STEM DEGREES

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In theory, the highest-value degrees (with *degree* taken to mean a Bachelor's-level university qualification accompanied by one or more majors, such as biology or mathematics) in 5-10 years will be degrees that fulfill the following criteria: (a) Provide qualifications to immediately work in higher-paying jobs; (b) allow degree-holders to apply to graduate schools or post-baccalaureate credentials that, in turn, will provide a gateway into higher-paying jobs; (c) be somewhat limited in their own costs; and (d) anticipate which jobs will indeed be both higher-paying and widely available in 5-10 years.These criteria can be considered as part of an overall cost-benefit analysis in which tuition is the cost and starting pay is the benefit.

The hypothesis defended in this argument is that degrees in science, technology, engineering, and mathematics (STEM) will be the highest-value degrees in 5-10 years. This argument is based on the following premises. First, STEM degrees are disproportionately likely to gain their holders admission to medical school, which is itself a gateway to the highest-paying jobs in the United States; moreover, given the physician shortage (Gemelas, 2021), there are likely to be even more medical jobs unlockable through a STEM degree in 5-10 years. Second, STEM degrees are likely to allow holders to work in lucrative and expanding fields such as financial services, data science, software coding, and technology entrepreneurship. Third, STEM degrees are highly convertible, allowing holders to fall back on slightly less lucrative jobs if the most lucrative jobs are not available. Finally, STEM degrees are aligned with the trajectory of the global economy itself. These factors identify STEM degrees as having high value in 5-10 years.

The United States Bureau of Labor Statistics (BLS, 2022a) maintains a list of the highest-paying jobs in the United States. Nine of the 10 highest-paying jobs are in medicine. Medical

schools accept students who hold many kinds of degrees, including degrees in biology, chemistry, English, and liberal arts. However, most applicants to medical school hold degrees in STEM. Therefore, given both the immense value of medical degrees and the ongoing shortage of doctors in the United States, a STEM degree can be described as a high-value degree because of its preferential association with medical school applications (Dou et al., 2021). Although a STEM degree is not a prerequisite to get into medical school, a STEM degree offers its holders a much better likelihood of entering medical school because of prerequisite courses such as calculus, organic chemistry, and biology (Dou et al., 2021)

In addition to improving the likelihood of acceptance to medical school and the lucrative jobs that await doctors—especially given the ongoing shortage of physicians in the United States and the world—STEM degrees are also pathways to valuable jobs in fields such as financial services, data science, software coding, and technology entrepreneurship (Rottinghaus et al., 2018). Data science has been named by the BLS (2022b) as one of the most rapidly growing fields in the United States, and data scientists earn average incomes over $100,000. In addition, STEM degree holders can go on to work in financial services (including at investment banks on Wall Street and in other highly lucrative settings), and STEM degree holders also have opportunities to work in fields such as software coding and technology entrepreneurship, both of which are highly lucrative.

Finally, STEM degree holders are dissimilar to the holders of lower-value degrees in that a STEM degree allows for an easier career orientation. While a holder of a humanities degree might have a more difficult time transitioning to lucrative careers such as medicine or software coding, STEM degree holders can transition to a wide variety of other jobs because of the prestige enjoyed by STEM (Costa, 2019). Over the past few decades, humanities degrees have

been widely deprecated in popular culture as the domain of esoteric and impractical knowledge that is difficult to monetize in a competitive labor marketplace (Costa, 2019). On the other hand, hirers continue to hold STEM degrees in high regard, because the intelligence and discipline required to study difficult and exacting subjects such as calculus and biochemistry is a reliable indicator that the degree-holders can do well at a wide variety of jobs (Dou et al., 2021).

The value of the STEM degree can be established not only by empirical analyses of how such degrees position their holders for current and high-value jobs but also through an appreciation of the ongoing paradigm shift in global work. The global economy is increasingly described as digitized and information-based, and STEM degrees are aligned with the evolution of the global economy itself (Bejinaru, 2019). A STEM degree typically gives its holders expertise in a wide variety of concepts and skills—including computer programming, data analytics and visualization, data-driven decision-making, general scientific competence, information theory, etc.—that are already at the heart of the global economy and that are likely to become even more important in the future. Thus, the high value of STEM degrees in 5-10 years is ascribable not to contingent and fleeting opportunities in a few high-value labor markets but, more generally, to the alignment between STEM and how the global economy itself works. The global economy runs on data, analysis, information processing, and knowledge management, all of which are also at the heart of STEM degrees.

In conclusion, STEM degrees will have an even higher value in 5-10 years than they do currently. The value of STEM degrees will be based on (a) their association with medical school, which remains the simplest pathway to the most lucrative jobs in America; (b) their relevance to lucrative jobs in financial services, data science, software coding, and technology entrepreneurship; (c) their conversion to other kinds of jobs; and (d) their alignment with the

global economy's emphasis on digitization and knowledge. Third, STEM degrees are highly convertible, allowing holders to fall back on slightly less lucrative jobs if the most lucrative jobs are not available. Finally, STEM degrees are aligned with the trajectory of the global economy itself.

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