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Workforce Quality and Public School Reform

I'd like to thank the Federal Reserve Bank of Cleveland for hosting this Conference on Innovation in Education. The benefits of education are easy to see. Education is essential for citizens to participate in a responsive democracy, and it has meant growth and progress for Americans. Historically, gains in educational achievement have gone hand-in-hand with the adoption of new technologies and improvements in our standard of living. And in our increasingly complex society, education is essential to making wise saving, investment, and occupational decisions that determine our life's financial prospects and economic well being.

I'm going to begin by discussing how education, workforce quality, and labor productivity are connected. I will then follow by addressing the need for school reform—especially choice and competition—in our large central cities. Here, I will draw on what Chicago has learned from its sometimes arduous but hopefully progressive path to improving its public schools.

Education and Workforce Quality

Why should a Federal Reserve Bank president be interested in education? One reason is that, as monetary policy makers, we are constantly tracking productivity growth because it is a key determinant of our standard of living. And an important factor driving productivity growth is worker quality, which includes the education and the experience of the workforce.

Estimates by Dan Aaronson and Dan Sullivan at the Chicago Fed find that, of the 2.7 percent average annual growth in labor productivity from 1965 to 2000, almost a quarter of a percentage point

(0.22) is attributable to labor quality. Changes in age, education, and labor force participation cause this contribution to vary over time. In the late 1980s and early 1990s, improvements in worker skills were adding 0.40 percentage points per year to the growth of output. By the end of the 1990s, this had fallen to 0.18 percentage points. And we could see a decline to 0.05 percentage points by 2010, as the highly experienced workers of the baby boom generation retire in increasing numbers. Gains in education and other workforce skills by new entrants, and skill improvements by remaining workers, could offset much of this decline. But if we consider recent education trends, I'd say we have our work cut out for us on this.

The quarter century after World War II was a period of especially rapid gains in worker skills. High school graduation rates increased throughout this era, and college graduation rates tripled. The expansion of secondary and postsecondary education caused labor quality growth to average nearly 1 percent per year, as younger, more highly educated workers replaced retirees with less educational attainment.

The Need for Systemic School Reform

Since that time, this process has played out, as the educational attainment of retirees and new entrants has converged. One disturbing element of this convergence is that high school completion rates have stalled. In addition, relative to the population of 17 year olds, the number of traditional high school diplomas granted in the late 1990s was 7 percentage points lower than in the early 1970s. It is only when GED holders are included that current overall high school graduation rates match the earlier ones.

College graduation rates are growing, as families have noted the very high and climbing economic returns to education. The gaps in wages and unemployment rates between the skilled and less-skilled workers in the U.S. economy have widened dramatically since the late 1970s. Currently, unemployment is only about 2.5 percent among those with a college degree, but it's over 8 percent for high school dropouts. Furthermore, research shows that each additional year of education tends to raise incomes by about 10 percent. And these returns are not merely private. Researchers are finding that education raises the productivity of other workers, lowers crime, and raises public involvement in the policy process. Some believe that these social benefits alone may exceed the 10 percent per year private return.

Our investment in education is already enormous. We currently spend almost one-half trillion dollars on elementary and secondary schools in the public sector, or about 4 percent of GDP. The United States has nearly the highest spending per pupil in the world. Yet there is a great deal of dissatisfaction with the results, particularly in the dismal outcomes generated by many of our urban schools. We must spend the money more wisely and achieve a substantially greater return on our investment. This has driven the spate of interest in experimentation and systemic reform to improve our schools, especially for those disadvantaged students who have limited choices and opportunities in our current system.

Many school reforms have been tried. Reforms in states in my district, similar to those in Ohio, have been both earnest and varied—from Milwaukee's full-fledged voucher program, to the extensive charter program in Michigan, to Chicago's central authority with the mayor having substantial executive

power. As one who believes that customers know what they want, I think that choice and competition should be given a full trial in these reform efforts. This is because market mechanisms relentlessly work in most instances to deliver the right services to their customers.

Some believe that widespread customer dissatisfaction with urban schools is not sufficient to justify greater choice and broader opportunity in the delivery of school services. They want to wait for definitive statistical evidence before proceeding with widespread reforms. As researchers, I'm sure you appreciate that statistical studies—even those based on randomized experiments—have not provided entirely informative or conclusive evidence on outcomes from reform. Still, it is important to keep pursuing evidence on all fronts, as you are doing here at this conference, from case studies to cross-sectional comparisons to carefully-designed randomized trials, so that good science can drive good public policy. We must continue to acquire data—but we can't wait for definitive results before moving forward with programs aimed at significant improvement.

Improving Teaching Effectiveness

When discussing reform in education, a good place to start is where the "rubber meets the road," that is, where our teachers interact and deliver services to their students.

Now, teaching is a very difficult job. I know—having been a high school English and history teacher myself many years ago. Our schools are extremely fortunate to have many excellent and dedicated teachers. But we clearly need more. Teacher quality matters greatly for student achievement. Several carefully designed research studies from across the country—several of which have been or will be presented at this conference—show that teacher quality varies significantly, even within the same school. To give you some idea of the magnitude, Dan Aaronson and Lisa Barrow of our staff found that the test score gains for an average student in the Chicago Public Schools would increase by at least 20 percent if that student were reassigned from a classroom with an average quality math teacher to a classroom in the same school with a math teacher ranked at the 95th percentile of their quality distribution.

But what can we do to improve our teacher corps? Can we simply sort through our teachers, identify the ineffective ones, and then replace them? Well, that's not so easy to do in our current system.

Surprisingly, the typical credentials that determine compensation in our schools today—advanced degrees in education, certification, years of teaching experience—do not help much in identifying who the effective teachers are, as Aaronson and Barrow also found. Their research shows that these factors account for only about 3 percent of the variation in teacher quality.

Can we substantially improve the effectiveness of our teachers through enhanced training? While we know that teachers matter, we know less about programs that could improve the quality of our teachers. Research shows that having a math or science degree is helpful for teaching those subjects. Specific skills do matter. But since the general education credentials seem to matter little, traditional teacher training programs—including those college curriculums specializing in education—apparently don't do the job. There are, however, heroic efforts and exemplary program models underway to improve teacher preparation throughout the nation. These include better recruiting strategies, mentoring, and enhanced training academies. In many cases, these programs have been generously

funded by the business and philanthropic community. Still, they do not reach the majority of our teaching corps.

Blunt instruments, such as raising teacher salaries across the board, also do not look promising. Raising salaries would attract and keep better teachers, but it would also encourage many poorly performing teachers to remain on the job even longer—in other words, such a policy would be a slow and expensive way to raise teacher quality. And, even with higher salaries for new teachers, excellent teachers will find themselves hostage to rigid pay scales that do not compensate them for their excellence. Nor will they be able to advance their careers without leaving the classroom.

However, one important finding from studies of teacher quality and student outcomes is that high-quality teacher performance tends to persist from year to year. This means that we can predict good teachers from their past performance. So, through observation and timely assessment of data on student achievement, a motivated and empowered school principal could accurately identify high-quality teachers.

Therefore, we know some of the ways in which we can build a higher quality teacher workforce. It will require a system that starts with more selective hiring, includes a lengthy apprenticeship with comprehensive evaluation, and follows up with regular, rigorous personnel evaluations with pay-for-performance rewards. In addition, we should have higher pay for teachers in subject areas where it is more difficult to find qualified instructors, such as math and science.

So far, so good. But what kind of systemic changes can actually bring about such personnel policies—indeed, ones that are taken for granted in many other professions and businesses? Unfortunately, public education has many elements of a monopoly—a publicly owned and operated monopoly. And consumers are served far better in just about any market when there is competition by many as opposed to having just one provider.

So I believe that systemic change in public education would be encouraged and accelerated by the infusion of market incentives. Choice and competition have the power to lead us to better educational outcomes by spurring both new and existing schools to innovate, keep costs low, and better serve the students.

In competitive environments, successful firms and organizations discover their customers' needs. They make strong and innovative efforts to tailor their services to meet those needs at a reasonable cost. When doing so, they adopt pay for performance and other types of personnel and compensation practices that we should be aspiring to in the education profession.

Chicago's Reform Efforts

Let me now turn to Chicago as an example of a school system that has taken a series of steps that are beginning to bring about a modest amount of choice and competition. It has, however, been a winding path, preceded by several other attempted reforms.

In the late 1980s, then Secretary of Education William Bennett called the Chicago public school system the worst in the nation. Correct or not, Chicago's school system was characteristic of older large

city school systems across the Northeast and Midwest. Flight from the city in both its economic base and middle class population during the 1960s and 1970s left behind a school system that was poorly suited for the daunting job of ameliorating poverty.

A series of reforms began in 1988, when the state legislature passed the Chicago School Reform Law, which diminished the authority of the Chicago Board of Education and pushed some local decision making down to the individual school and community level. Reformers hoped that the schools would function more efficiently if they could simulate the decentralized decision-making autonomy of small suburban school districts. One major provision of the law was the creation of Local School Councils (LSCs) for each school. Accountability for school performance and pupil performance was vested with LSCs, whose members were elected by the residents of each school attendance area. The LSCs had the power to appoint principals largely free of interference by the Board of Education; they also had some budget authority. In addition, principals ostensibly gained the power to appoint and fire teachers, although in practice, these powers were not as effective as envisioned by some supporters of the legislation.

Initial hopes were high, and some neighborhoods effectively managed and improved their local schools. Some continue to do so today. At too many school sites, however, LSCs could not effectively grapple with the entrenched power of the system, the political influence of the teacher's union, and the vagaries of community politics. Some LSCs were never able to organize effectively to make the necessary improvements.

By 1995, Chicago school reform shifted toward a different approach: strong central control vested in the office of the mayor. The Illinois state legislature passed a new education reform bill that generally redistributed power from LSCs to the city government. Specifically, the Chicago Board of Education was abolished, and the mayor was given the power to appoint a new 5-person, corporate-style School Reform Board of Trustees with a CEO.

The Reform Board addressed waste, fraud, and inefficiency. It privatized janitorial and maintenance services, tightened the purchasing process, and cleaned up the system's finances.

This strong central authority was also given the ability to close schools for poor performance. For the first time in 1997, 7 Chicago high schools were "reconstituted"—the principals were removed and most of the teachers were fired.

These reforms have been modestly effective in raising student performance. As measured by the state's school achievement test (ISAT), both reading and math scores have risen at the 3rd, 5th, and 8th grade levels since 1999. These gains have been realized in high-poverty schools as well as selective enrollment schools.

However, holding on to these gains in the high school years has proven to be more difficult. In fact, we have not seen gains in test scores at the high school level. And even for the lower grades, achievement gains have tapered off over the last couple of years.

It is perhaps for these reasons that the Mayor, the public schools, the business leadership, and community groups have come to the realization that further reforms are necessary. New and superior schools, employing innovation and creativity, must be created to replace nonfunctional schools in high poverty neighborhoods.

The Renaissance 2010 Program

Renaissance 2010 is a recent product of this effort. This bold program aims to create 100 excellent new schools—charter schools, contract schools, and performance schools—with more independent and entrepreneurial leadership. These schools have more freedom to innovate because they are less encumbered by the historical layers of rules and procedures. In some instances, schools will exercise greater latitude to recruit and choose their own staff and to evaluate and reward their performance. Such an environment surely will attract teachers with desire, drive, talent, and commitment.

As they have elsewhere, charter schools are an important part of reform in Illinois. The majority of the new Renaissance 2010 schools this year and those planned for next year are charters.

Illinois passed charter school legislation in 1996. But the tough political environment caused this legislation to be weak. It limited the total number of charters allowed to just 15 for Chicago, later expanded to 30, compared with over 600 schools total in CPS. And it only permitted the public school district and State Board of Education to charter new schools.

Still, this early and tentative attempt at choice and competition has built a basis for expanding reform. The Chicago charter school support network and evaluation process were carefully crafted and nurtured. Importantly, the business community has supported charter schools with funds and programs, despite often being at odds with parts of the CPS bureaucracy. Furthermore, charter schools are fully accountable for results, and some have been closed down for poor performance. And we see that students at charter schools have made promising gains. A recent CPS evaluation concluded that "charter schools performed as well or better than comparable neighborhood schools on 79% of the performance indicators." This performance has generated a broader-based trust in charters by the public. So the process, relationships, and trust created by the early charter programs are now in place to expand these existing efforts within the Renaissance 2010 framework.

At the beginning of this academic year, 18 Renaissance 2010 schools were opened to replace schools that were closed due to declining enrollment and deteriorating facilities. Sixteen additional Renaissance 2010 schools are in the final stage of approval to start operating next year. The business community and family foundations provided start-up funds for these new schools. The objective, of course, is not only to improve the education of the students enrolled in the new schools but also to provide incentives for traditional public schools to improve.

Renaissance 2010 schools will stay in operation only as long as they "deliver the goods" to their deserving customers. They will be held accountable in two ways. First, Renaissance schools can expect close scrutiny and rigid assessment by the Chicago Public Schools administration—not of their pedagogy and procedures, but of how well their students perform. Second, parents will be able to review their options and, if they choose, move their children to another school—just as many suburban parents now do when selecting the community in which to live.

Looking forward, the problems inherent in raising educational attainment for our most disadvantaged students are not easy. Too often, the hurdles to student achievement involve family background, resources, neighborhood, and environment. To overcome these obstacles, the local school cannot be "average" in performance or design. Rather, it must be highly innovative and focused on the particular circumstances that hold back disadvantaged children.

Such innovation tends to arise in other environments characterized by choice and competition. Competition makes service providers attentive to the particular needs of their customers. In the case of education, this can help generate a sense of understanding and mutual responsibility between the schools and the families they serve.

In bringing about needed changes in Chicago, we have found that partnerships and persistence can make a difference. The disadvantages that many of our students face were not created overnight—nor were the institutions and governance structures that we are attempting to refashion. And determined resistance to reforms, such as those inherent in Renaissance 2010, continues every step of the way. But change is coming, even if it is not coming about through sudden upheaval. Gains are not coming in profound leaps, but real gains are being achieved.

As we look back over 15 to 20 years of reform in Chicago, we can see that each stage of reform contributed to the progress we have made in addressing our educational challenges. We have made changes in the governance of our schools, and we have introduced some choice and competition. In some cases, this progress was achieved by learning from our mistakes. We must continue to learn which reforms work and which do not. And as we strive to make further progress, we must persist in our efforts to bring about the full range of educational opportunities for the younger generation.