TECHNOLOGY + POLICY RESEARCH INITIATIVE

TPRI's October 2023 Newsletter

NEW RESEARCH

Transparency and Inventor Productivity: Evidence from State-level Pay Secrecy Laws

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RAND Journal of Economics, forthcoming

Economists generally view innovation as the It is well-known that firms commonly use "pay secrecy rules and practices" -- contracts and internal rules prohibiting or strongly discouraging employees from disclosing their wages to coworkers. Such pay secrecy rules and practices have been criticized for their effect on pay discrimination (especially on minority employees). The legal and regulatory environment of the U.S. is increasingly committing to pay transparency -- making each employee's salary more observable to other employees within the company. In 1982, Michigan enacted an anti-pay secrecy law prohibiting employers from doing any of the following: require as a condition of employment non-disclosure by an employee of his or her wages; require an employee to sign a waiver or other document which purports to deny an employee the right to disclose his or her wages; and discharge, formally discipline, or otherwise discriminate against an employee for job advancement on the basis of having disclosed his or her wages. As of 2023, more than ten states have followed suit.

In our paper, we examine whether such anti-pay secrecy laws influence inventor productivities. On one hand, one may expect a positive effect, because (1) pay transparency motivate them to invest more in human capital and to work harder. This incentive could be stronger among minority inventors; (2) anti-pay secrecy laws could increase the diversity of a firm's inventor teams and thus enhance their productivity, considering that the combination of diversified backgrounds and knowledge sources usually results in higher-quality teamwork outcome; and (3) when senior colleagues' compensation becomes more visible, inventors working for firms with higher expected promotion raises may exert more effort to pursue promotions.

However, on the other hand, one may also expect a negative effect, because (1) the potential disclosure of employees' compensation may increase their chances of being recruited by competing firms, reducing firms' incentives in human capital investment; (2) the enactment of anti-pay secrecy laws may result in a large number of renegotiations or lawsuits, which requires management teams' time as well as energy and likely distracts them from production activities; (3) once some inventors find that they are under-paid, they may decide to exert less effort ("quiet quitting"), or they may work hard to attract external offers and eventually leave their current firms.

Our empirical evidence shows that the adoption of anti-pay secrecy laws leads to a significant increase in local inventors' patent output and quality. Such an effect is stronger among minority inventors, who likely benefit more from such laws. We further show that inventor teams become more diversified after anti-pay secrecy laws have been adopted and that patents produced by more diversified teams are of higher quality. We also find that the positive relation between pay secrecy laws and inventor productivity is more pronounced in firms with higher expected promotion raises.

In summary, we provide evidence that pay transparency enhances inventor productivity by better motivating inventors (especially minority inventors), increasing the diversity of inventor team, and giving employee clear expectation of possible pay raise after good performance.

While pay secrecy practice occurs in workplaces globally, its possible negative effect on employee productivity has not been previously documented. Our research provides evidence that the transparency of compensation schemes—in addition to the compensation schemes themselves—is an important driver of corporate innovation and inventor productivity. Our research thus offers valuable insights to the current wave of "pay transparency laws" that require employers to disclose pay ranges for job candidates in the U.S. Such laws have been enacted in New York City and several states (California, Washington, Colorado, Connecticut, Maryland, Nevada, and Rhode Island) since 2016.

This paper is closely related to another TPRI paper, "Perpetuating Inequality: What Salary History Bans Reveal About Wages," which looks at the effects of required disclosure of previous salary information in the hiring process.