

International Institute of Information Technology

HS0.302- Research Methods in Human Sciences

Monsoon 2025

Mid-Semester Exam

Time: 90 minutes

Marks: 30

Answer any two of the following questions

1. a) What are the basic tenets of positivism as an approach towards social scientific research?
- b) Explain the difference between exploratory and confirmatory data analysis.

8+7

2. Answer the following questions giving clear explanation based on the cross-country regression results tabulated below. The independent variables are listed at the left of the table. The regression coefficients for the independent variables in models (1) to (8) are presented in respective columns of the table. The critical value of the t statistic at 5 % level of significance for a two-tailed test with the relevant degrees of freedom is 1.96. Read the notes below the table carefully.

- a) Using suitable notations write down the underlying population relationship that is being estimated in model (3) 2
- b) What is the computed t value for the variable *latitude* in model (3)? 2
- c) How do we interpret the R^2 value for model (3) 2
- d) What is the interpretation of the coefficient for Asia dummy (base = America) in model (4) 3
- e) Write down the underlying population relationship that is being estimated in model (4) and use it to determine the relevant degrees of freedom for this regression. 3
- f) Between models (3) and (4) which one has higher explanatory power and why. 3

	Whole world (1)	Base sample (2)	Whole world (3)	Whole world (4)	Base sample (5)	Base sample (6)	Whole world (7)	Base sample (8)
	Dependent variable is log GDP per capita in 1995						Dependent variable is log output per worker in 1988	
Average protection against expropriation risk, 1985-1995	0.54 (0.04)	0.52 (0.06)	0.47 (0.06)	0.43 (0.05)	0.47 (0.06)	0.41 (0.06)	0.45 (0.04)	0.46 (0.06)
Latitude			0.89 (0.49)	0.37 (0.51)	1.60 (0.70)	0.92 (0.63)		
Asia dummy				-0.62 (0.19)		-0.60 (0.23)		
Africa dummy				-1.00 (0.15)		-0.90 (0.17)		
"Other" continent dummy				-0.25 (0.20)		-0.04 (0.32)		
R ²	0.62	0.54	0.63	0.73	0.56	0.69	0.55	0.49
Number of observations	110	64	110	110	64	64	108	61

Notes: Dependent variable: columns (1)-(6), log GDP per capita (PPP basis) in 1995, current prices (from the World Bank's World Development Indicators 1999); columns (7)-(8), log output per worker in 1988 from Hall and Jones (1999). Average protection against expropriation risk is measured on a scale from 0 to 10, where a higher score means more protection against expropriation, averaged over 1985 to 1995, from Political Risk Services. Standard errors are in parentheses. In regressions with continent dummies, the dummy for America is omitted. See Appendix Table A1 for more detailed variable definitions and sources. Of the countries in our base sample, Hall and Jones do not report output per worker in the Bahamas, Ethiopia, and Vietnam.

3. The following text is an excerpt from the inauguration speech of the US president Harry Truman delivered in January 1949. In this course you have learnt two different methods to analyse a text like this- discourse analysis and computational linguistics. Comment on the usefulness of each method for analysing the text below if the objective is to understand the shift in US foreign policy in Truman's presidency.

Note: Actual analysis of the text using either method is not required for the answer.

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In order to enable the United States, in cooperation with other countries, to assist the peoples of economically underdeveloped areas to raise their standards of living, I recommend the enactment of legislation to authorize an expanded program of technical assistance for such areas, and an experimental program for encouraging the outflow of private investment beneficial to their economic development. These measures are the essential first steps in an undertaking which will call upon private enterprise and voluntary organizations in the United States, as well as the government, to take part in a constantly growing effort to improve economic conditions in the less developed regions of the world.

The grinding poverty and the lack of economic opportunity for many millions of people in the economically underdeveloped parts of Africa, the Near and Far East, and certain regions of Central and South America constitute one of the greatest challenges of the world today. In spite of their age-

old economic and social handicaps, the Peoples in these areas have, in recent decades, been stirred and awakened. The spread of industrial civilization, the growing understanding of modern concepts of government, and the impact of two World Wars have changed their lives and their outlook. They are eager to play a greater part in the community of nations.

All these areas have a common problem. They must create a firm economic base for the democratic aspirations of their citizens. Without such an economic base, they will be unable to meet the expectations which the modern world has aroused in their peoples. If they are frustrated and disappointed, they may turn to false doctrines which hold that the way of progress lies through tyranny.

For the United States the great awakening of these peoples holds tremendous promise. It is not only a promise that new and stronger nations will be associated with us in the cause of human freedom, it is also a promise of new economic strength and growth for ourselves.

With many of the economically underdeveloped areas of the world, we have long had ties of trade and commerce. In many instances today we greatly need the products of their labor and their resources. If the productivity and the purchasing power of these countries are expanded, our own industry and agriculture will benefit. Our experience shows that the volume of our foreign trade is far greater with highly developed countries than it is with countries having a low standard of living and inadequate industry. To increase the output and the national income of the less developed regions is to increase our own economic stability....

Furthermore, the development of these areas will strengthen the United Nations and the fabric of world peace. The Preamble to the Charter of the United Nations states that the economic and social advancement of all people is an essential bulwark of peace. Under Article 56 of the Charter, we have promised to take separate action and to act jointly with other nations "to promote higher standards of living, full employment, and conditions of economic and social progress and development."

For these various reasons, assistance in the development of the economically underdeveloped areas has become one of the major elements of our foreign policy. In my inaugural address I outlined a program to help the peoples of these areas to attain greater production as a way to prosperity and peace. The major effort in such a program must be local in character; it must be made by the people of the underdeveloped areas themselves. It is essential, however, to the success of their effort that there be help from abroad. In some cases the peoples of these areas will be unable to begin their part of this great enterprise without initial aid from other countries.