cdot)$ and expanding the possibilities of consumption. It may also raise individuals aspirations. Remember that the evidence does not support a positive relationship between education and happiness.

Cash transfer policies affect the current and future fiscal constraint through the term Transf_t .

b.

Allowing to use social benefits as collateral in credit transactions x Productive popular credit

Solution

Allowing to use social benefits as collateral in credit transactions relaxes the liquidity constraint $A_t \geq 0$ by allowing the individuals to borrow to finance investments, which in turn will affect their physical assets and enable higher future incomes. It is also possible that the individuals borrow for the purpose of smoothing consumption intertemporally, which will give them useful gains.

Productive popular credit, in addition, could stimulate the formation of physical and social capital through a shift in the production function $F(\cdot)$ in the case of investment financed credit, as well as through movements along the production function for working capital.

c.

Conditional Cash Transfer x Increasing the quality of cultural and leisure services

Solution

Conditional cash transfer policies affect not only the current and future fiscal constraint through the term Transf_t , but the required conditionalities can also affect the education and health of the individual (the Bolsa Família Program requires vaccination and school attendance, for example), shifting the production function $F(\cdot)$ through human capital.

Increasing the quality of cultural and leisure service has a direct effect on $u(c)$, more permanent in the case of culture than in the case of leisure.

Question 3 - Public Policy Essay (3 points)

Write a Broad Public Policy Essay from ONE (and only ONE) of the following policies:

1. Education
2. Productive Inclusion
3. Microfinance
4. Income Policies

You are free if you wish to explore a specific program or sector in each policy field (for example: in education policies you may choose high school or pre-school and so forth). Discuss empirical facts and policy proposals. Originality and connection with the course framework will be rewarded. In special, discuss the relevant policy influence channels and main impacts exerted on end results (prosperity, equality, sustainability and sensibility).