## Secondary Vocational Education in Labor Market Outcomes from the Perspective of Human Capital Theory: Empirical Analysis Based on Indonesian Household Life Survey Data

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In human capital theory, education investment is one of the factors that increases productivity and so raises the rate of return for individuals. The concept was developed by economists such as Mincer (1974), Schultz (1961) and Becker (1962), where human capital investment through education was regarded as a source of economic growth. They empirically clarified the positive relationship between education and income. In Indonesia, the highest education level of many workers is secondary education; and general secondary education is normally popular than vocational secondary with past general secondary education enrollment rates above 80%, but today that has completely reversed and the vocational education enrollment rate is now over 50%. This study focuses on the returns to secondary vocational education in terms in Indonesia using human capital theory. Previous studies have found that the secondary vocational education is not as productive as secondary general education and this, combined with higher costs, results in lower returns. However, some past studies do suggest that vocational education plays an important role in reducing unemployment and may therefore have an important social role to support job opportunities, especially for students who are unlikely to afford to go to university.

Although these previous studies have clarified the rate of return to vocational education through empirical analysis, they have only demonstrated a correlation not a causal relationship. Furthermore, the enrollment rate in vocational education in Indonesia today and the domestic industrial structure have both expanded very quickly. It is therefore necessary to research and analyze the rate of return to vocational education in the current situation which is a very different context from that of previous studies. The aim of this paper is therefore to examine the rate of return to secondary vocational education in Indonesia's labor market today, using Heckman's two-step estimation method, which also shows the causal relationship and not just a correlation. The data is from Indonesian Family Life Survey (IFLS) of 2014~2015.

The research finds that secondary vocational education has an overwhelmingly higher rate of return, increasing productivity more than Islamic education, general education and other education. In addition, longer work experience also increased wages. Interestingly, higher education does not have

such high returns and is also more effective for females than for males, unlike primary or secondary education. The most important career path in today's Indonesian economy is via vocational education, not necessarily via higher education. The education policy implication of this research finding is that it will be possible to contribute to reducing the job mismatch between unemployed youth and the lack of low skilled workers by encouraging vocational education in developing countries such as Indonesia, where economic growth has been remarkable but where major industries do not require high skilled workers and where most people have a secondary education.