# Modeling Post-Study Work Pathways

H-1B, OPT, and CPT under Policy Shock

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International students are a cornerstone of the United States innovation and competitiveness, filling vital roles in technology, finance, and research sectors that depend on highly skilled labor. Programs such as the H1B visa, Optional Practical Training (OPT), and Curricular Practical Training (CPT) have long provided an interconnected pipeline linking higher education to the workforce. However, proposals to increase the H1B filing fee to as much as one hundred thousand dollars represent a major policy change that could reshape this ecosystem. Such a cost surge would likely discourage employers from sponsoring H1B visas, alter hiring incentives, and increase reliance on temporary authorizations that bypass the financial and procedural burdens of formal sponsorship.

This study combines several complementary data sources to examine how these pathways might adapt under such a policy shock. It integrates official USCIS H1B data from 2015 to 2022 with two scraped datasets identifying Fortune 500 companies that employ international students through OPT and a list of employers that are CPT friendly. Together these datasets reveal both the formal and flexible components of post study employment. The H1B dataset represents the regulated sponsorship route, while the OPT and CPT data capture adaptive strategies that firms use to retain access to foreign talent. By modeling the elasticity between filing fees and application volumes, the simulation estimates how higher costs could redirect labor demand across visa categories and industry sectors.

Results indicate that imposing a one hundred thousand dollar H1B fee could reduce applications by around twenty percent, leading firms to increase their use of OPT and CPT authorizations. The sectors most dependent on H1B workers, particularly technology, finance, and consulting, are likely to absorb displaced demand through short term employment mechanisms. Employers that appear in both OPT and CPT friendly datasets demonstrate higher flexibility, acting as bridges that maintain opportunities for international graduates even when formal sponsorship declines. This adaptation safeguards workforce continuity but also deepens structural dependence on temporary programs that operate with less federal oversight and more administrative responsibility on universities and employers.

Policy responses should seek balance between fiscal goals and sustainable talent mobility. A tiered H1B fee structure that varies by employer size or wage level would help smaller firms remain competitive while maintaining fairness. Extending STEM OPT duration from thirty six to forty eight months would allow graduates to stay employed across multiple visa cycles and support innovation continuity. Expanding cap exempt categories for universities, nonprofit organizations, and research institutions would further strengthen the United States position as a global leader in education and innovation.

Ultimately, the interaction among H1B, OPT, and CPT should be seen as a dynamic system rather than separate programs. Policy adjustments in one area affect the others, influencing employer behavior and student outcomes. By combining empirical data, simulation modeling, and open source analytics, this project offers a transparent framework for anticipating such ripple effects and designing balanced, evidence based reforms. The findings emphasize that openness to international talent, combined with responsible program management and fiscal prudence, remains essential to sustaining long term innovation and economic growth in the United States.