

**A Study of Expanding Voucher and Charter School
Programs in K-12 Education**

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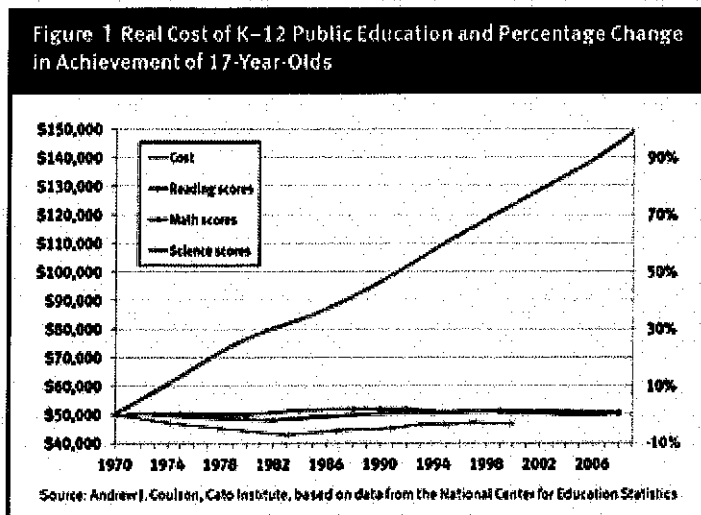
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Introduction

The OECD is a large non-profit funded by its 34 member countries with the goal of sharing multi-cultural data and experiences to find solutions to common problems. A study by the OECD Programme for International Student Assessment (PISA) indicates the U.S. is slipping in global high school education rankings (see Table 1). There is certainly a need for improvement. This thesis examines the idea of expanding voucher and charter school programs as a means to make students and schools more successful. Success can be measured as improving academic performance and lowering or not incurring additional per pupil costs. A motivation for this consideration is that unlike businesses, public schools do not operate with the pressure of competition. It is competition that encourages businesses to improve product quality and cut costs. The businesses that best do this will likely capture significant portions of that industry's market share, which in turn means larger profits. Businesses that struggle to improve product quality and cut costs risk having to exit the industry. Is it possible that these same pressures could be used to improve education? Similar to businesses, schools supply a product, the education. Students are comparable to customers because they have demand for this product. Businesses are funded by their customers, and since there is no guarantee a customer will make a purchase at any particular store, businesses naturally try to persuade customers to buy from them. This persuasion often comes in forms such as lowering prices of products, increasing product quality, cutting business costs, product differentiation, marketing, and increasing the quality of customer service. All of which are good for consumers. Public schools are not funded by their "customers" per se, they receive their funding from the respective school district and therefore are less concerned with persuading a student to attend

their school. In the long-run, school districts typically give schools larger and larger budgets, despite a lack of improving test scores (Figure 1). The National Center for Education Statistics shows this graph displaying the differences between test scores and costs (adjusted for inflation):



While there are more factors than just test scores that go into the making of a school budget, such as an increase in services or staff, the upward trend in costs provides schools with some reliability of funding in the long run. This paper argues that expanding voucher and charter school programs has the potential to increase school choice and increase competition among schools, fostering such an environment that will lead to a more successful (as defined above) education system. The main points of discussion will include an overview of the structure of Minnesota public schools, an explanation of voucher and charter school programs, the positive trends in current voucher and charter school programs, an explanation of how these programs could make education more resemble a business, and the possible effects of

making education resemble a business. An analysis of a successful foreign education system with little school choice is also included.

Organization of Minnesota Public Schools

The Minnesota State Legislature revises the *K-12 Academic Standards* from time to time.

These Standards dictate what every student must learn by the end of a grade period, set criteria for high school graduation, and are a guide for school boards to design a local curriculum. School boards/districts must design a curriculum that complies with the Standards. Districts must also design a local curriculum for subjects that the Standards do not cover. The Minnesota Department of Education provides resources to districts and makes sure that the Standards are being implemented in the school districts.

Charter Schools

Although funded by the same source as public schools, charter schools have provided an alternative to public schools. Charter schools run independently and are free to students. Minnesota was the first state to pass charter school legislation in 1991. 20 years later, 41 states have charter school legislation. 2003 state test data showed that half of Minnesota charter schools had scored higher than state averages in third and fifth grade reading, despite above average percentages of low-income students and students of color (Schroeder). Charter schools have their own school board and can design their own curriculum. Minnesota statutes allow charters to operate mostly as they please. "A charter school is exempt from all statutes and rules applicable to a school, school board, or school district unless a statute or rule is made specifically applicable to a charter school" (Charter Schools). There are a few areas that the

state dictates such as the length of the school year, having accessible financial statements, meeting health and safety requirements, licensing of teachers, and so on. Charters are also forbidden to have a religious affiliation as a recipient of state funds, per the Minnesota Constitution.

In the 2011-12 school year, charter schools in Minnesota on average spent about \$2,000 more per student than independent school districts. Per pupil spending being \$12,581 and \$10,480, respectively (Minnesota House of Representatives, Tables 1 and 2). This difference in spending may have contributed to the above successes of charter schools. However, as can be seen from Figure 1, more spending does not always produce higher test scores; it depends on how funds are used. Every school allocates their money differently. Introducing modern technologies into the classroom such as a SMART Board is more expensive than a conventional white board or overhead, but will have a range of effects on student learning that depend on how it is used (Preston). An 8 year study at one school concluded that SMART Boards were more effective when students were able to interact with the board, rather than serve as just a visual aid for the teacher (Preston). The study found that the added visual and audio characteristics from the SMART Board as well as the opportunity for students to interact with the SMART Board, stimulated the student's focus and retention of the lesson (Preston). This study determined that the total cost of buying and installing a SMART Board and projector could be under \$5000 (Preston). A projector and compatible computer are required to operate a SMART Board. Many schools already have these components in their classrooms, so that cost may be lower. Technology may be able to contribute to the success of schools, depending on

how it is used, but it does increase the cost of education. Technology spending may account for some of the increased costs of education noted in Figure 1.

There are 157 charter schools in Minnesota. TrekNorth, located in Bemidji, is one of them. TrekNorth is free and not selective in their process of enrolling students. If not at full capacity, any student who applies is admitted. TrekNorth uses a curriculum that differs from most public schools. All students are required to participate in their Outdoor Experience and Service Learning Programs, a break from traditional classroom learning (TrekNorth High School). The rest of TrekNorth's curriculum is based around the Advanced Placement (AP) program and preparing students for a post-secondary education. This curriculum would be most valuable to students planning on attending college. Most juniors and seniors take between 1 and 3 AP courses (TrekNorth High School). TrekNorth's "experiment" with their unique curriculum has brought about some success. In 2005 and 2006 TrekNorth students had the highest ACT scores in their region. They have also received various awards in the past few years from the Minnesota Department of Education and other organizations for excellence in education. While TrekNorth has done very well, certainly all charter schools do not share the same kind of success. One of the benefits that comes with charter schools is the ability of parents to choose the best school for their child, whether that school is public or charter. Caroline Hoxby, an Associate Professor of Economics at Harvard University says "In a charter school plan, say, parents always have the option to return to their local public school. So, if they were happy with the local public schools and they send their child to a charter school to try it out and it does not seem like it is better, they usually withdraw the child and take him back to the local public schools (Hoxby)."

Voucher Programs

There are promising trends with voucher programs as suggested by the outcomes of studies of two different voucher programs. The city of Milwaukee was one of the first jurisdictions to experiment with voucher programs. The Milwaukee program, called the Milwaukee Parental Choice Program (MPCP), made low-income family students eligible for vouchers, which would allow them to move out of Milwaukee Public Schools (MPS) to a private school that participates in the MPCP program. In the 2014-2015 school year, about 26,000 students were enrolled with the Milwaukee Parental Choice Program (MPCP Facts and Figures for 2014-2015). Each voucher is worth the amount of state aid per pupil. When a student moves from a public school to an MPCP school, that funding is given to the MPCP school and reduced from the MPS school's budget (Chakrabarti). A study from the University of Arkansas compared MPCP and MPS over the course of 4 years (Wolf). The researchers stated that, in general, results from Milwaukee's school choice program ranged from neutral to positive among various areas the researchers looked into. They also reported finding no clear evidence of harmful effects from Milwaukee implementing MPCP. Some of their findings included higher educational attainment among MPCP students. 801 9th grade MPCP students were compared with a similar group of 801 9th grade MPS students. The same was done with 8th graders. MPCP students were 4% more likely to graduate high school and 7% more likely to graduate high school "on time" in four years (Wolf). Also, MPCP students were 4% more likely to attend a four-year university than MPS students and 6% more likely to persist through their first year of college (the study does not measure past this point) (Wolf).

The Arkansas researchers compared test scores from selected samples of MPS and MPCP students over a four year period in reading and math (Wolf). They sampled 2,727 students in grade levels 3-9 in each group (Wolf). At the beginning of the research, the students sampled from MPCP were carefully selected to be at the same grade level and from similar neighborhoods as the MPS sample. The MPCP students sampled also had similar initial Wisconsin Knowledge and Concepts Exam (WKCE) test scores, race, gender, and English speaking ability to the students sample from MPS. The first 3 years showed no significant achievement growth in test scores of MPCP students when compared to MPS students (Wolf). The sampled students took the WKCE, but not all students in the MPCP were required to take it, nor did private schools with voucher students have to report their scores. In the last year of the study, Wisconsin made it a requirement that private schools participating in MPCP administer all of their voucher students the WKCE and that test scores be reported by school. When WKCE data were compared among MPCP and MPS schools in this year, the researchers observed that MPCP students had significantly higher achievement gains in reading and math on the WKCE test compared to MPS students (Wolf). Further analysis of this data led the Arkansas researchers to believe that the new policy contributed to the increase in gains, but it is not conclusive how much. Research from the University of Arkansas also compared test data from Milwaukee independent charter school students to public school students (Wolf). While the researchers found no significant difference between the whole of the charter school students and the MPS students, they found that students who attended charter schools that were formerly private schools scored significantly higher in reading and math in each year of the study than public school students (Wolf).

These gains over MPS schools might also be attributed to competition because MPCP schools were trying to protect their reputation and student base. Private schools have always had to compete to earn their funding from students. With the MPCP, the potential student base for private schools grew to include low-income students. When the state of Wisconsin started to require private schools to participate in MPCP to test all voucher students and report scores by school, it may have been a wakeup call to these schools to defend their student base. This policy change allowed MPCP schools to be compared more closely with public schools, and fearing reductions in their bottom line, MPCP schools made improvements so that their students would score well. Not every student in an MPS school can leave the public school system (without financial burden), for only low income students in Milwaukee can receive a voucher. But any student in an MPCP school can leave to attend another MPCP school or MPS school. MPS schools do not have the threat of losing as many of their students to other schools like the MPCP schools do. This vulnerability of MPCP schools is what allowed the positive trends identified in the Arkansas research to occur and the policy change made this vulnerability more apparent.

As stated above, MPCP students are more likely to graduate high school, graduate on time, go on to college, and persist in college throughout their first year (Wolf). Higher educational attainment is linked to a variety of good things such as: "greater longevity, higher lifetime earnings, and a lower likelihood of incarceration (Wolf)." A potential reason why MPCP students graduate high school, graduate on time, and proceed to college more often than MPS students could be that MPCP schools more strongly emphasize higher education. But that would not explain why more MPCP students persist in college after they have left the MPCP

school. The trend may go deeper into the specific skills that the school's education teaches and the specific design of the education, which private schools have more flexibility to alter.

Another phenomenon to account for in voucher program research is how the shifting of students in a voucher program affect test scores at MPS schools. Vouchers have caused more movement of students into other schools. Average test scores of schools will change as students switch schools. It is unclear how this movement of students affected MPS schools. On one hand, a student that leaves the school with a voucher may do so because he or she is not performing well and thinks they may do better elsewhere. On the other hand, a gifted student may also want to use a voucher to be taught under a differentiated curriculum. Taking either one of these theoretical students away from an MPS would have an effect on the average test score of the school.

Different regions have differently structured voucher programs. Milwaukee and Florida's programs were designed differently. The article "Impact of Voucher Design on School Performance," which looks at the importance of the voucher design, compared Milwaukee and Florida's voucher designs. Milwaukee's voucher program is described as "voucher shock" because low-income students suddenly became eligible to receive vouchers (Chakrabarti). In turn, Chakrabarti described Florida's voucher program as "threat of voucher" because only students at schools that failed repeatedly were offered vouchers. Florida's voucher program was funded in the same way as Milwaukee's. Public schools would lose revenue if students transferred schools using vouchers. Students in Florida schools would only be eligible to receive vouchers if their school was assigned a grade of an "F" twice in a 4 year period. This grade is given based on a "designated cutoff quality level." The schools given the grade "F" did not want

the stigma and funding cuts that would come with introducing vouchers. According to Chakrabarti, Florida schools that were given a grade of an "F" seemed to respond in the following years. One county extended the school year while another county began coaching teachers and observing them more closely. The voucher program prompted change in poorly rated schools, but it is unclear if these changes improved the quality of education. Another study observed that the test scores in public schools in areas where private schools were nearby increased after the voucher program was first announced (Figlio). The study observed that these gains were more pronounced in areas where the public schools were more likely to receive an "F" grade and be subject to vouchers (Figlio). It seems that differently structured voucher programs will produce different outcomes.

Overall, the negative impacts of vouchers seem to be few. The data from these programs are promising, but vouchers have never been attempted on a large scale and one can only theorize as to the effects of doing that. Current voucher programs have typically been designed to serve those who are disadvantaged, so expanding them to include other groups may yield different results. There are lots of different voucher programs in the United States and the design of the programs differ. Some voucher programs have such small sample sizes that their success is difficult to measure. In its first 6 years, the Milwaukee program could only distribute vouchers to a limit of 1.5% of the total number of students (Chakrabarti). In addition to Milwaukee, the state of Wisconsin also has a voucher program and the current cap for the whole state is 1000 students (98 Private Schools Register for Wisconsin Parental Choice Program).

In contrast, it is important to note the success of countries with government administered public education. Some countries, such as Finland, whose students scored much higher than Americans in the PISA study (Table 1), have an education system that is made up of more public schools and less school choice. Finland provides all of its citizens with a free high school education administered by their local governments. There are few private schools in Finland (Finland: System and School Organization). As shown in Table 1, Finnish students score much higher on math, reading, and science tests than American students. Although education in Finland is public, Finnish education differs greatly from the U.S. Unlike American schools, teachers and principals have significant ability to manage their classrooms and design the curriculum. The funding for basic education comes mostly from the local governments, not the national government. Although funding comes from the government, it only loosely manages or controls where the money will be spent. School principals, in collaboration with the teachers, are in charge of the school's budget (Finland: System and School Organization). Finnish education is not heavily centralized, allowing faculty to adjust individually. "At the upper secondary level, they have a great deal of freedom in determining the content of their programs" (Finland: System and School Organization). In Finland, teachers can easily adjust so that students receive the type of education they want, much like supply and demand work in a market. In a sense, teachers are empowered to mold their product into what their consumer demands. These aspects, along with a culture that instills a much stronger importance on education than other countries is why secondary education in Finland has been successful. Since Finnish teachers have great ability to change their classrooms, they are more responsible for the outcome of their classrooms. Teachers in Finland take collective responsibility for their

students' educational success and are held accountable by their peers rather than test scores (Finland: System and School Organization). Although the Finnish federal government owns nearly all of the schools, the classrooms are largely independent.

Pasi Sahlberg is a leading Finnish educator and also a former senior adviser in Finland's Ministry of Education (Sahlberg). He advocates for other nations to learn from Finland and reform their education systems. He gives many reasons why education in Finland is succeeding and education in countries such as the United States are behind them. He says of Finland,

Another (feature) involves encouraging teachers and students to try new ideas and approaches rather than teaching them to master fixed attainment targets. This makes school a creative and inspiring place for students and teachers ... The secret of education in Finland is that it brings together government policy, professional involvement and public engagement around an inspiring social and educational vision of equity, prosperity and creativity in a world of greater inclusiveness, security and humanity (Sahlberg).

Sahlberg says that education in other countries like the U.S. rely more on choice, tougher competition, intensified standardized testing, and stronger school accountability. He says that these policies are the reasons for the decline in global averages in the PISA data between 2000 and 2009 (2012 data in Table 1) (Sahlberg).

Differentiated instruction is one of the unique aspects of Finland's high performing education system. To implement differentiation, teachers are empowered to alter their instruction at their discretion (Weber), allowing teachers to offer a more personalized

education to the student. Although controlled by governments, Finland's education system does not follow a top-down structure but rather a bottom-up structure. Policy can be experimented with and molded at a local level or even in a single classroom and then if successful applied to other locales or classrooms.

Competition and Education

Competition has encouraged industries to improve and competition may be able to help improve education. A model that introduces similar competition in education would have the state fund students and families by distributing vouchers. Vouchers can then be used to buy an education. Parents seeking education for their children would prefer to buy an affordable, quality product. Parents have no desire to pay for their child to attend a failing school and likewise for a school whose tuition is unaffordable. One of the advantages of such a market driven approach is creative destruction. By having all schools rely more heavily on income from vouchers, an evolutionary environment is created. The bad schools with low demand would be shut down and the good schools with high demand would continue to educate. Expanding these programs would make it easier for a student to change schools. Expanding voucher and charter school programs would grant more students the opportunity to experience a different and possibly better education. However it should be noted that in order for a child to switch schools, the parent must first have an interest in the child's education. Not all parents will care enough to go through the process of enrolling their child in a different school. Students with such parents would be less likely to participate in a voucher or charter program. Over time, competition may be able to improve schools by creating incentives for schools to meet

educational demand. Expanding voucher and charter school programs would allow families of all backgrounds the ability to choose a better school for their child in those places where a better school exists.

Expanding voucher programs would likely increase attendance at private schools, and encourage their growth. China has experienced an increase in the number of private schools. In *Prospects of Private Education in China*, Wu Hua reports the effects of this growth. He states that China had 93,200 private schools (of all levels) in 2006 (Hua). The number of private schools rose 52% from 2002. The article discusses a concern with the growing number of private schools,

The greatest impediment to their stability today is the fact that in terms of retirement insurance, teachers of private schools cannot enjoy the same social guarantees system as teachers of publicly run schools, which results in a lower evaluation of the vocation of private school teachers (Hua).

One of the documented struggles in China is that teacher retirement pension pay of private school teachers is more than 50% less than what public school teachers of the same qualifications receive. This is a huge problem for private school growth in China. Because the public school teachers receive significantly more compensation, there will likely be more teachers competing for those jobs. Private schools are less likely to attract the best teachers when those teachers can earn more money elsewhere. It is not to say that there are not any good teachers in China's private schools. Although salary is important to a job candidate, it is only one of many factors that will lead a person to apply for a job. Location, work environment,

job security, career paths, etc. are other things a candidate may consider. Voucher programs are likely to increase enrollment at private schools, creating more demand for teachers there. Vouchers carry with them an amount of funding equivalent to the amount of state aid that public school students receive, but it is unknown whether enrolling more voucher students will start to raise private school teacher's salaries closer to those of a public school.

Conclusion

It is possible that the expansion of voucher and charter school programs could increase the quality of education, for there are some promising trends. MPCP students achieve higher levels of education in their lifetimes, often leading to a better quality of life. Florida schools started changing after it announced its voucher program. The size and design of the voucher program is significant. There are many types of voucher programs and differently structured programs will have different outcomes. Because of this, it is difficult to draw a conclusion about all voucher programs. It is unknown what effect would arise from expanding voucher and charter schools to larger groups. These programs have historically been aimed at low-income family students or students who attend failing schools, not the general public. Finland has made public education work for their people, setting school choice aside. Finland's success gives merit to the idea that standardized testing and the focus on comparing student test scores is an obstacle for improvement in education. Although charter schools and private schools participating in voucher programs have some freedom in differentiating their curricula, teachers still have to teach their students (in the words of Pasi Sahlberg) to "master fixed attained targets," such as a standardized test. Test scores are often used to determine the

success of a school. In this way testing can limit what is taught in the classroom by teaching to the test. Finland's education system demonstrates that success can be measured by more than just test scores. Reforming American education to more closely resemble that of Finland's model for education would be extremely difficult in the United States, for the cultural attitude toward education in Finland is much different than in America. However, there seem to be some similarities between Finnish public schools and charter schools like TrekNorth. In addition to both being publicly funded, these schools are more independent and have greater ability to structure curricula to meet their student's needs. Expanding charter schools would create more schools that are similar to Finland's, but not identical. Even though Minnesota charter schools like TrekNorth have had some positive outcomes, they on average spend more money per student than Minnesota independent school districts. This does not fit the definition of success stated earlier. Given the data discussed in this paper, it is possible that charter schools could meet this definition, but this cannot be determined unless Minnesota charter school expenditures were drawn back to a level comparable to Minnesota independent school districts. It is unknown how much of the results from Minnesota charter schools are attributed to their larger budgets. Potentially, Minnesota charters could still retain their positive results despite lower spending, but again this is unknown unless funding was actually decreased. On the other hand voucher programs have also had some positive outcomes and can be implemented without additional costs, which meets the definition of success. Vouchers provide the ability for students to escape a bad public school and enroll in a higher performing private school. One of the great things about voucher and charter programs is that a student could potentially revert back to their original school if the new school is not to their satisfaction.

However, the creative destruction resulting from expanding charter and voucher programs may prevent a student from returning to their original public school. If demand for the original school becomes too low, it may be closed. These programs allow students to experiment with different learning environments and create opportunities they may have never had without them. Although research illustrates some promising trends, it does not overwhelmingly throw support for charter and voucher school programs. There is not any definite, "smoking gun" kind of proof that expanding voucher and charter school programs would make schools more successful, but expanding them would make education more like a market opening up the possibility of the sort of competition that would lead to a better education for U.S. children. Improvement is necessary and change must be put forth.

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Table 1, Mean scores by gender in PISA

2012

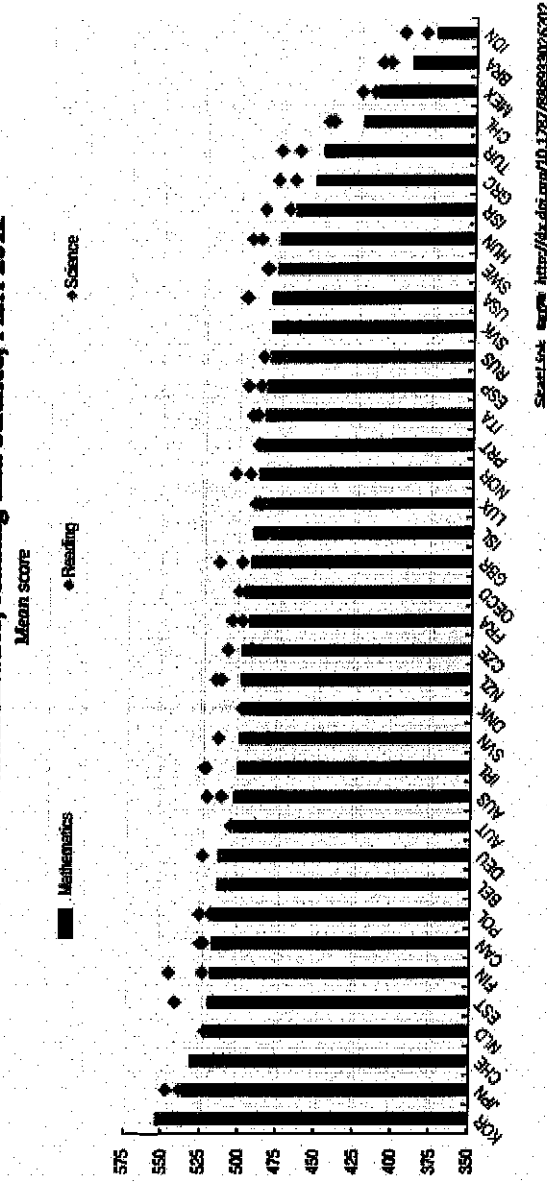
	Mathematics scale				Reading scale				Science scale			
	Females		Males		Females		Males		Females		Males	
	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
Australia	498	2.0	510	2.4	530	2.0	495	2.3	519	2.1	524	2.5
Austria	494	3.3	517	3.9	508	3.4	471	4.0	501	3.4	510	3.9
Belgium	509	2.6	520	2.9	525	2.7	493	3.0	503	2.6	507	3.0
Canada	513	2.1	523	2.1	541	2.1	506	2.3	524	2.0	527	2.4
Chile	411	3.1	436	3.8	452	2.9	430	3.8	442	2.9	448	3.7
Czech Republic	493	3.6	505	3.7	513	3.4	474	3.3	508	3.5	509	3.7
Denmark	493	2.3	507	2.9	512	2.6	481	3.3	493	2.5	504	3.5
Estonia	518	2.2	523	2.6	538	2.3	494	2.4	543	2.3	540	2.5
France	491	2.5	499	3.4	527	3.0	483	3.8	500	2.4	498	3.8
Germany	507	3.4	520	3.0	530	3.1	486	2.9	524	3.5	524	3.1
Greece	449	2.6	457	3.3	502	3.1	452	4.1	473	3.0	460	3.8
Hungary	473	3.6	482	3.7	508	3.3	468	3.9	493	3.3	496	3.4
Iceland	496	2.3	490	2.3	508	2.5	457	2.4	480	2.9	477	2.7
Ireland	494	2.6	509	3.3	538	3.0	509	3.5	520	3.1	524	3.4
Israel	461	3.5	472	7.8	507	3.9	463	8.2	470	4.0	470	7.9
Italy	476	2.2	494	2.4	510	2.3	471	2.5	492	2.4	495	2.2
Japan	527	3.6	545	4.6	551	3.6	527	4.7	541	3.5	552	4.7
Korea	544	5.1	562	5.8	548	4.5	525	5.0	536	4.2	539	4.7
Luxembourg	477	1.4	502	1.5	503	1.8	473	1.9	483	1.7	499	1.7
Mexico	406	1.4	420	1.6	435	1.6	411	1.7	412	1.3	418	1.5
Netherlands	518	3.9	528	3.6	525	3.5	498	4.0	520	3.9	524	3.7
New Zealand	492	2.9	507	3.2	530	3.5	495	3.3	513	3.3	518	3.2
Norway	488	3.4	490	2.8	528	3.9	481	3.3	496	3.7	493	3.2
Poland	516	3.8	520	4.3	539	3.1	497	3.7	527	3.2	524	3.7
Portugal	481	3.9	493	4.1	508	3.7	468	4.2	490	3.8	488	4.1
Slovak Republic	477	4.1	486	4.1	483	5.1	444	4.6	467	4.2	475	4.3
Slovenia	499	2.0	503	2.0	510	1.8	454	1.7	519	1.9	510	1.9
Spain	476	2.0	492	2.4	503	1.9	474	2.3	493	1.9	500	2.3

Sweden	480	2.4	477	3.0	509	2.8	458	4.0	489	2.8	481	3.9
Switzerland	524	3.1	537	3.5	527	2.5	491	3.1	512	2.7	518	3.3
Turkey	444	5.7	452	5.1	499	4.3	453	4.6	469	4.3	458	4.5
United Kingdom	488	3.8	500	4.2	512	3.8	487	4.5	508	3.7	521	4.5
United States	479	3.9	484	3.8	513	3.8	482	4.1	498	4.0	497	4.1
EU 28	..	..	..	..	..	..	..	..	..	..	..	..
OECD	489	0.5	499	0.6	515	0.5	478	0.6	500	0.5	502	0.6
Brazil	383	2.3	401	2.2	425	2.2	394	2.4	404	2.3	406	2.3
China	..	..	..	..	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	373	4.3	377	4.4	410	4.3	382	4.8	383	4.1	380	4.1
Russian Federation	483	3.1	481	3.7	495	3.2	455	3.5	489	2.9	484	3.5
South Africa
Not available

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Source: OECD Factbook 2014

Performance in mathematics, reading and science, PISA 2012

Bar Graph of Table 1.



Source: <http://dx.doi.org/10.1787/889023026202>