



1st Place Essay Contest Winner
Undergraduate Category

Innovating Education for the Future

INCENTIVE PAY FOR TEACHERS

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Global Talent Pool

If you're a student, it may not be long before you find yourself in a classroom competing with peers from all over the world. With the ensuing tide of globalization, the top companies and firms will be able to look beyond students from local schools and access a growing global talent pool. Over the last two decades, countries around the world have focused on expanding and innovating education as the key to maximizing well-being, reducing poverty, and increasing economic growth.¹ As a result, Canadian students may soon find themselves trailing behind their international peers, which would gravely impact Canada's ability to stay competitive with the global economy. With the second highest government spending on education per capita in the world,² Canadians understand the importance of investing in education. Improving education outcomes is a key priority for governments around the world, if Canada wants to stay competitive it must be willing to innovate. Here's an idea: incentive pay for teachers.

(From 2003-2012), Canada's per-pupil spending has increased by 63.2% to \$11,835.

It sounds simple enough, an honest day's pay for an honest day's work, those who achieve better results should be better compensated in return. But depending on who you

ask, the notion is either rationally straightforward—or utterly perverse.

The idea that teachers should be compensated based on their performance has Canadians entrenched in a heated debate. In 2014, a report published by the Fraser Institute advocating for teacher incentive pay was immediately met with staunch opposition from members of the media, teacher's unions and society itself.³ While the report listed numerous case studies around the world where incentive pay had proven beneficial,⁴ the Ontario Teacher's Federation countered by pointing out that Canada was not an "obscure" locale like Chile, India or Little Rock, Arkansas and that there was no evidence to show that a similar system would work in Canadian schools.⁵

The Status Quo

Since the eighteenth century, little has changed to the way teachers are compensated in Canada. A teacher's salary is rigidly determined by a combination of tenure and advanced degrees, factors that studies have shown have little if any positive impact on student achievement.⁶ Such a structure causes schools to be indifferent to the actual effectiveness a teacher may possess, and gives rise to a so-called "widget effect": the premise that schools can treat teachers like interchangeable parts.⁷ Over the past few decades, countries all over the world have begun to embrace teacher incentive pay programs, and as a result they have

proliferated.⁸ This surge however, has not yet taken place in Canada.

Canadian students, for their part, still regularly rank among the top 10 performers in reading, math and writing according to international assessments facilitated by the OECD.⁹ However, the same tests underlined the more dismal fact that between the years 2003 and 2012, the math skills of Canadian students slipped significantly.¹⁰ During this time, Canada's per-pupil spending on education has increased by 63.2% to \$11,835.¹¹ For all the added investment, student achievement has not improved by nearly similar rates.

Theory: The Principle-Agent Model

The world's fastest growing economies like China, India and Singapore have between 60 to 75 percent of private sector employees receiving performance-based pay.¹² Incentive contracts are commonly associated with competitive economies and markets, but how exactly are they able to motivate employees to elevate their performance? And can the same competitive apparatus be applied to the realm of education?

The Principle-Agent Model is a microeconomic theory that explains incentive contracts through the balance of competitive forces. Through the lens of a principal, in this case society, and an agent, teachers, there are two key points that define the model:

1. Society is not easily able to

observe the effort that teachers place into their teaching. Rather, they can only evaluate teachers' output, which is the performance of students.

2. Effort and output are correlated (teachers who are more effective and put in extra effort are more likely to improve students' learning), but not perfectly correlated.

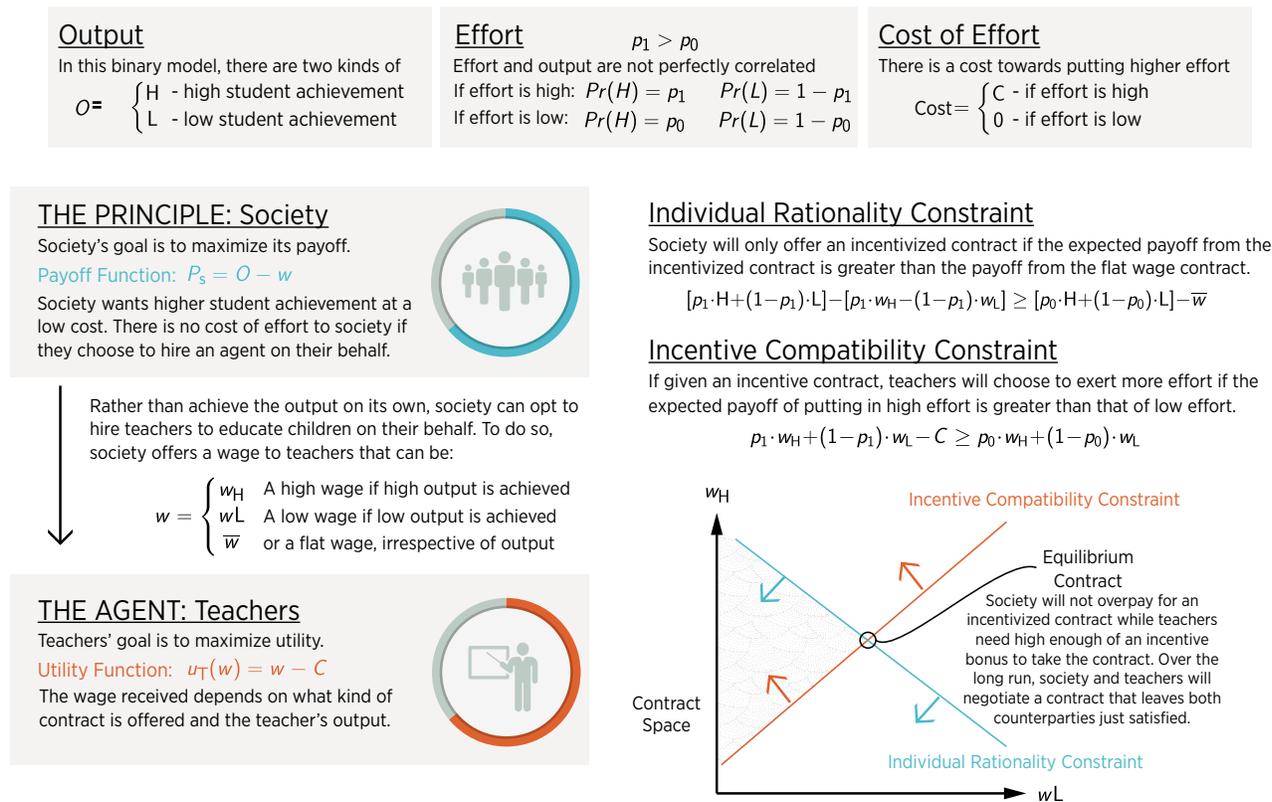
Because of these two points, there is a problem of asymmetric information; the principle has no way of observing whether teachers are putting in higher effort. Instead many school boards resort to offering flat wage contracts that award teachers based on easily observable traits like tenure and degrees. Because this structure rewards differing levels of teachers' effort the same, teacher motivation can be diminished.

The first step to the Principle-Agent Model is accepting that teachers can make a difference; that they can affect student achievement. To do this though, requires both effort and skill, both of which are costly. Even the most altruistic of teachers need a proper incentive structure in place to keep them motivated. This microeconomic model describes how such an incentive contract can be found.

Figure 1 mathematically articulates the model.

The key to the model is that it maps out each party's objectives and constraints, from which we calculate what type of incentive contract needs to be created

Figure 1: The Principle-Agent Model—Teacher Incentive Contracts



Source: Author's work

for both society and teachers to rationally benefit. Although the model is a simplification, its intuition can be extended towards real-life applications.

Application: Group, Individual, and Blended Teacher Incentive Pay Programs

Individual incentive programs compensate teachers either through the form of a simple annual bonus tied to student test gains to a more comprehensive reform that requires evidence of student achievement to earn higher base salaries.¹³ The best example of a nation-wide

implementation of the latter is The Performance Threshold System in schools throughout England. Through the Education Reform Act of 1988, England transformed its education system into a quasi-market where teachers were compensated on a five-level pay scale and parents had a degree of choice onto where they wanted to send their children. The per capita funding and parental choice brought about competition between schools for pupils, whilst teachers were required to provide evidence from the entire course of their careers to reach the higher pay scale.¹⁴ A study undertaken in 2004 econometrically analyzed the program's effectiveness and found

that overall test scores had increased per student by a hugely significant 0.73 standard deviations.¹⁵

Group incentive programs, on the other hand, reward teachers for improved school-level student performance, creating a school-wide culture of cooperation towards a common goal. Only similar schools compete with each other for group bonuses, creating a powerful incentive for schools to be inclusive of students from all socioeconomic backgrounds.¹⁶ Chile embarked on nation-wide educational reform in the 1980's by decentralizing public school management and establishing a nationwide voucher program, resulting in the increased number of private schools. Subsidized schools, both public and private, are eligible to compete for bonuses that have been awarded biennially since 1997.

The Teacher Advancement Program (TAP) award teachers with bonuses that are 50% based on individual skills and responsibilities, 30% classroom achievement growth, and 20% school-wide achievement growth.

By 2006, Chilean 15-year-olds outperformed their peers in every Latin American country in reading and placed second in math.¹⁷

Blended incentive programs, as the name suggests, combines components of both group and individual incentive programs. Schools in the United States that adopted The Teacher Advancement

Program (TAP) award teachers with bonuses that are 50% based on individual skills and responsibilities, 30% classroom achievement growth, and 20% school-wide achievement growth.¹⁸ Virtually all TAP schools were situated in socioeconomically disadvantaged areas, yet evaluations found that in 84% of these schools, students gained at least one year of achievement growth.¹⁹

Properly Implemented Programs

For all the case studies that tout the proven track record of teacher incentive programs, one could as easily point to programs that have been costly failures. Opponents of the policy often cite such failed programs that distribute large sums of bonuses with no positive effect on either student performance or teachers' attitudes toward their jobs.²⁰ Where did these failed programs go wrong?

Of the 10 successful case studies of teacher incentive pay cited by the Fraser Institute report, all of the programs were similar in that the fundamental criterion that determined bonus compensation was student achievement.²¹ When teacher incentive programs strayed from this important benchmark, the abridged programs often led to distorted incentives that ended with poor outcomes. Because there have been so many different case studies, both the successes and the failures have taught policymakers key lessons to keep in mind. Depending on the myriad of factors that policymakers

may face, there are many specific design features to consider. For example, if a lack of cohesion among teachers and school staff is a leading contributor to low student achievement, a group incentive may be the best option.

With careful consideration, a properly implemented teacher incentive pay program can become a reality for the Canadian education system. Overall, the evidence suggests that incentive pay programs are cost-effective, financially sustainable, and most importantly are successful at improving student achievement. Teachers enter the profession for a variety of reasons, altruism often being at the forefront. None of these goals conflict with earning a salary that compensates teachers for improving their students' academic achievement. It's a policy that has been adopted and well-established in many countries all around the world; its impact has the potential to drastically change future generations of Canadian students. It's about time effective Canadian teachers get paid their due. 



Mark Ren is currently an HBA1 student at Ivey Business School. With a keen interest in developmental economics and finance, he hopes to work at an economic consulting firm and one day become a development focused economist for the World Bank.

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Endnotes

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