



Human Capital and Regional Business Cycles in Italy

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Abstract

The decision to invest in non compulsory education involves the interaction of two main economic factors, both of which may exhibit significant variability over business cycle: the expected rate of return on human capital investments and the ability to finance schooling. The expected return on education depends, among other things, on opportunity cost (forgone income) and the ability to pay.¹ Both of these factors move in a procyclical manner. Income foregone due to the pursuit of education is lower during

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¹Other important factors are direct education costs (tuition, fees), expectations about future professional employment and future income, liquidity constraints.



recessions. On the other hand the ability to purchase education may be procyclical in presence of financial market imperfections. Liquidity constraints might prevent individuals to undertake the desired amount of education.

More recent studies confirm the finding that the decision to invest in education is countercyclical. Sakellaris and Spilimbergo (2000) found that OECD countries enrollment is countercyclical due to the dominant role opportunity cost plays during economic fluctuations; whereas non-OECD countries show a pro-cyclical behavior of education enrollment dependent on ability to pay and credit constraints.² Dellas and Koubi (2003) point out the major role that the opportunity cost plays in schooling decisions.

Our paper aims at adding evidence to this ongoing debate by analyzing annual time series data for Italy in the period 1960 to 2000.³ Looking at the relationship between the regional secondary and tertiary school enrolment rates data and regional real GDP fluctuations, we want to shed some light on this issue. The method of choice is a 2-variable VAR approach for school enrolment rate and business fluctuations measured as deviations of regional GDP from a trend. As in Mastromarco and Woitek (2007), we calculate the spectral representation of a VAR model with time varying parameters. This allows us to look at correlation and phase shift between the variables in the system frequency-by-frequency and to study the stability of the relationship over time.

JEL Codes: C32, E32, I2

key words: Italian regional business cycles, human capital, stylized facts, comovement.

²This results confirm that labor-market institutions, educational institutions and policies and credit constraints are important factors to explain the cyclical properties of investment in human capital.

³Data source: School enrolment rates: ISTAT, *Annuario Statistico dell'Istruzione Italiana*, different years; GDP: CRENOS www.crenos.it.



References

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