

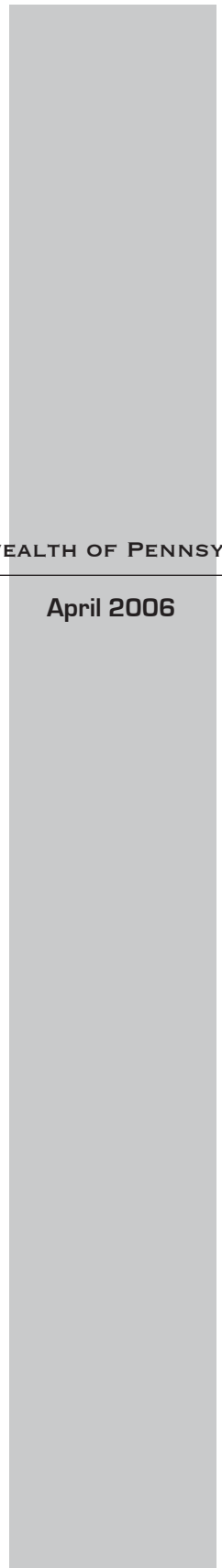
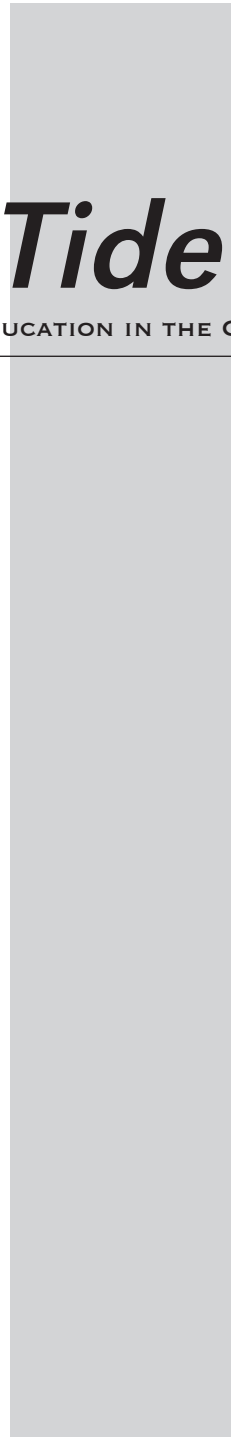
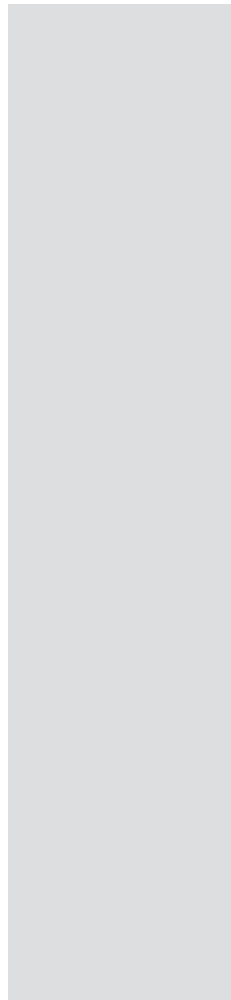
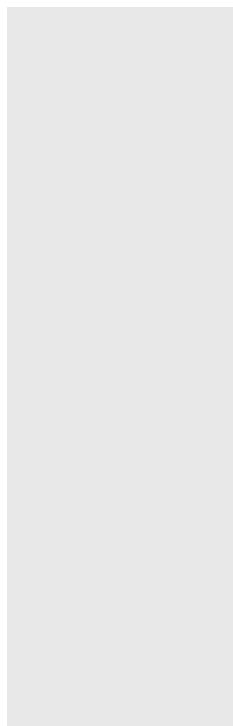


# *A Rising Tide*

THE CURRENT STATE OF HIGHER EDUCATION IN THE COMMONWEALTH OF PENNSYLVANIA

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April 2006



The Education Policy and Leadership Center



The Learning Alliance for Higher Education





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April 2006

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# acknowledgments

**T**he debts we incurred in the preparation of this study are many. We were blessed with an extraordinary Advisory Committee that met on short notice, told us exactly what they thought, and encouraged us to be precise and, if necessary, controversial. The members of our Advisory Committee and their affiliations (listed alphabetically for purposes of identification only) are the following:

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It is important to note that none of the members of the Advisory Committee was asked to concur in our findings or to endorse our recommendations. To four members of this group, we owe special thanks: Ian Rosenblum for opening doors and keeping us honest; James Gearity for his wise counsel; Mark Lafer for sharing with us his knowledge of higher education across the Commonwealth; and David Longanecker for providing much-needed perspective to our conclusion.

Aims McGuinness, Patrick Kelly, Linda Keep, and John Clark of NCHEMS shared with us a variety of data and insights from their own analysis of higher education trends in Pennsylvania. Sue Copella and Mike DeFrank of the Pennsylvania State Data Center of the Pennsylvania State University shared their expertise on the availability of Census Data elements. Ed Legge of the Pennsylvania Department of Labor and Industry provided us with expertise and information on occupation and employment. Steven Dear supplied us with school district data, and Louis Bohl-Fabian with data about remedial study and higher education enrollment patterns. Lori Shorr of the Pennsylvania Department of Education provided good advice and helped guide the analysis of remediation.

Our largest debt, however, is to Commonwealth Secretary of Policy and Planning Donna Cooper who both stuck with us and, when necessary, stuck it to us. Her sense of policy and sheer capacity for asking tough, sensible questions contributed to a richer and more robust study.

*Ronald Cowell, Project Chair, and Robert Zemsky, Study Director*

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overview

# first questions, first answers

**T**he questions came first—from the Commonwealth’s Secretary of Policy and Planning, Donna Cooper; from members of the Advisory Committee convened for the project; and from the project’s own research team.

- Who is being served by higher education in the Commonwealth—and, just as importantly, who is not being served?
- Could we account for differing higher education participation rates among different populations?
- Was a Pennsylvania college education still affordable? How many potential students had been shut out of the market because the prices colleges and universities charged were too high?
- Were institutions in Pennsylvania graduating enough scientists and engineers to fuel a growing Pennsylvania economy?
- Was the need to remediate large numbers of students driving up costs and hence prices? Who was being remediated, by whom, at what cost, and with what effect?

*A Rising Tide: The Current State of Higher Education in the Commonwealth of Pennsylvania* provides our answers to those questions. Our intention in releasing this report is to start a discussion among those who influence higher education policy in the state—a discussion of ends and means, of paths forward, and of the interplay between policy and markets and its impact on student and institutional decision-making. If our efforts prove successful, the Commonwealth will be rewarded with a discussion that is both meaningful and rooted in the actual condition of higher education across the state.

In summary form, here are the answers put forth in the body of our report.

## **Greater Educational Attainment and Participation**

The good news is that Pennsylvanians across the board have enjoyed increasing access to higher education. More start college, earn a baccalaureate degree, and continue their higher educations through graduate and professional study.

## **However, Persistent Gaps Remain**

The bad news is that the Commonwealth has made little, if any, progress in closing the gap between majority and minority attainment. Just as disappointing is the gap between the prospects of young people schooled in rural as opposed to urban and suburban communities.

## **Solving the Participation Equation**

Some of what our analysis teaches has long been known. More affluent communities are more likely to send their children to college; poor job prospects encourage high school graduates to seek out more education; better performing school districts are more likely to send their high school graduates to col-

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lege. Less well understood is just how often young adults in rural communities remain at significant disadvantage, in part because they are more likely to attend a poorly performing school, in part because college attendance is not as strong a tradition in their communities, and in part because greater distances to two-year colleges mean they are less likely to have ready access to the low-risk higher education portals that community colleges provide. Poorly performing schools have the same negative impact on college enrollments. The gap between college attendance rates among non-rural school districts along the poor-performance/better-performance divide is actually greater than the same gap for rural school districts. Our hope is that this analysis will focus new attention on the importance of secondary school quality and the ability of these schools to graduate college- and work-ready students as a means of reducing persistent gaps in educational participation and attainment.

### **The Importance of Price**

Most young adults in Pennsylvania found their higher education options to be expensive, but still affordable. Indeed, the cost of attendance is only one of many factors that impact higher education participation for most young adults. But there is a sizeable group of Pennsylvanians—4 to 8 percent of young adults who are disproportionately African American, Hispanic American, or from rural communities—who believe the high tuitions charged by Pennsylvania institutions preclude them from starting college. Helping this specific group of potential students will require carefully targeted initiatives, rather than any broad-brush attempt to lower the cost of college for everyone.

### **Educating Technically Proficient Workers**

Over the last decade, Pennsylvania’s colleges and universities have increased their production of technically skilled graduates in mathematics, science, computing, and engineering by 25 percent. A substantial part of this growth, however, was due to the enrollment in Pennsylvania of out-of-state students who were responding to national labor market signals that technically challenging jobs would lead to better employment opportunities. The shortage in proficient technical workers in Pennsylvania probably has more to do with the quality of secondary education, particularly in the disciplines of science and mathematics, than it does with the absence of opportunities to pursue a baccalaureate degree in those subjects at a Pennsylvania institution. Pending an increase in the supply of those who want to both study and work in Pennsylvania, Commonwealth employers will have to make their jobs more attractive, by offering higher salaries, better working conditions, and more opportunities for advanced study.

### **Making Sense of Remediation**

Remediation will continue to be a vexing issue for Pennsylvania. In four-year institutions—public or private—with increasing enrollments, the most likely result will be to exclude most and eventually all students requiring remediation. But for the Commonwealth’s community colleges, remediation will remain a core responsibility. Two broad, although not necessarily mutually exclusive, choices will likely face the Commonwealth: invest in the academic programs of those secondary schools currently producing most of the students requiring remediation; and/or rationalize the Commonwealth’s investment in community college programs of remediation. What will not work is to “hang tough,” insisting that remediation is neither the business of higher education nor the financial responsibility of the Commonwealth.

### **Conclusion**

Higher education across Pennsylvania is largely a success story. Having been left to their own devices, the Commonwealth’s college and universities have responded well, if not always perfectly. The task at hand is to learn how to use the forces of the market and the Commonwealth’s limited funds to broaden access to underserved regions and populations; to continue to strengthen the teaching of math, science, computing, and engineering at both the collegiate and secondary school levels; and to achieve a better alignment among the Commonwealth’s rich variety of postsecondary programs.

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# introduction

In a world of markets—where public and private funding is readily commingled, and public, non-profit, and for-profit providers compete for students—ensuring that an appropriate mix of institutions and programs serves the public interest remains a public responsibility. In Pennsylvania, promoting this interest requires that postsecondary institutions across the Commonwealth satisfy three basic criteria for an effective and efficient higher education market:

1. **Full Access**, so that anyone with the necessary qualifications can pursue postsecondary education;
2. **Reasonable Choice**, such that individual students can pursue programs of study that are personally rewarding and reasonably priced; and
3. **Fair Return** on the public funds invested in higher education, such that there is both enhanced economic progress and civic participation across the Commonwealth.

Assessing how well Pennsylvania’s mixed market for higher education competes for and serves students requires asking once more the questions Clark Kerr posed in his assessment of higher education in the 1970s: Who benefits? Who pays? Who should pay?

In Pennsylvania, these issues and questions have taken on immediate importance as the Commonwealth anticipates a systematic review of its policies toward, and investments in, higher education. To prepare the way, the Commonwealth helped launch this independent study on the state of higher education across Pennsylvania, addressing the key trends, both local and national, that are reshaping the enterprise: a shift to market funding for higher education institutions; the new importance of a college education as a consumer necessity; the use of market mechanisms to distribute public funds for higher education; and the blurring of those distinctions that once neatly arrayed individual institutions into well-defined categories.

Our study emerges at a time when Pennsylvania ranks well on three of the four key measures reported in *Measuring Up 2004: The National Report Card on Higher Education* compiled by The National Center for Public Policy and Higher Education. Pennsylvania earned an “A” in Completion, as measured by the persistence of students at both two- and four-year institutions toward a degree; a “B” in Participation, as measured by the proportion of young Pennsylvanians who attend a college or university and the scale of adult enrollments in institutions of higher education; and a “B” in Benefits, as measured by the percentage of the population with a college degree, increased personal income, and enhanced civic participation including voting. Taken together, Pennsylvania’s success on these key measures ranked it among the top 20 percent of American states in higher education performance—an important tribute to a large and largely effective system of higher education that combines public and private institutions in a variety of settings and with a variety of missions.

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However, on *Measuring Up*'s fourth key measure—Affordability—Pennsylvania, along with 35 other states, received an “F,” reflecting that the cost of attending a public institution in the Commonwealth had increased substantially faster than average family incomes over the last decade. Just how “unaffordable” Pennsylvania institutions have in fact become is one of the key questions this study examines.

In considering these questions, our goal has been to provide a statistical baseline against which a range of public policy initiatives might be evaluated. We would be remiss, however, if we did not observe at the outset the Commonwealth's historic habit of getting policy without making policy when it comes to postsecondary education. For most of the last half-century, Pennsylvania's system of higher education has evolved largely without either plan or design. During this period, only three major efforts emerged that could be considered statewide higher education initiatives: (1) the creation of the Pennsylvania Higher Education Assistance Agency (PHEAA) in 1963; (2) the authorization leading to the creation of community colleges in 1963; and (3) the consolidation of state-supported colleges into the Pennsylvania State Higher Education System (PASSHE) 20 years later. The legislatively mandated master plans that have been developed by the State Board of Education never garnered sufficient attention or traction in the legislature to make a difference. The pattern in Pennsylvania has been to provide appropriations without restraint or conditions. And the result is an interesting case in which a state's higher education institutions have been allowed to evolve unfettered in a world increasingly shaped by market forces.

In organizing our analysis of key questions, we have employed three guiding principals.

- **First, we have focused on Pennsylvania's regions rather than the Commonwealth as a whole.** Dynamics at the regional and local level are primary determinants shaping the demand for higher education and the supply of college-ready students. Economic trends, institutional access, even transportation and infrastructure concerns (such as the availability of high-bandwidth Internet connections) can impact the educational experiences and aspirations of students. To treat the state as an aggregate would erase the critical gaps that higher education policy might seek to address.
- **Second, we have not analyzed institutions on an individual basis, but rather focused on groups of institutions according to their type and position in the higher education market.** Much of the data used in this study can be disaggregated by institution. Had we done so, however, we would have missed the impact of the workings of the market and the interplay of officially designated institutional labels.
- **Third, we have, wherever possible, focused on the direction and pace of change rather than on a single moment in time—a single snapshot.** To have done otherwise would have skewed our interpretation of key measures, such as educational attainment. It would have precluded, for example, an acknowledgement that attainment rates have risen for all demographic groups across the state, and emphasized the gaps alone.

Our intention is to start a discussion—of ends and means, of paths forward, and of the interplay between policy and markets. If our efforts prove successful, the Commonwealth will be rewarded with a discussion that is both meaningful and rooted in the actual condition of higher education across the Commonwealth.

*Robert Zemsky, Study Director*

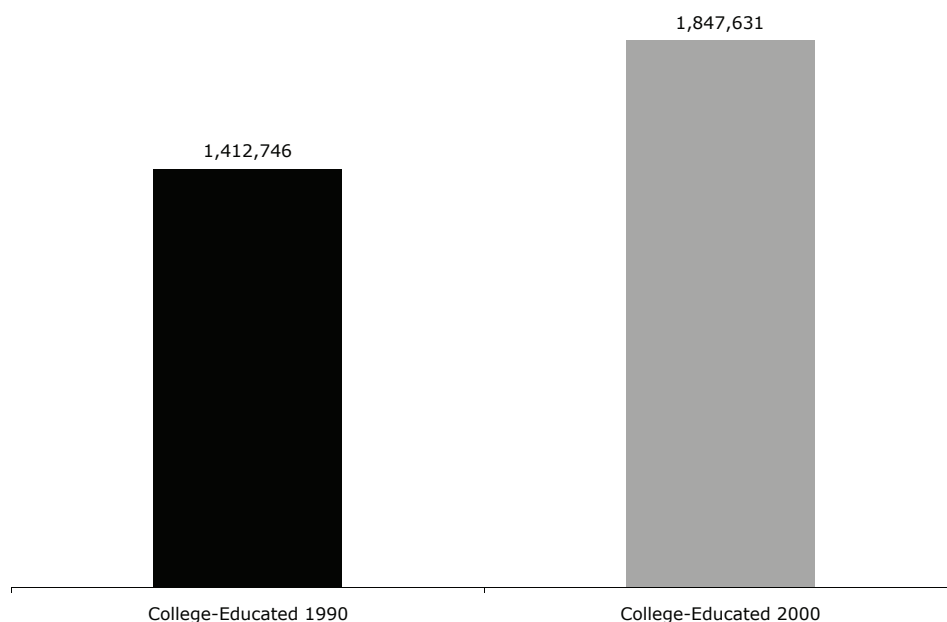
## educational attainment: a rising tide, a persistent gap

**A**s with most descriptive analyses, rarely is there only one story to be told. This review of the current state of higher education in the Commonwealth of Pennsylvania is no exception. It begins with a look at the fundamentals: a mapping of baselines for educational attainment in the Commonwealth across race/ethnicity and geographic region. What the analysis reveals is a tale of two Pennsylvanias. There is, to begin with, the Pennsylvania that is better educated, in terms of the proportion as well as the number of residents with associate's, bachelor's, and advanced professional degrees than any other time in the Commonwealth's history. And then there is the story in which, despite a rising tide in educational attainment, the gaps separating majority and minority populations and rural and urban/suburban Pennsylvanians are as stark today as they were a decade ago.

Using data drawn from the 1990 and 2000 U.S. Census, from the Integrated Postsecondary Education Data System (IPEDS) for 1994 and 2004, and supplemental data from the National Center for Higher Education Management Systems (NCHEMS) and the National Center for Public Policy and Higher Education, we tracked educational attainment rates in Pennsylvania from 1990 onwards.

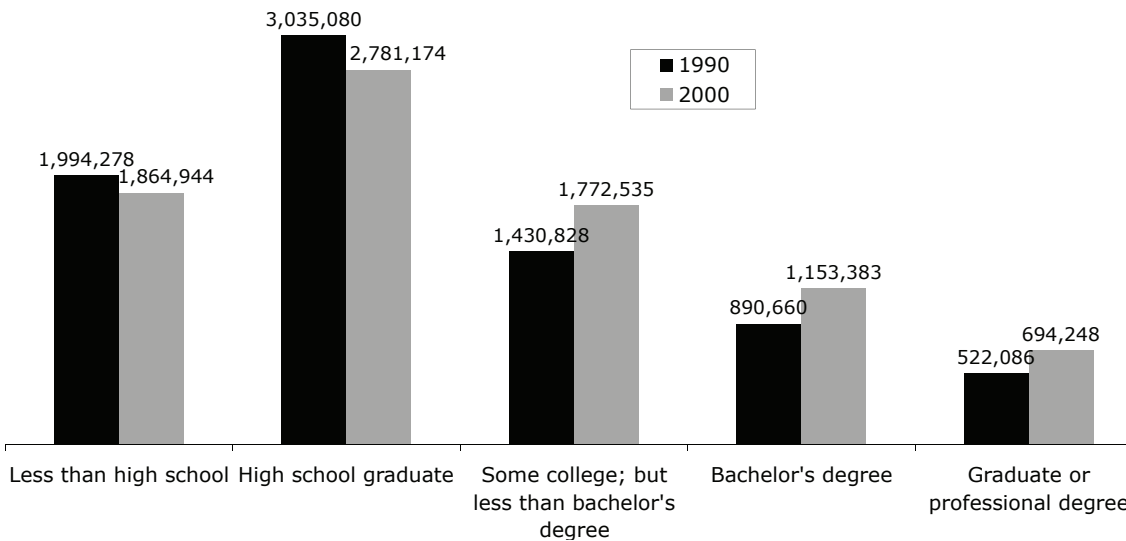
Overall, between 1990 and 2000, the number of college-educated Pennsylvanians increased by nearly half a million—specifically, by 434,885 residents (Display 1). This 30 percent increase was not due to an increase in the population aged 25 or older, which grew by only 5 percent in that same decade.

**Display 1**  
**Educational Attainment of Pennsylvanians 25 Years and Older**



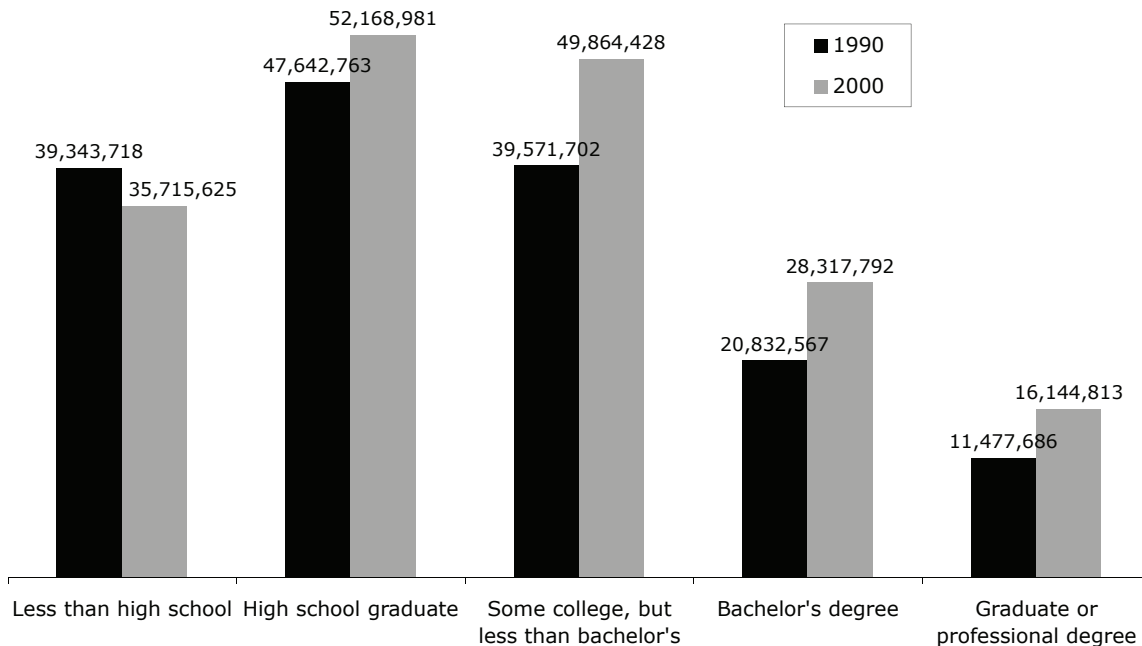
Source: U.S. Census 2000 File: SF3; U.S. Census 1990 File: STF3

**Display 2a**  
**Educational Attainment of Pennsylvanians 25 Years and Older by Level, 1990 and 2000**



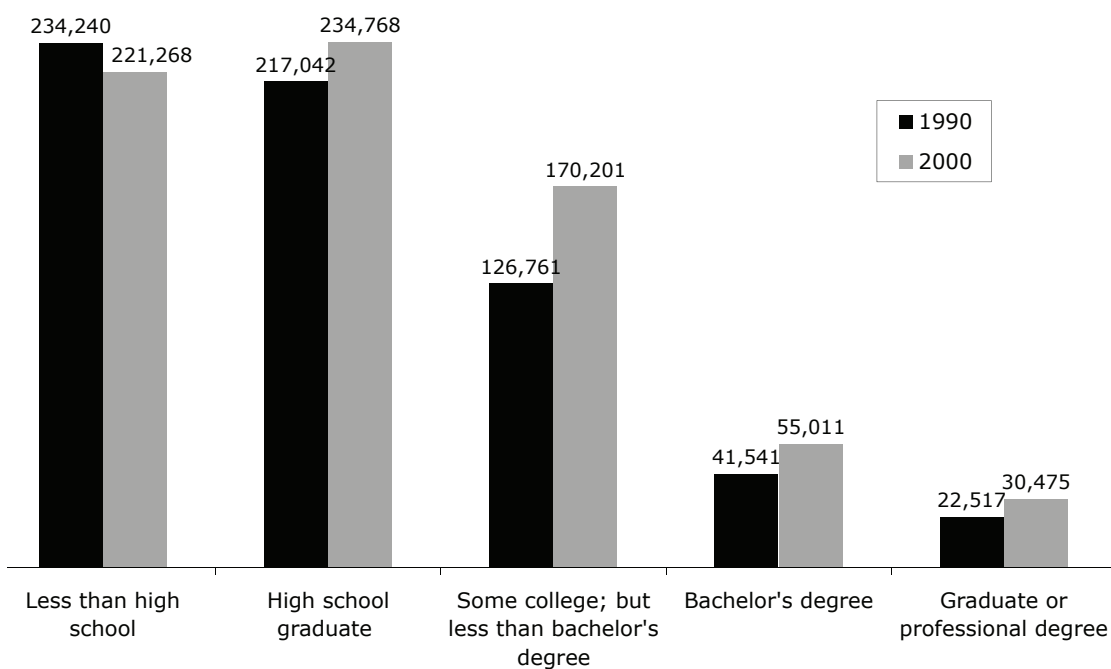
Source: U.S. Census 2000 File: SF3; U.S. Census 1990 File: STF3

**Display 2b**  
**Educational Attainment of Americans 25 Years and Older by Level, 1990 and 2000**



Source: U.S. Census 2000 File: SF3; U.S. Census 1990 File: STF3

**Display 3**  
**Educational Attainment of African American Pennsylvanians 25 Years and Older**



Source: U.S. Census 2000 File: SF4; U.S. Census 1990 File: STF3

While the graphs for educational attainment in Pennsylvania and the U.S. (Displays 2a and 2b, respectively) have the same general shape, they differ in important ways. By 2000, a higher percentage of Pennsylvanians had attended college (52 percent versus 44 percent) and had persisted to a baccalaureate degree (24 percent for Pennsylvania versus 22 percent) than had students in the nation as a whole. A higher proportion of Pennsylvanians had also earned a professional or advanced degree: 9 percent versus 8 percent. Indeed, at each level of educational attainment the gap widened, reflecting again the rising tide that characterizes increases in educational attainment in Pennsylvania.

### **Attainment by Race/Ethnicity**

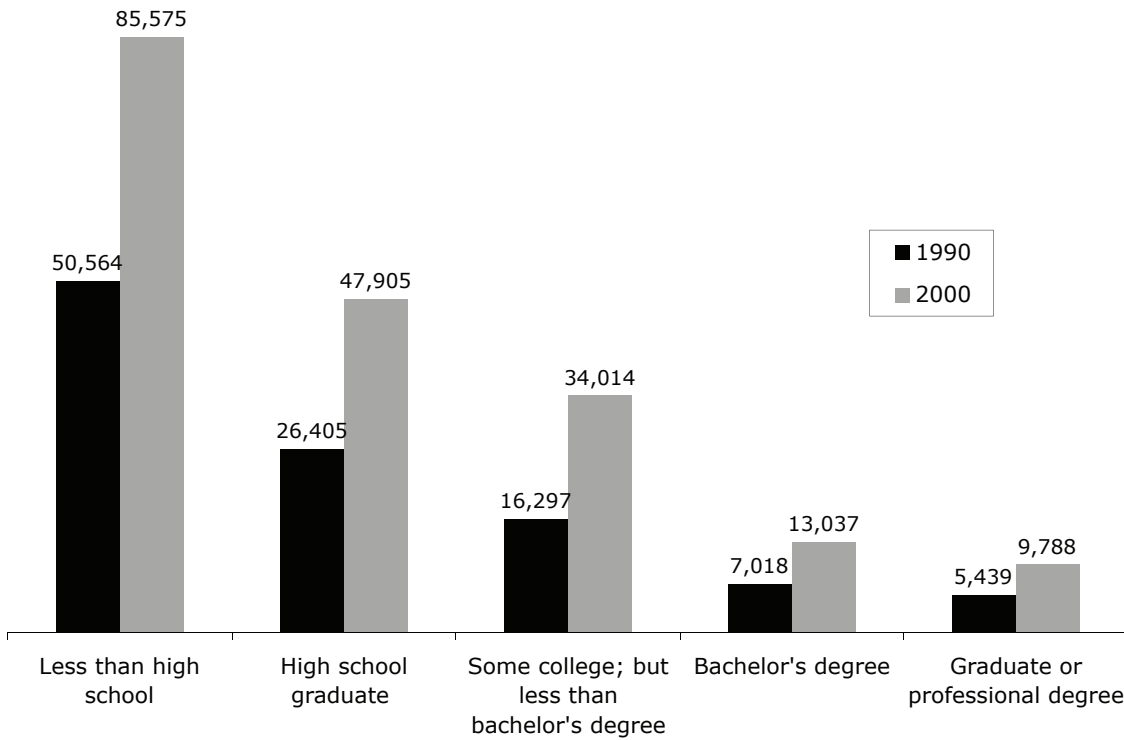
This increase in educational attainment applied to all demographic groups in the Commonwealth, defined here as white, African American, Hispanic American, and Asian American residents. As shown in Display 3, between 1990 and 2000 the number of African American Pennsylvanians receiving some college education and earning a bachelor's or a graduate/professional degree increased 5 percentage points, from 30 to 35 percent.

Hispanic Americans in Pennsylvania also experienced an increase in educational attainment, though to a more substantial degree than African American residents. In this case, some of the dramatic increases in the high-school-age population are due to a recent in-migration of Hispanic Americans to the state. The number of Pennsylvania Hispanic Americans who had attained some college more than doubled, while those with a baccalaureate degree nearly doubled, as did those with a graduate or professional degree (Display 4). Taking into account the increase in Hispanic Americans living in Pennsylvania, many of whom have less than a high school diploma, the overall proportion of Hispanic Americans with collegiate experience increased by just 2 percentage points, from 27 to 29 percent.

Already the ethnic group with the highest level of educational attainment (60 percent with collegiate experience), the number of Asian Americans residing in Pennsylvania increased by 42 percent, while the

**Display 4**

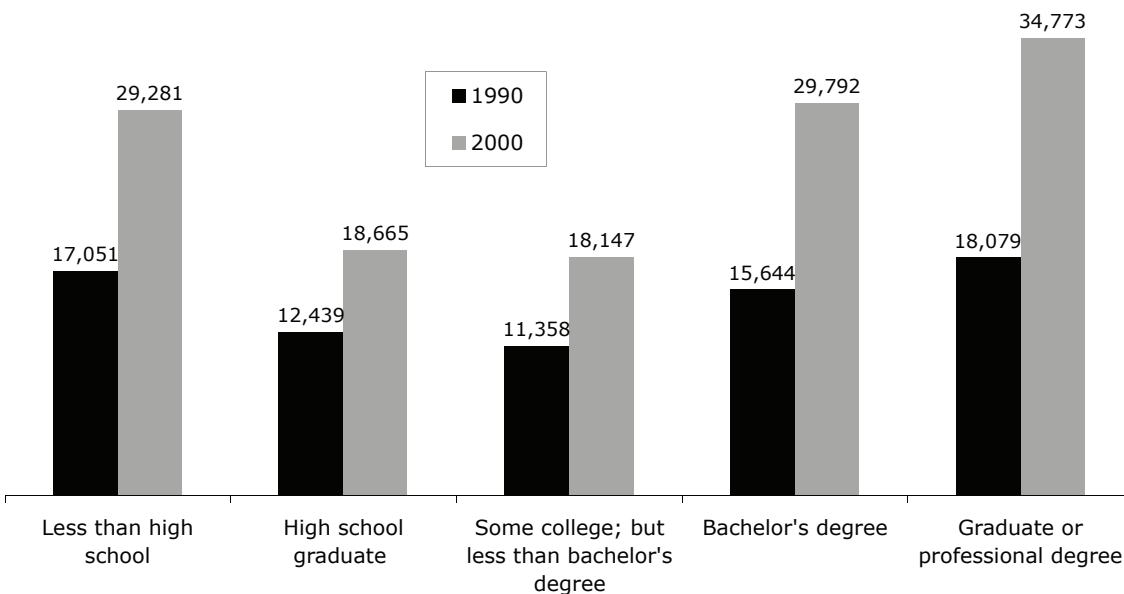
**Educational Attainment of Hispanic American Pennsylvanians 25 Years and Older**



Source: U.S. Census 2000 File: SF4; U.S. Census 1990 File: STF3

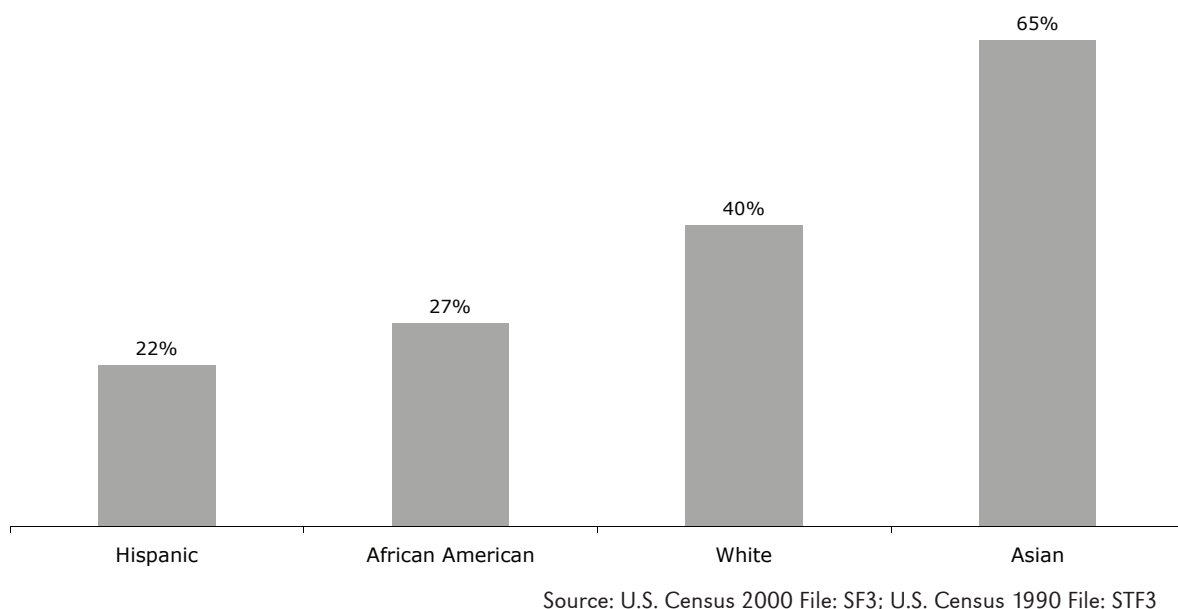
**Display 5**

**Educational Attainment of Asian American Pennsylvanians 25 Years and Older**



Source: U.S. Census 2000 File: SF4; U.S. Census 1990 File: STF3

**Display 6**  
**Percentage of 18- to 24-Year-Olds Currently Enrolled in Higher Education**



proportion of this group with either some college, a baccalaureate degree, or a graduate/professional degree increased slightly faster—from 60 percent in 1990 to 63 percent in 2000 (Display 5).

While a rising tide of educational attainment has lifted all boats in Pennsylvania, persistent gaps remained across demographic groups (Display 6) in the percentage of college-aged students enrolled in higher education. Although the proportion of Asian American residents enrolled in higher education has exceeded that of white residents, Hispanic and African American college participation continues to be substantially lower than white participation: for Hispanic Americans, by 18 percentage points; and for African Americans, by 13 percentage points. In interpreting these figures, it is important to remember that a substantial portion of those aged 22 to 24 have had college experience, many even have college degrees, but were not, at the time the 2000 Census was taken, still enrolled in college.

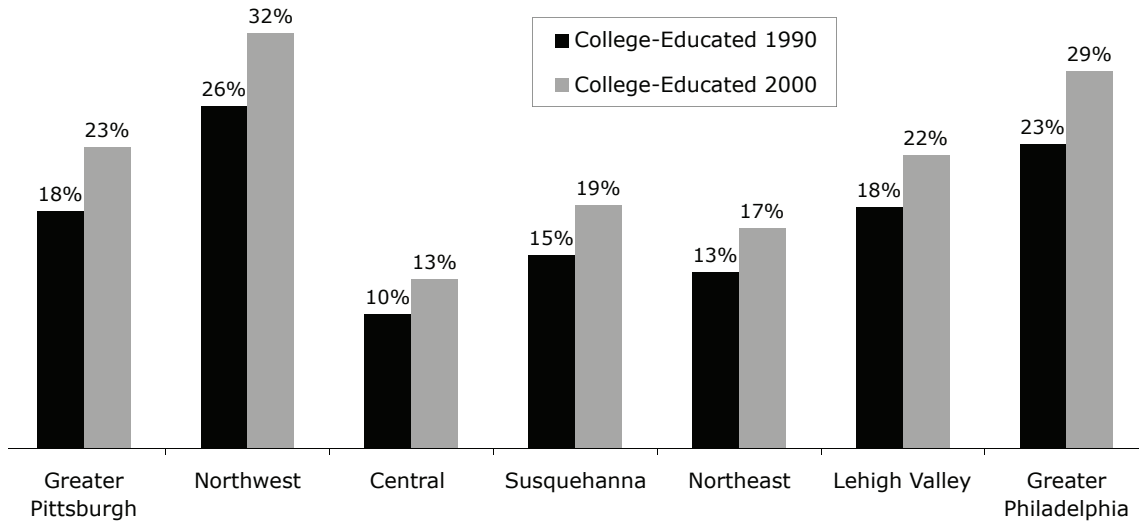
### **Attainment by Geographic Region**

While differences by geographic region play a less prominent role in discussions of educational access and attainment, they are an important part of the Pennsylvania story. The Department of Labor and Industry has divided the Commonwealth into seven regions, ranging from the Greater Pittsburgh and Northwest regions in the West, to the Greater Philadelphia area, the Northeast, and the Lehigh Valley in the East. In the center of the Commonwealth are the Susquehanna Valley and the largely rural Central region of the state.

Here, too, a rising tide has lifted all—with college attainment rates measured as the percentage of the population with some college, a baccalaureate degree, or a graduate/professional degree, increasing for each and every region from 1990 to 2000. (For purposes of analytic consistency, we have excluded Centre Country, the home of the Penn State University main campus, from this analysis).

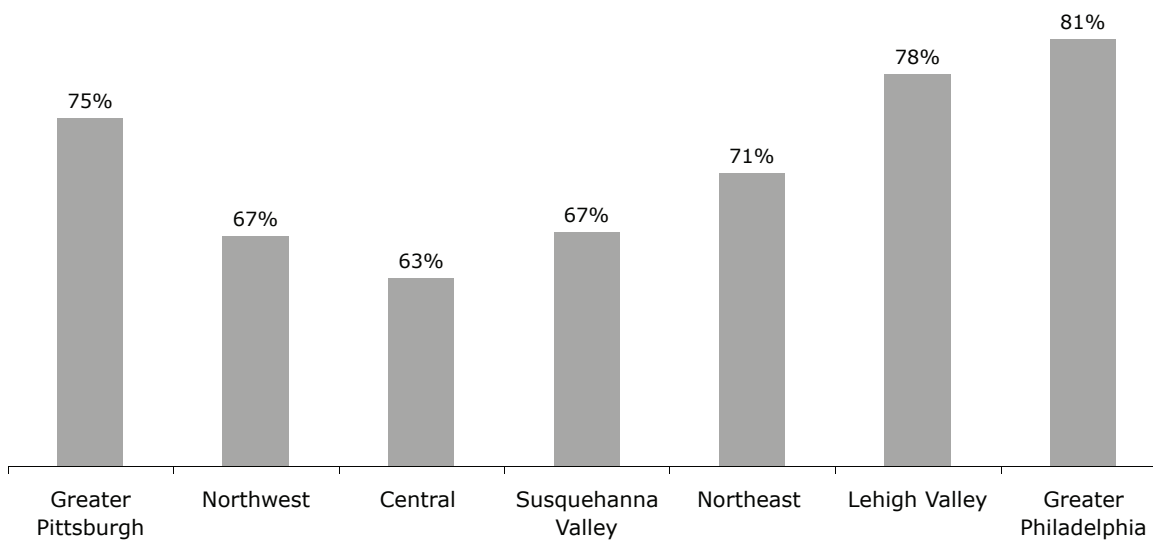
Yet, the differences in attainment that were apparent in 1990 between the Central region (minus Centre County), with a 10 percent rate of college attainment, and the Greater Philadelphia region, with a nearly 20 percent rate, were just as evident ten years later. In 2000, the gap between the Central Region and the Greater Philadelphia area was 16 percentage points.

**Display 7**  
**Educational Attainment of Pennsylvanians 25 Years and Older by Region**



Source: U.S. Census 2000 File: SF3; U.S. Census 1990 File: STF3

**Display 8**  
**Pennsylvania High School Graduates Planning to Go to College, by Region**



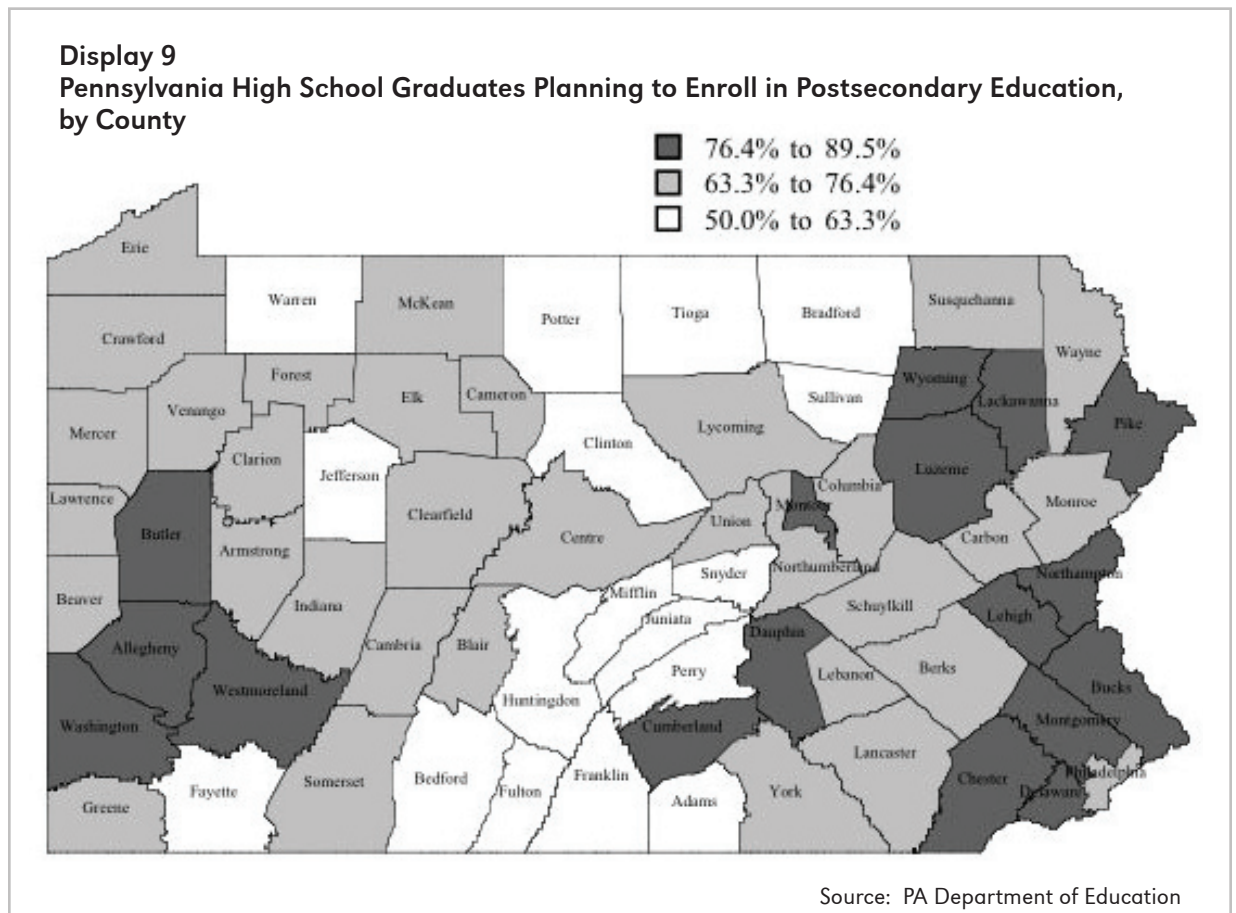
Source: PA Department of Education

Thus, the second fundamental gap in higher education participation in the Commonwealth is regional in nature. Central counties, which tend to be more rural than urban and less economically robust than the regions surrounding Pennsylvania’s major metropolitan areas, send a smaller share of students to postsecondary institutions than the counties on the west and east ends of the state. The probability that students are not being served by higher education in these regions is higher than in other parts of the Commonwealth.

Because the Pennsylvania Department of Education surveys every school district in the Commonwealth each year about how many of their seniors intend to enroll in a postsecondary institution within two years of graduation, it is possible to add further detail to this disparity between urban and rural regions across the Commonwealth. Display 8 aggregates these school district reports by region, with Centre County’s school districts again excluded from the analysis. Plotting this school district data on a Pennsylvania county map further illustrates the disparity between essentially urban and suburban Pennsylvania on either end of the state and its rural heartland (Display 9).

### Summary

We have, then, the answer to the question, “Who is being served by Pennsylvania higher education?” and, by extension, “Who is not being served?” The good news is that Pennsylvanians across the board have enjoyed increasing access to higher education. More start college, earn a baccalaureate degree, and continue their higher educations through graduate and professional study. The bad news is that the Commonwealth has made little if any progress in closing the gap between majority and minority attainment, particularly for African Americans and Hispanic Americans. Just as disappointing is the gap between the prospects of young people schooled in rural as opposed to urban and suburban communities. As before, the policy challenge begins with a better understanding of why these gaps are so persistent and what public agencies in a state that has largely eschewed a detailed higher education plan might do to reverse them.



enrollment patterns:  
**the interplay of  
markets and policy**

**T**oday, there are few institutions in the United States that are immune to the impact of market forces. Increasingly, it is the market that dominates the environment in which institutions operate and, ultimately, define their missions. And no sector, perhaps with the exception of non-profit hospitals, has felt this impact as strongly as the nation's colleges and universities. What is true of the nation as a whole is true of Pennsylvania—and more. Across the Commonwealth, the near absence of public initiatives designed either to aid or to regulate higher education has made Pennsylvania a national example of how market competition can both impact and recast a state's system of higher education. An increased reliance on student enrollments to generate operating revenue and increased competition among institutions for students willing and able to pay the costs associated with a college education has made Pennsylvania institutions pioneers in the art of market management and revenue maximization.

To understand how the higher education market distributes student enrollments in the Commonwealth, we cast our analysis using the lenses of both policy and market, principally by classifying institutions using the formal designations for higher education institutions employed by the Pennsylvania Department of Education (PDE) and the market segment designators developed by the National Center for Postsecondary Improvement (NCPI) at Stanford University.

### **Policy Designations for Pennsylvania Institutions**

The PDE classification system divides accredited postsecondary institutions into six general categories:

1. **The Pennsylvania State System of Higher Education (PASSHE).** PASSHE has its roots in the previous state normal schools and teacher colleges. The Normal School Act of 1857 established teacher-training institutions throughout Pennsylvania. The School Code of 1911 called for the state purchase of all normal schools, and by 1921 the present configuration of the 14 state-owned institutions was established. The normal schools evolved from state normal schools to state teacher colleges to state colleges. On November 12, 1982, Act 188 was signed into law establishing the Pennsylvania State System of Higher Education on July 1, 1983, including the 13 former state colleges and Indiana University of Pennsylvania.
2. **State-Related (SR) Institutions.** State-related status has been conferred upon four institutions of higher education through their initial charter or subsequent legislation. Such status defined the impacted universities as “instrumentalities of the Commonwealth” in the Commonwealth System of Higher Education. They include The Pennsylvania State University, Temple University, The University of Pittsburgh, and The Lincoln University of Pennsylvania.
3. **Private, Four-Year Colleges and Universities.** Ninety-one private, four-year colleges and universities operate within Pennsylvania, with some receiving state support. Each private institution has specific degree-granting authority based on the laws in effect at the time of approval and on the type of operation requested. To operate as degree-granting institutions in Pennsylvania, private institutions must obtain a certificate of authority from the properly constituted legal entity within the state.

- 
4. **Community/Technology Colleges.** Community colleges are local and regional institutions that provide associate's degrees to students as well as job skills to working adults. They often provide a gateway to postsecondary education for students whose academic performance in high school was not strong; provide workforce preparation and occupational certification programs; and satisfy remediation requirements for the four-year institutions with which they have articulation agreements. There are 14 community colleges in Pennsylvania, and one college of technology.
  5. **Specialized Associate's Degrees (SAD).** The State Board of Education, on January 14, 1982, adopted new regulations for specialized associate's degree programs. This specialized associate's degree was designed to recognize the role of the two-year postsecondary program in business and technical fields directed towards specialized occupational training often offered by proprietary institutions. These degrees are titled Associate in Specialized Business (ASB) and Associate in Specialized Technology (AST). The ASB/AST programs are more heavily oriented toward a specific occupational goal, with 70 to 80 percent of coursework focused in the major area of specialization and 20 to 30 percent of the work in general education studies. As of January 2005, there are 78 ASB/AST degree-granting schools in Pennsylvania.
  6. **Private, Two-Year Trade Colleges/Schools.** The Private Licensed Schools Act (Act 174 of 1986) created a single State Board of Private Licensed Schools with the authority to license and regulate private career and trade schools. As of 2002-2003, there are approximately 319 private licensed schools in Pennsylvania. Most of the schools offer certificate or diploma programs with 87 institutions authorized to grant specialized associate's degrees.

### **Market Segment Definitions**

In the late 1990s, the University of Pennsylvania's Institute for Research on Higher Education, as part of its work for NCPI, developed and tested a market taxonomy for baccalaureate institutions in the United States. Three years later, the same team extended their analysis to include community colleges. The market taxonomy itself uses a set of contextual variables (principally graduation, admit, and yield rates) to predict each institution's net price and hence market position. Once it was fully specified, the market taxonomy identified eight separate market segments as follows:

1. **Medallions**, a segment comprised of the nation's most competitive institutions and most competitive students, for which prestige-based rankings, like those annually published by *U.S. News & World Report*, have played an ever-increasing role in defining institutional ambitions and hence quality.
2. **Name Brands**, a segment populated by well-known institutions—thus the moniker “Name Brand”—most of which practice selective admissions, though their appeal is more likely to be regional than national. Many, but by no means all, of these institutions would like to be considered *Medallions*.

3. **Good Buys**, a segment comprised of a variety of institutions, for the most part offering full-scale undergraduate programs at prices often substantially less than those at institutions practicing selective admissions.
4. **Good Opportunities**, a segment comprised of institutions and students who often see higher education as a special opportunity; many of the students who shop in this segment are the first in their families to attend college.
5. **User-Friendly/Convenience** market, the one segment of the four-year market in which part-time as well as intermittent learners often dominate and where students shop for a friendly environment at an institution that understands their special needs, including the need to take courses at times that are truly convenient.
6. **Two-Year Institutions with a Degree Focus** generally produce certified and credentialed individuals; a large proportion of their students obtain associate’s degrees and certificates.
7. **Two-Year Institutions with a Mixed Focus** fall in between the two other two-year segments, producing more degrees than their *Course Focus* cousins, but fewer than the *Degree Focus* set.
8. **Two-Year Institutions with a Course Focus** generally allow students to “test the waters” or obtain spot training. They take courses to try their hands at higher education or to upgrade their skills, but are not involved in a full-fledged, formal program.

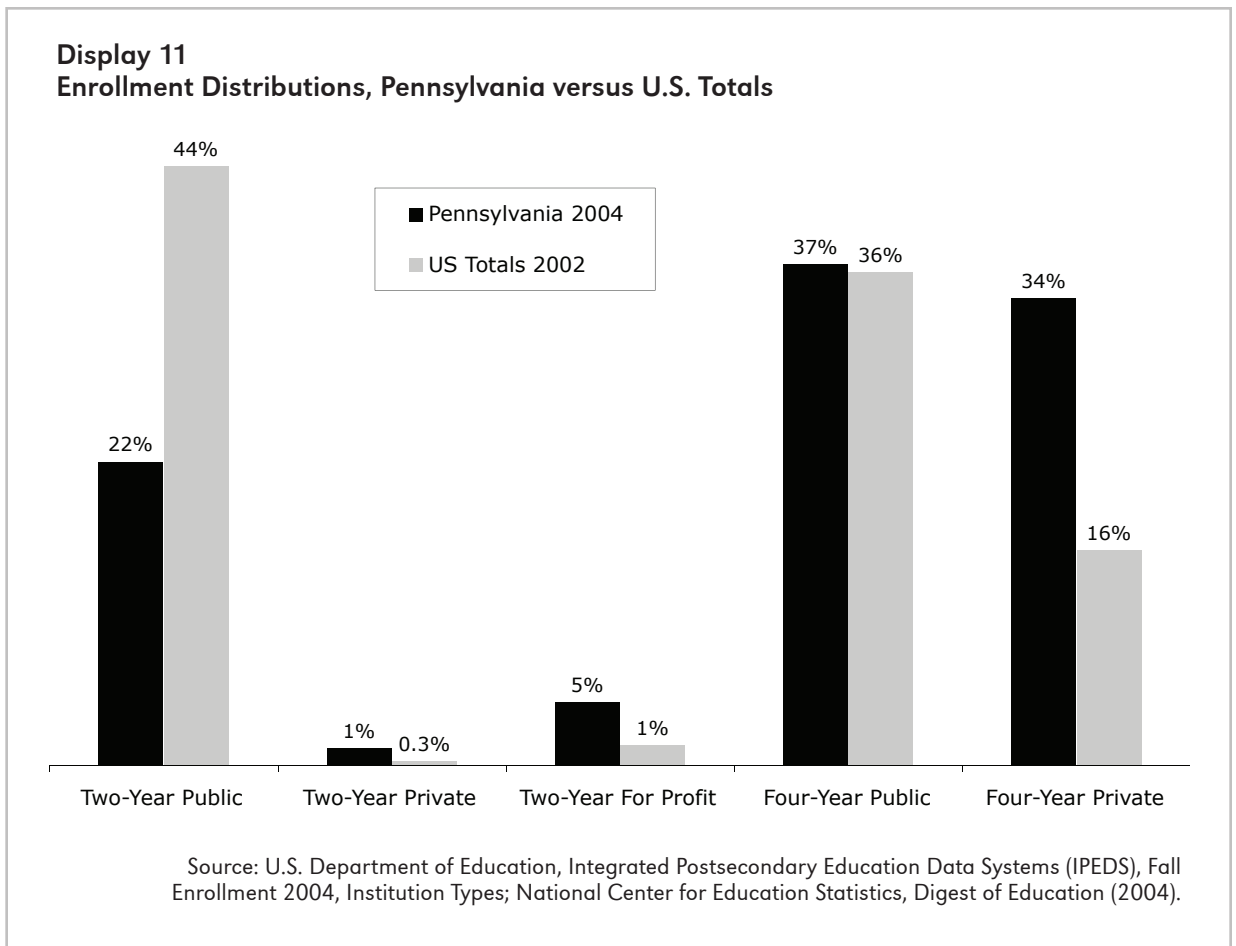
Of the 274 PDE-designated institutions granting postsecondary degrees at the undergraduate level, 243 fit the market classification scheme. These institutions are sorted by their market and Pennsylvania policy designations, as depicted in Display 10. There were sufficient data for all but 25 of these institutions to supply each with a market segment designator. Where a state-related university has a branch or secondary campus, that campus was treated as a separate institution if it reported separately to the Integrated Postsecondary Educational Data System (IPEDS).

We employed this two-way classification matrix in order to understand better where students across the Commonwealth sought their collegiate educations. How many sought a public *Medallion* education,

**Display 10**  
**Policy/Market Matrix Classification of Institutions**

	PASSHE	State-Related Universities	Private 4-Year Colleges & Universities	Community Colleges & Colleges of Technology	Private Non-profit 2-Year Colleges	For-Profit Associate's Degree Granting Institutions	Total
Medallion		1	11				12
Name Brand	1	1	12				14
Good Buy	11	17	44				72
Good Opportunity	2	7	8				17
User-Friendly/Convenience			7				7
Degree Focus				1	9	59	69
Mixed Focus				6		6	12
Course Focus		1		8		6	15
Not Classified		4	9	5		7	25
<b>Total</b>	<b>14</b>	<b>31</b>	<b>91</b>	<b>20</b>	<b>9</b>	<b>78</b>	<b>243</b>

Source: PA Department of Education



for example, as opposed to a private *Medallion* education? Did the one PASSHE institution that was a *Name Brand* campus attract different kinds of students than PASSHE institutions that were *Good Buys*? To what extent can the Commonwealth’s community colleges be classified as *Degree Focus* or *Course Focus* institutions?

### State Versus National Enrollment Patterns

To place undergraduate enrollments in Commonwealth institutions in perspective, it is helpful to begin with a general comparison of national and Pennsylvania enrollment distributions using traditional policy designations (Display 11). Two characteristics stand out—that the proportion of enrollments in Pennsylvania community colleges was just half of the national average; and that the proportion of enrollments in private four-year institutions was twice the national average.

### Tuition and Fees

To ensure that the market segment taxonomy was appropriate for examining higher education in the Commonwealth, the first step was to compare the two classification systems and determine their overall fit. Given that the market taxonomy closely tracks with price, the analysis ordered institutions by their market segment and then calculated their average price (measured as tuition and fees). Displays 12 and 13 report average tuition and fees for in-state and out-of-state students, respectively. In Pennsylvania, as across the nation, the prices that four-year colleges and universities charge follow the same highly predictable pattern—that is, prices for both in- and out-of-state students increase as you move left to right across the PDE policy designations and bottom to top from *Good Opportunity* to *Medallion* institutions. The pattern also roughly holds for community colleges and colleges of technology. Price patterns for non-profit and for-profit two-year institutions are less ordered due to the idiosyncratic nature of their markets.

### Display 12

#### 2004 Average In-State Tuition and Fees for Pennsylvania Students by Institutional Type and Market Segment

	PASSHE	State-Related Universities	Private 4-Year Colleges & Universities	Community Colleges & Colleges of Technology	Private Non-profit 2-Year Colleges	For-Profit Associate's Degree Granting Institutions
Medallion		\$10,856	\$29,668			
Name Brand	\$6,081	\$10,830	\$24,932			
Good Buy	\$6,141	\$9,719	\$19,111			
Good Opportunity	\$5,908	\$9,150	\$15,181			
User-Friendly/ Convenience			\$15,562			
Degree Focus				\$5,170	\$12,421	\$10,104
Mixed Focus				\$2,566		\$8,336
Course Focus				\$2,687		\$14,351

Note: State-related two-year institutions are not listed as a category, because there is only one state-related two-year institution in Pennsylvania.

Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Institutional Characteristics. Enrollment 2004, Institution Types; National Center for Education Statistics, Digest of Education (2004).

### Display 13

#### 2004 Average Out-of-State Tuition and Fees for Pennsylvania Students by Institutional Type and Market Segment

	PASSHE	State-Related Universities	Private 4-Year Colleges & Universities	Community Colleges & Colleges of Technology	Private Non-profit 2-Year Colleges	For-Profit Associate's Degree Granting Institutions
Medallion		\$20,784	\$29,668			
Name Brand	\$13,347	\$20,200	\$24,932			
Good Buy	\$12,350	\$15,689	\$19,111			
Good Opportunity	\$10,769	\$13,558	\$15,181			
User-Friendly/ Convenience			\$15,562			
Degree Focus				\$5,170	\$12,421	\$10,569
Mixed Focus				\$7,176		\$8,336
Course Focus				\$7,555		\$14,351

Note: State-related two-year institutions are not listed as a category, because there is only one state-related two-year institution in Pennsylvania.

Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Institutional Characteristics.

## Enrollments Across the Market

Display 14 depicts the basic distribution of undergraduate enrollments in Pennsylvania higher education institutions in 2004, according to their market and PDE classifications. Overall, enrollment in public and private institutions represents a 60/40 percent split, respectively. Enrollment in the *Good Buy* market dominates at 42 percent of all students, with nearly 14 percent enrolled in the baccalaureate state system, and more than 17 percent enrolled in private baccalaureate institutions.

An analysis of the distribution of enrollments in Pennsylvania by race/ethnicity, institutional type, and market segment added important detail to our understanding of the attainment gap discussed in Chapter 1. Display 15 compares enrollment by race/ethnicity within four-year and two-year institutions in Pennsylvania. Those African Americans who attend a postsecondary institution are twice as likely to attend a community college as are whites attending a Pennsylvania college or university. Hispanic enrollments are just slightly less tilted toward community college enrollment.

The picture becomes more complex when examining the distribution of within-group enrollments across market segment. Displays 16 through 19 display the percentage of a group's total enrollment in baccalaureate higher education by PDE designation and market segment. The first graph, Display 16, shows that white students are clustered in the *Good Buy* segment.

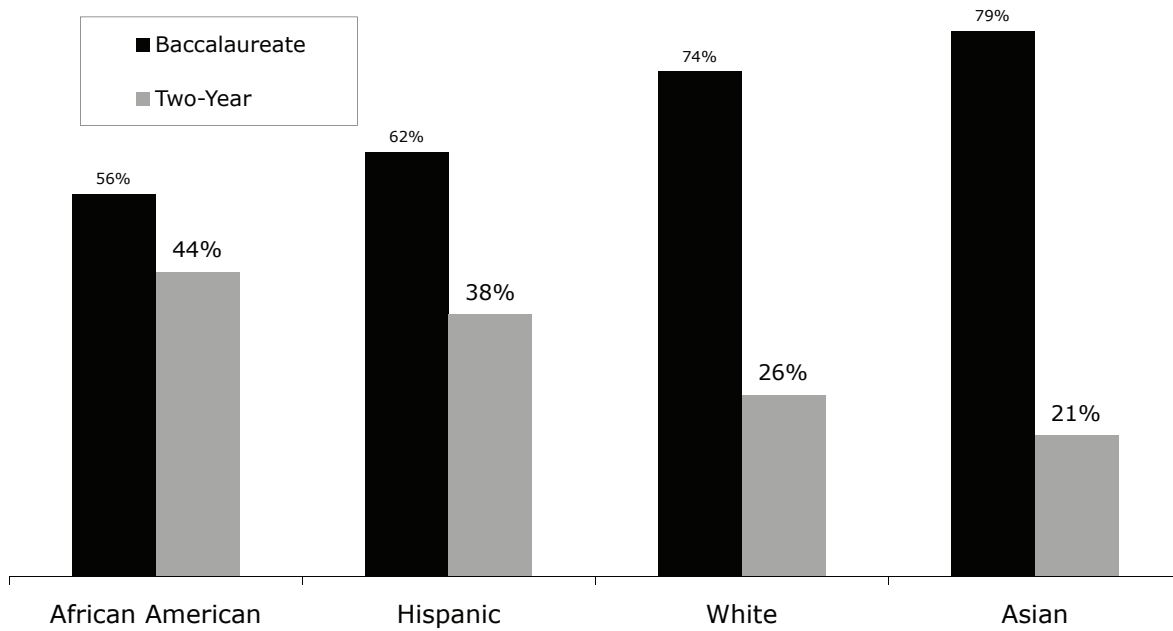
In Display 17, African American baccalaureate enrollments appear to be shifted toward the right, with few students enrolled in the *Medallion* or *Name Brand* segments. On the other hand, Hispanic and Asian American enrollments (Displays 18 and 19, respectively) are visibly shifted toward *Medallion* and *Name Brand* institutions. Indeed, despite the fact that relatively fewer Hispanic American students are enrolled in baccalaureate institutions than their white and Asian American counterparts, they are more likely to be found in more elite institutions than both African American and white students. Asian American students in large numbers have made enrollment in a *Medallion* or a *Name Brand* institution a personal and family priority. Asian Americans also had the lowest percentage of enrollments, at just 1 percent, in *User-Friendly/Convenience* institutions.

**Display 14**  
**Distribution of Postsecondary Enrollments in Pennsylvania**

	Medallion	Name Brand	Good Buy	Good Opportunity	User-Friendly/Convenience	Degree Focus	Mixed Focus	Course Focus	Total
Community/Technology Colleges						663	29,975	86,838	<b>117,476</b>
Private 2-Year						7,187			<b>7,187</b>
Specialized Associate's Degrees						21,939	1,600	2,745	<b>26,284</b>
PASSHE		6,991	78,640	6,831					<b>92,462</b>
State-Related Universities	34,824	17,181	48,785	15,987				565	<b>117,342</b>
Private 4-Year	36,355	33,602	98,968	11,246	15,962				<b>196,133</b>
<b>Total</b>	<b>71,179</b>	<b>57,774</b>	<b>226,393</b>	<b>34,064</b>	<b>15,962</b>	<b>29,789</b>	<b>31,575</b>	<b>90,148</b>	<b>556,884</b>

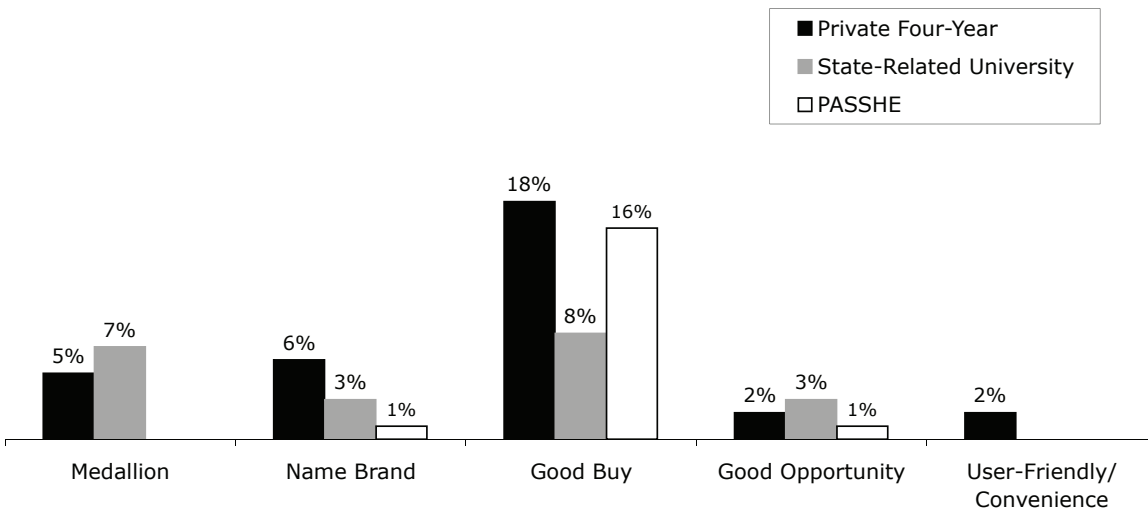
Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 15**  
**Comparison of Baccalaureate to Two-Year Enrollments by Race/Ethnicity**



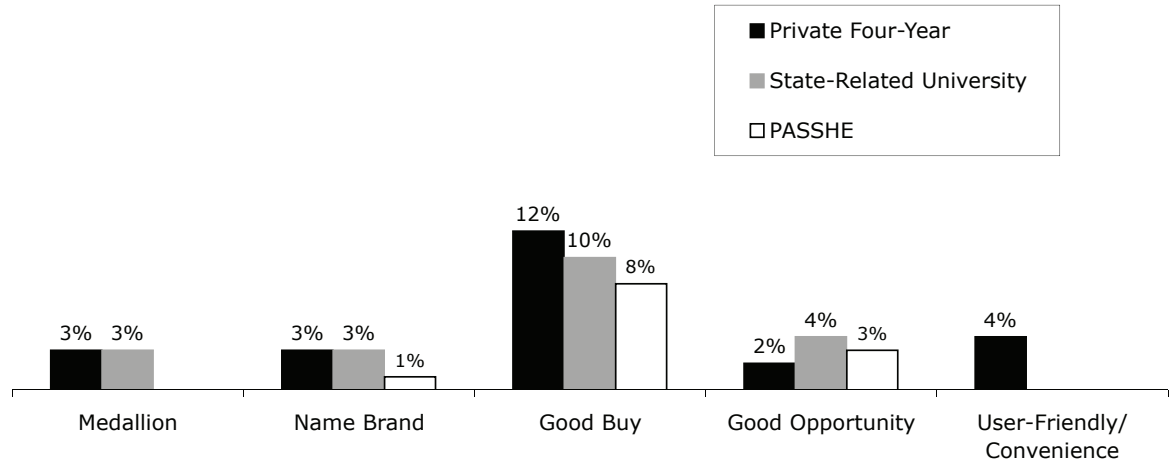
Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 16**  
**Pennsylvania Baccalaureate Enrollments, White Students**



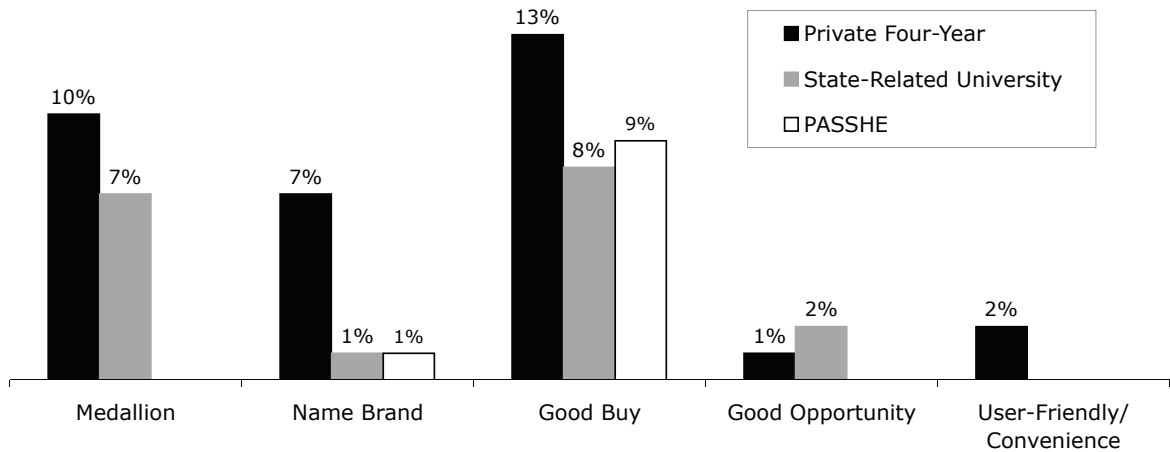
Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 17**  
**Pennsylvania Baccalaureate Enrollments, African American Students**



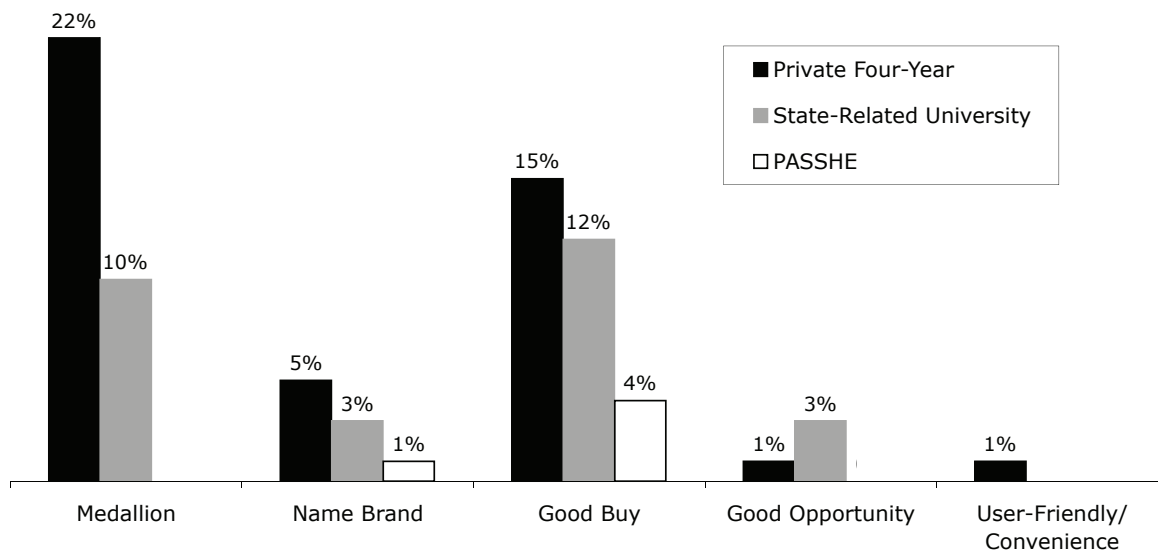
Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 18**  
**Pennsylvania Baccalaureate Enrollments, Hispanic American Students**



Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 19**  
**Pennsylvania Baccalaureate Enrollments, Asian American Students**



Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

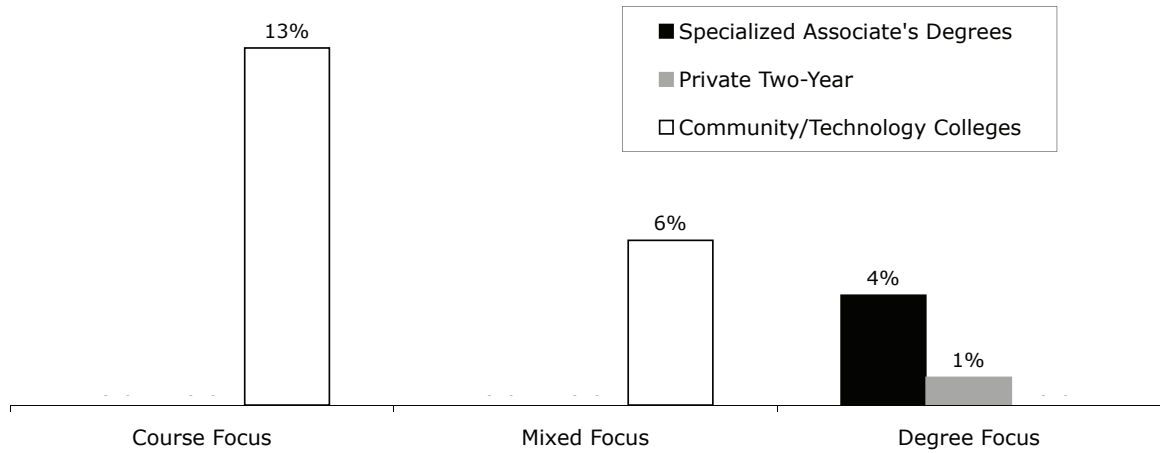
What is also apparent in the distribution of Hispanic students is the key role private institutions have played in expanding access. For African Americans, that role is more evenly divided between public and private institutions, while Asian American students are the group most likely to seek enrollment in a private institution.

A look at the distribution of two-year college enrollments by race/ethnicity and market segment supplements the picture emerging in the analysis of four-year enrollments. Displays 20 through 23 cast enrollments for two-year institutions in the same mold as the four-year institutions examined above. Display 20 shows that, while many white students enroll in *Course Focus* institutions, nearly as many divide their enrollment between *Mixed Focus* and *Degree Focus* campuses. African American students not only enroll in two-year institutions at a higher rate than other students, they also tend to enroll on campuses with a *Course Focus*, where few students go on to receive associate’s degrees, and even fewer achieve baccalaureate degrees (Display 21).

**Summary**

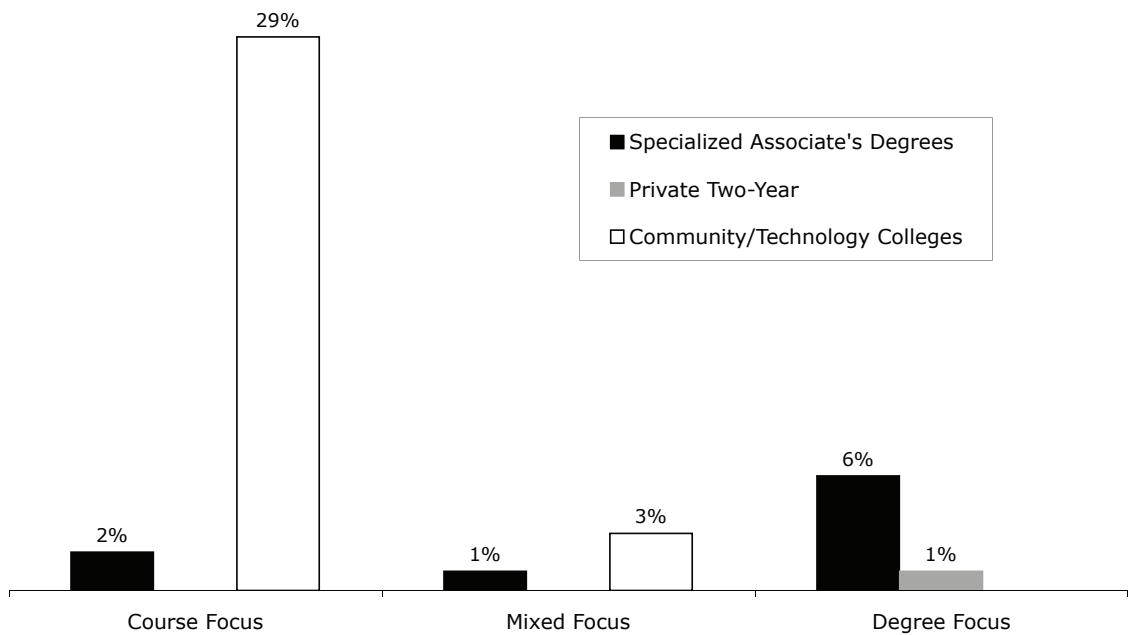
As with attainment, participation gaps related to the market continue to persist in Pennsylvania, particularly for both African Americans and Hispanic Americans, who continue to experience the biggest gaps in educational attainment. Only 27 percent of African Americans and 22 percent of Hispanic Americans are enrolled in college, compared to an enrollment rate of 40 percent for whites. There is at the same time a concentration of African American and Hispanic American enrollments in community colleges; with 46 percent of African American enrollments and 39 percent of Hispanic American enrollments in community colleges, compared to only 22 percent for whites. Finally there is a concentration of African American enrollments in particular in that portion of the market anchored by *User-Friendly/Convenience* institutions. In the next two chapters we turn to questions of geography and income and their impact on participation in higher education.

**Display 20**  
**Two-Year College Enrollments, White Students**



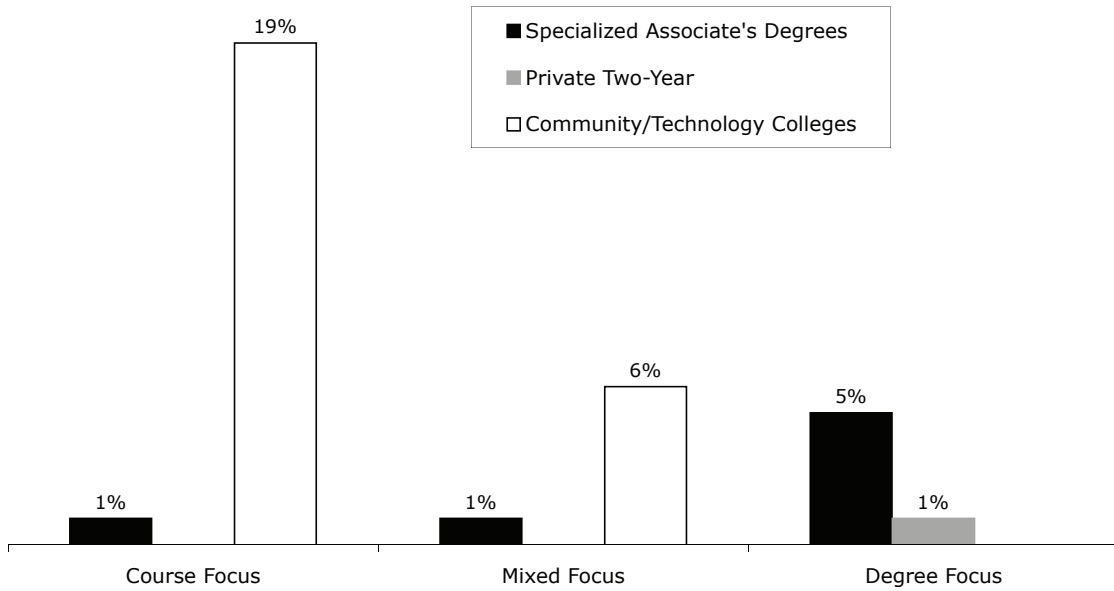
Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 21**  
**Two-Year College Enrollments, African American Students**



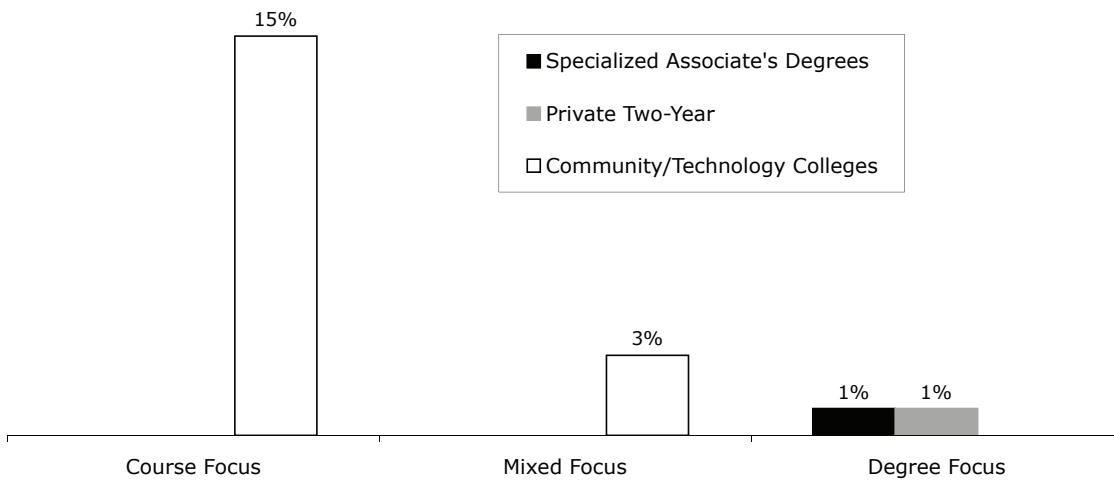
Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 22**  
**Two-Year College Enrollments, Hispanic American Students**



Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 23**  
**Two-Year College Enrollments, Asian American Students**



Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

the participation equation:  
**income, geography,  
& college readiness**

**M**ore than one observer who previewed Chapter 2's analysis of the ethnic and regional differences in college participation rates asked: "But what about income? Are you suggesting by not focusing on family income that young adults from families of lesser means attend college at the same rate as young adults from families of substantial means?" Not exactly, but tracking the actual impact of family income is not as straightforward as it ought to be, primarily because the U.S. Census reports neither educational attainment nor participation by income band. What the Census does supply is the median family income for each county in Pennsylvania as well as each county's racial/ethnic composition; the educational attainment of people 25 or older in each county (some college, baccalaureate, graduate professional); and the number of each county's young adults aged 18 to 24 who in 2000 were enrolled in a postsecondary institution. Finally, the Pennsylvania General Assembly's Center for Rural Pennsylvania provides an index based on population per square mile that tags Commonwealth counties as being either rural or urban. We primarily used these measures to complete our analysis of participation and income presented below.

To these measures we can add two variables supplied by the Pennsylvania Department of Education (PDE) that provide school district and, through aggregation, county-level data. The first is the Pennsylvania System of School Assessment (PSSA), administered by the PDE, which reports the number of 11th graders in each school district who are not reading at a Basic level. (The PSSA also reports on the proportion reading at a Basic, Proficient, and Advanced levels along with parallel scores for proficiency in math and writing.) The second PDE-supplied variable reports on the likely proportion of high school seniors in each school district who say they are planning to attend college following high school graduation.

As long as we are careful in how we draw our inferences, we can explore the interplay of a county's median family income, setting, and ethnic composition, along with the ability of its schools to produce college- and work-ready graduates. Here, it is best to start with median family income, a variable long understood to be associated with both educational participation and educational attainment. In Pennsylvania, as elsewhere in the nation, there is a high correlation ( $r = .67$ ) between a county's median family income and higher education participation as measured by the proportion of high school seniors planning to go to college. Given the strength of that correlation, we divided Pennsylvania's 67 counties into quartiles and then calculated the percentage of the counties in each quartile that were rural, the percentage of African American residents in the median county, the percentage of Hispanic American residents in the median county, the percentage planning to go to college in the median county, and finally the percentage not reading at the Basic Level in the median county for each quartile. These data are presented in Display 24.

Several important conclusions can be drawn from Display 24. First, at the county level, there is an overwhelming association between lower median incomes and living in a rural setting. Of the 17 poorest Pennsylvania counties as measured by median family income, 16 were rural. The one urban county in the lowest income quartile was Philadelphia County, which is co-terminus with the City of Philadelphia. Indeed of the 34 poorest counties in the Commonwealth all but one (Philadelphia County) was rural.

**Display 24**  
**Comparing County Income and Other Attributes**

**Value for Median County in Each Quartile**

	<b>Percent Counties Classified as Rural</b>	<b>Percent Planning to Go to College</b>	<b>Percent of County Black or African American</b>	<b>Percent of County Hispanic or Latino</b>	<b>Percent Below Basic Proficiency in Reading</b>
<b>Lowest Family Income Quartile</b>	<b>94%</b>	<b>64%</b>	<b>1%</b>	<b>1%</b>	<b>16%</b>
<b>Second from Lowest</b>	<b>100%</b>	<b>65%</b>	<b>1%</b>	<b>1%</b>	<b>20%</b>
<b>Second from Highest</b>	<b>65%</b>	<b>74%</b>	<b>2%</b>	<b>1%</b>	<b>16%</b>
<b>Highest Family Income Quartile</b>	<b>24%</b>	<b>78%</b>	<b>4%</b>	<b>4%</b>	<b>20%</b>

Sources: PSSA results from PA Dept. of Education; U.S. Census 2000 File: SF3; Bureau of Labor Statistics; IPEDS Fall Enrollment; PA Department of Education, EdNA

Second, college participation rates varied by county income levels—but they also varied along the rural/non-rural divide.

Third, Pennsylvania’s African American and Hispanic American populations are concentrated in just a few urban counties, which accounts for the low median percentages reported for the quartiles as a whole. African Americans comprised more than 10 percent of the population in just four counties: Philadelphia at 43 percent, Dauphin at 17 percent, Delaware at 14 percent, and Allegheny at 12 percent. Hispanic Americans accounted for at least 10 percent of the population only in Lehigh County. Significantly, only for Philadelphia County was median family income in the lowest quartile; for the other four counties with significant African American or Hispanic American populations, the median family income was in the top quartile. Among the five counties with significant African American or Hispanic American populations, the proportion of seniors planning to go to college is actually quite high, ranging from a low of 70 percent for Philadelphia County to a high of 82 percent for Allegheny County. The two lowest counties among this set of five are also counties with school districts with some of the lowest PSSA scores in the Commonwealth.

Only in the last column in Display 24, which reports the median county value in each quartile of the percent who are planning to go to college, is the ordering different than for median family income. The implication is that a compounding variable or variables should be taken into account. To better understand this participation equation we developed a regression model that proved to be both remarkably robust and satisfying in terms of the proportion of variance it explains.

**The Model**

The key outcome we sought to predict is the percentage of high school seniors in each Pennsylvania county who say they are planning to attend a postsecondary institution following their graduation from high school. The PDE gives school districts wide latitude in determining the data collection methods to be used to report this measure, including student surveys and guidance counselor reports.

The variance among school districts was substantial. All told, among the 498 school districts in Pennsylvania reporting the college intentions of graduating seniors in 2005, the top decile reported that

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90 percent or more of their seniors intended to attend a postsecondary institution after graduating from high school. At the other end of the spectrum, the bottom decile of institutions reported that 57 percent or fewer of their seniors planned to attend college. The highest reported percentage was 96 percent; the lowest was 31 percent.

Because some of the necessary data was only available at the county level, we aggregated and averaged these school district reports for each of the Commonwealth's 67 counties. These calculated county reports range from a high of 86 percent to a low of 50 percent. Not surprisingly, given the concentration of African Americans and Hispanic Americans in just five counties, a county's ethnic composition does not help to explain the proportion of its high school seniors who plan to attend college.

The best fitting model includes four of the variables we have already been considering, starting with median family income across the county as reported by the 2000 Census.

The second variable is the percentage of 11th graders in each county—a weighted average of the county's school districts—who are not reading at a Basic level as measured by the PSSA. On this variable, the best performing school district reported that all but 2.3 percent of its 11th graders are reading at a Basic or higher level; in the poorest performing school district, 66.2 percent of 11th graders cannot read at the Basic level. In building our model, we have assumed that this percentage of 11th graders who are not reading at the Basic level is a measure of the overall performance of the school district, and by extension, the county.

We drew our third variable from the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS): the number of enrollments in postsecondary institutions located in each county. Here, our assumption was that counties with a range of postsecondary options would have higher college participation rates, in part because of the ready availability of college places and in part because these institutions reinforced the belief that a college education had become both an economic and civic necessity.

Fourth, we asked whether there was a community college or a community college outlet in the county. Community colleges in Pennsylvania, as in the rest of the nation, represent the lowest priced as well as a lowest risk educational portals available both to traditional-age college students and to adult learners. What is different about Pennsylvania is the uneven geographic spread of these institutions across the Commonwealth, which helps to explain why community colleges account for 44 percent of all undergraduate enrollments nationwide, but in Pennsylvania they account for only 22 percent. We used a Boolean variable in the regression model to capture “no community college or community college outlet” versus “a community college or community college outlet located in the county.”

The fifth and final variable was the county unemployment rate for 2004, as reported by the U.S. Bureau of Labor Statistics. Researchers have long known that college participation rates rise both with family income and, though it may appear counter-intuitive, with the number of unemployed workers seeking jobs in the county. Here the underlying explanation is that, when people are unemployed and jobs are scarce, an effective personal strategy is to enroll in college to increase one's skills and employability. In the case of Pennsylvania, both factors significantly boosted postsecondary attendance at the county level.

The variable designating whether or not a county was rural could not be included in the final analysis. The best explanation stems from the high correlation between being rural and three other variables: the absence of a community college or community college outlet, the small number of enrollments in higher education institutions in the county, and median family income. Many rural counties in Pennsylvania quite simply were unlikely to have a community college and were equally unlikely to have very many higher education institutions.

In the actual construction of the model we excluded three outlier counties. Philadelphia County was excluded because of the large number of higher education institutions within the city. Sullivan and Pike counties were excluded because of the anomalous results they generated which were, we believe, associated with the relatively small size of these two counties.

The results of the regression (see Display 25) are quite powerful—an adjusted  $R^2$  of .681, indicating that the model explains more than two-thirds of the variance in reported rates for likely college participation by high school seniors in the 64 counties included in the analysis.

The policy implications of this analysis are simply summarized.

- **First, income matters.** High school seniors from communities whose families have higher incomes are more likely to attend college than communities with lower family incomes. To say that income matters, however, is not to say that potential students from lower income families are being excluded from attending a college or university in Pennsylvania—a question we address more explicitly in the next chapter.
- **Second, higher levels of unemployment translate into increased college enrollments.** Taken together, these two variables suggest the key importance of economic development in stimulating college enrollments, provided that increased economic activity translates directly into increases in family incomes and those that turn to postsecondary institutions to increase their employment skills reap benefits in the labor market.
- **Third, the quality of primary and secondary education in the county matters a lot.** The essential message of this point is to provide practical help to the Commonwealth’s poorest performing schools. Without improvement in academic preparation and a substantial increase in the number of students who are college-ready, it seems unlikely that there can be substantial

Source		DF	Sum of Squares	Mean Square	F Ratio
Model		5	0.27233586	0.054467	27.8838
Error		58	0.11329497	0.001953	Prob>F
C. Total		63	0.38563083		<.0001

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	-2.651568	0.546131	-4.86	<.0001
% Below Basic-Reading '04	-0.596309	0.120179	-4.96	<.0001
Median Income (Log)	0.3140857	0.049206	6.38	<.0001
Unemployment Rate '04	0.0133132	0.004871	2.73	0.0083
Total Seats per 18-24 Year Olds in County	0.0405809	0.018224	2.23	0.0299
No Community College in County	-0.019043	0.006298	-3.02	0.0037

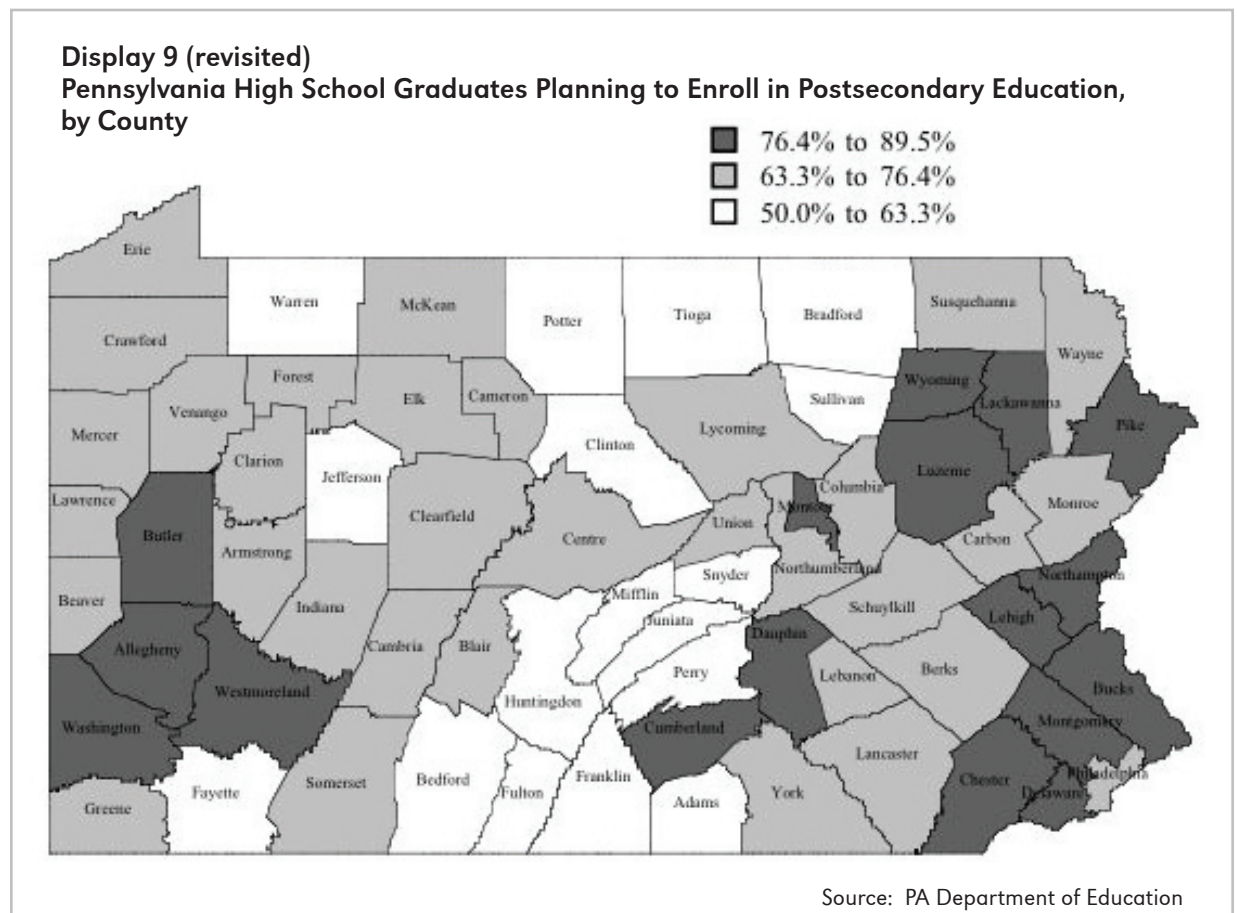
increases in participation rates—or any significant lessening of those barriers that limit postsecondary enrollments.

- **Fourth, familiarity engenders interest.** The more colleges that are nearby, the more likely students from the same communities will plan to attend college.
- **Fifth, the absence of a low-risk higher education portal is in itself a substantial barrier to postsecondary participation.** The lever most readily available to policymakers in Pennsylvania is one that increases the spread of community colleges across the Commonwealth—either by opening new community colleges, opening branches of established community colleges in adjacent counties and regions, or by developing funding mechanisms which enable counties without community colleges to assume a fair portion of the financial responsibility when students from those counties attend community colleges elsewhere in the Commonwealth.

### The Rural Factor

Once we completed the analysis that led to the specification of the regression model, we returned to the map of intended college participation by county first presented in Chapter 1 and reproduced below (Display 9, revisited). What the map suggests, and those most familiar with the geography of Pennsylvania already know, is that rural Pennsylvania lags in college participation—and lags as well in terms of access to the kind of low-risk higher education points of entry that community colleges most readily provide.

To further explore the rural connection we returned to the question of the performance of rural school districts, noting that 55 percent of the Commonwealth’s poorest performing school districts, as measured by the PSSA Basic Reading Test for 11th graders, were located in rural areas. Students in those school



districts were also those least likely to plan to attend college—64 percent versus 82 percent in those non-rural, better performing school districts. These distributions are summarized in Display 26.

**Summary**

Although Pennsylvania earned a solid “B” in participation on *The National Report Card on Higher Education* developed by The National Center for Public Policy and Higher Education, actual participation rates varied substantially across the Commonwealth—revealing what we have come to call the geography of participation. While the barriers to access associated with ethnicity have long been a major focus of policymakers, those barriers associated with geography have received considerably less attention.

Some of what our analysis teaches has long been known. More affluent communities are more likely to send their children to college; poor job prospects encourage high school graduates to seek out more education; better performing school districts are more likely to send their high school graduates to college. However, solving the participation equation involves two additional factors as well: that youngsters in rural communities remain at significant disadvantage, in part because they are more likely to attend a poorly performing school, in part because college attendance is not as strong a tradition in their communities, and in part because they are less likely to have ready access to the kind of low-risk higher education portals that community colleges provide. Note that the gap between college attendance rates among the non-rural school districts along the poor-performance/better-performance divide is actually greater than the same gap for rural school districts. However, in both cases, students from rural school districts were still less likely to plan to attend college. Our hope is that this analysis will focus new attention on the importance of secondary school quality and the ability of these schools to graduate college- and work-ready students as a means of reducing persistent gaps in educational participation and attainment.

**Display 26**  
**Comparing Rural and Non-Rural School Districts**

	<b>Median Percent Planning to Attend College Following High School Graduation</b>		<b>Number of School Districts</b>	
	<b>Rural</b>	<b>Not Rural</b>	<b>Rural</b>	<b>Not Rural</b>
<b>Poorer Performing School Districts</b> Above median number of 11th graders below Basic Reading	64.1%	70.6%	138	111
<b>Better Performing School Districts</b> Below median number of 11th graders below Basic Reading	68.2%	82.2%	104	145

Sources: PSSA results from PA Dept. of Education; Rural statistics from <http://www.ed.psu.edu/crec/ruralschools.pdf>; Participation Rates from Public Schools High School Graduates by County, School, Racial/Ethnic Category, Gender, and Post-High School Activity

the importance of price:  
a pennsylvania  
conundrum

One of the predominant characteristics of higher education in Pennsylvania is the high the cost of attendance at institutions across the Commonwealth. The average tuition charged by a Pennsylvania community college—the benchmark measure used by *The National Report Card on Higher Education*—in 2004 was \$2,514, making Pennsylvania the 14th most expensive state in the nation for community college attendance. But it is also the case that the high cost of attendance has not diminished enrollment. In actuality, enrollments and participation rates in the Commonwealth have been steadily increasing despite further increases in tuition and related costs.

The obvious question thus becomes, “Why, in a state with some of the highest public and private college sticker prices in the nation, have both in- and out-of-state students continued to drive enrollment growth at Commonwealth colleges and universities?” To help resolve this conundrum—and in the process to better understand where the line between affordable and unaffordable should be drawn, and for whom—we asked one of Pennsylvania’s leading opinion survey groups, the Floyd Institute at Franklin and Marshall College to design and administer a special survey of high school graduates aged 18 to 34, including a substantial number of young adults who did not attend college. Best known for its Keystone Polls, the Floyd Institute was asked to investigate the relationship between the choice to attend college and the expense involved, as well as whether or not there are identifiable pockets of college-ready youth (even if only by their own definition) who feel they cannot afford to attend college following graduation from high school.

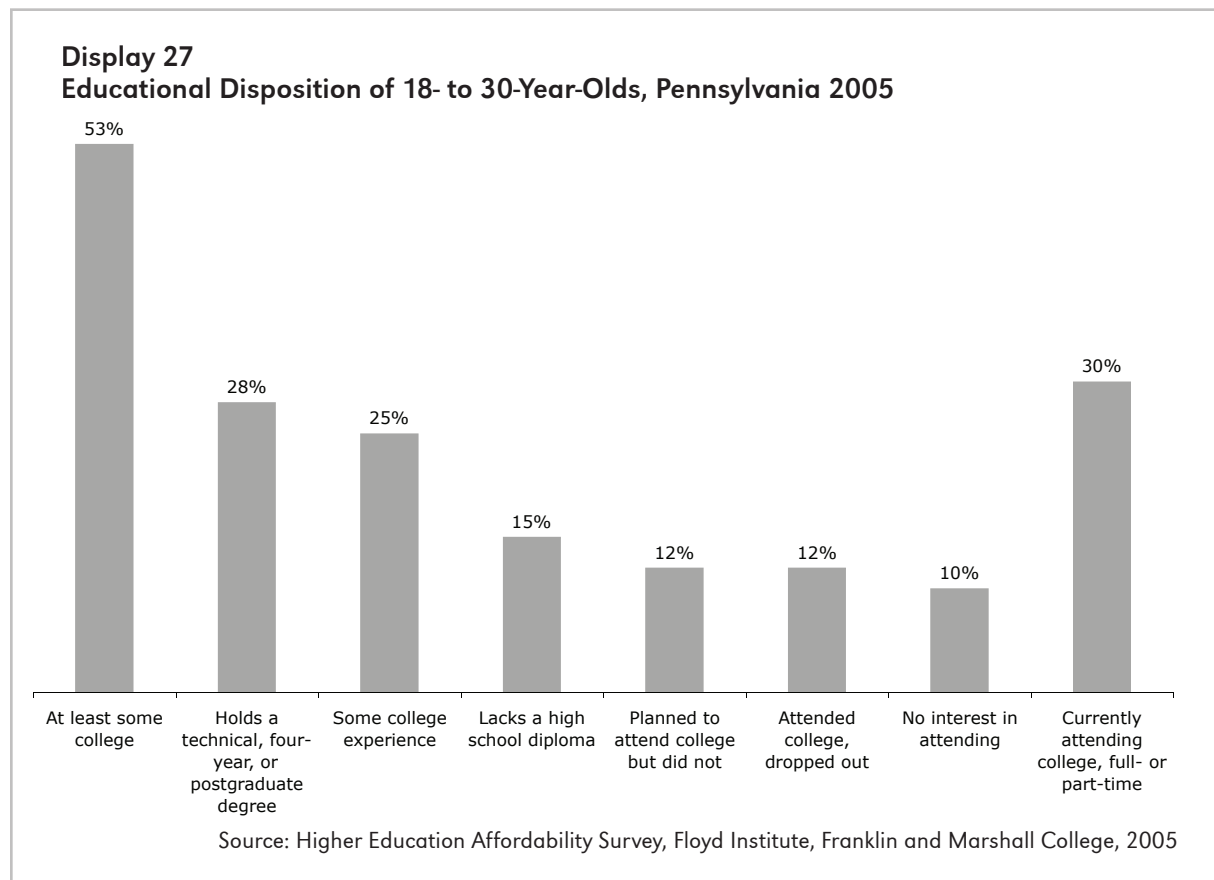
The survey results confirmed the results of the statistical analysis presented in the previous chapter. Only a small portion of the survey’s respondents, less than 8 percent, indicated that cost was a factor preventing them from attending a postsecondary institution. These young adults tend to be residents of central Pennsylvania counties and/or African American or Hispanic American—the very students who inhabit the regional and the ethnic gaps in participation and attainment. They are small in number, but their need for further financial assistance in order to attend college remains a critical challenge for the Commonwealth.

The survey was designed and analyzed by Berwood Yost in collaboration with his colleague Terry Madonna. The interviewing took place between September 22 and October 23, 2005. The sample error for the total sample is plus or minus 4.3 percent. The telephone households included in the sample were selected using random digit dialing techniques. Each household contacted was screened for the presence of an eligible respondent. Households without an age-eligible respondent were not interviewed. A second random selection procedure was used to select a respondent in those households that contained more than one age-eligible respondent. Respondents who were eligible by age but who were still in high school were also classified as ineligible. Final survey results were weighted to adjust for different selection probabilities and non-response.

### **Educational Disposition of Pennsylvania’s 18- to 30-Year-Olds**

More than half (53 percent) of the sample claimed to have had “some college” experience, and more than one in four (28 percent) reported having earned a technical, four-year, or postgraduate degree. The sample was weighted to be representative of young adults in Pennsylvania.

Display 27 shows the proportion of these young Pennsylvanians in each of eight different educational achievement dispositions. Three in ten (30 percent) are currently attending classes at an institution of higher education. Display 27 also indicates that a substantial portion of young adults in the Commonwealth lack the preparation or interest to increase their educational attainment: more than one in seven (15 percent) lacks a high school diploma or G.E.D., and one in ten (10 percent) says he or she has never had any interest in attending college.



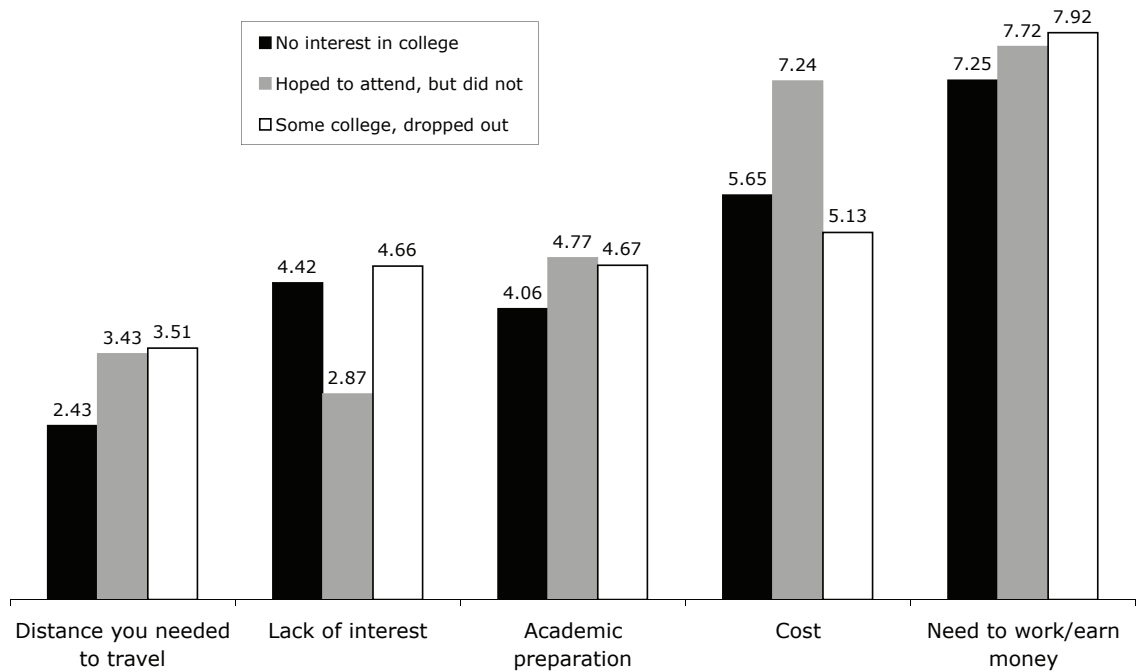
### Putting Higher Education Costs into Context

Yost’s analysis helps clarify the role of the cost of attendance in relation to other variables related to higher education participation. Respondents who had started college but dropped out and those who never attended college were asked a series of five questions to determine the effect costs might have had in relation to other factors such as the need to work, academic preparation, geographic distance, and interest.

Display 28 presents Yost’s findings. Respondents were asked to report the importance of each item in preventing them from either continuing their education or starting their education in the first place. The closer a score is to ten, the more important the item is in preventing the respondent’s pursuit of higher education. As Display 28 shows, cost was not the most important consideration for any group of respondents. Every group reported that the need to work and earn money was the primary issue that prevented or discontinued their attendance. For those who dropped out of college, cost is only rated a 5.1 in importance, which ranks it at approximately the same level of importance as a lack of interest or preparation. On the other hand, those who had hoped to attend college, but did not, do rate cost as an important reason why they did not attend, giving a rating of 7.2 out of 10. Still, even for this group, the need to work and earn money was more important than the actual costs of college. Some might argue

**Display 28**  
**Importance of Selected Items in College Enrollment Decision**

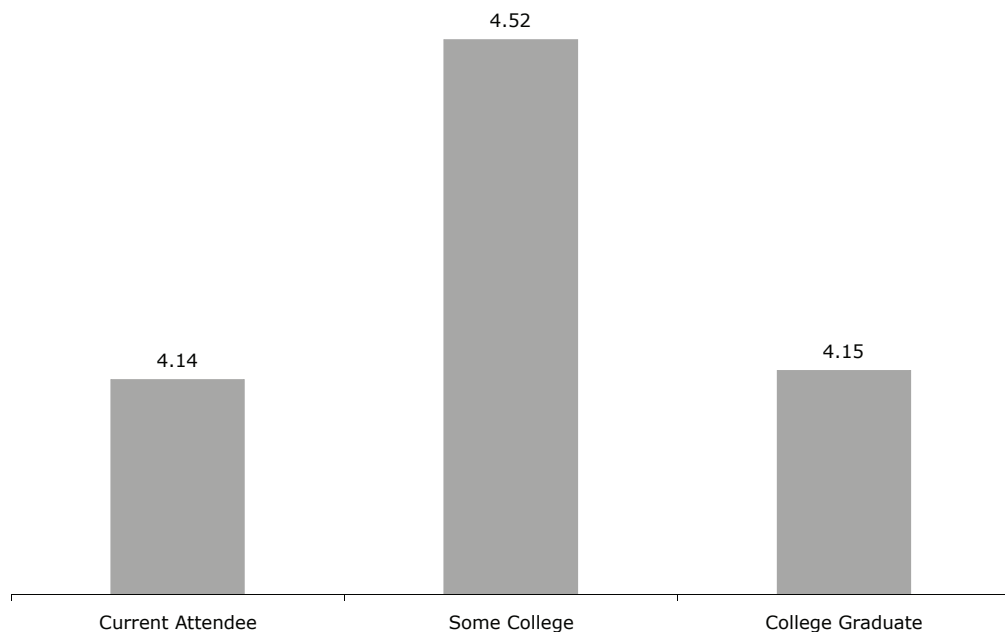
*How important were each of the following [when you decided to stop attending college/ in preventing you from seeking a college degree/ as reasons for not wanting to attend college]?*



Source: Higher Education Affordability Survey, Floyd Institute, Franklin and Marshall College, 2005

**Display 29**  
**Difficulty of Paying for College Among Attendees**

*How much difficulty [did/do] you have paying for your college education?*



Source: Higher Education Affordability Survey, Floyd Institute, Franklin and Marshall College, 2005

that the need for students to work and earn money is a cost issue in itself; however, earlier findings about starting families indicates that life circumstances often dictate the need for full-time employment.

Respondents who attended a college or technical school were asked how difficult it was for them to pay for college. Most of the respondents who had attended or were attending college did not report having significant difficulty paying for their educations. Display 29 shows that college graduates, those who started college but failed to finish, and current attendees rate the difficulty of paying for college as below 5 on a 10-point scale, with 10 representing “very difficult.”

The secondary role of costs in attending college is also evident in the reasons that prospective students provide for choosing a college. Total cost is mentioned less often as the most important reason for attending a specific college than are factors such as location and the availability of specific majors, as Display 30 reveals.

### The Dilemma of Non-Attendance/Non-Completion

What these results make clear is that for most young Pennsylvanians the costs associated with attending a college or university are important without being a determining factor in the decision to attend or not to attend. However, better than one in every ten young adults in the sample said they had wanted to attend a college or university but could not—and for these Pennsylvanians, cost was the most frequently mentioned problem (33 percent), followed by the desire to start a family (23 percent), having a job that did not require a degree (10 percent), a lack of motivation (8 percent), and planning to attend at a later time (5 percent). On a one-to-ten attitudinal scale, these non-attenders rated the cost of attendance a 7, while rating the need to work even higher.

**Display 30**  
**Most Important Reasons for Attending a Specific Institution**

<b>What was the most important reason you chose to attend [institution name]?</b>	<b>College Graduate n=143</b>	<b>Some College n=64</b>	<b>Current Attendee n=152</b>
The school's location	26%	42%	28%
The availability of a specific major	21%	13%	24%
The school's total cost	19%	20%	15%
The school's academic reputation	18%	8%	19%
Other	7%	7%	4%
All of the above reasons	2%	0%	1%
Athletics-recruited, scholarship	2%	2%	0%
Scholarship, grant money, employee paying	2%	1%	2%
The school's facilities	1%	0%	2%
Friends or family go there/went there	1%	2%	2%
Night classes, flexible scheduling	1%	0%	1%
Interest in organizations/activities	0%	0%	1%
Most or mix of above reasons	0%	0%	1%
Parents wanted me to	0%	2%	0%
Size of classes	0%	2%	0%

Source: Higher Education Affordability Survey, Floyd Institute, Franklin and Marshall College, 2005

**Display 31**  
**Agreement with Selected Statements About Public Higher Education**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Don't know</b>
<b>Regardless of the cost, tuition at Pennsylvania's PUBLIC universities is a worthwhile investment</b>	<b>48%</b>	<b>38%</b>	<b>6%</b>	<b>3%</b>	<b>5%</b>
<b>There is a college or university near my home or office where I can go to further my education at a price I can afford</b>	<b>46%</b>	<b>28%</b>	<b>13%</b>	<b>9%</b>	<b>5%</b>
<b>Pennsylvania's PUBLIC universities provide a good education for the price</b>	<b>37%</b>	<b>40%</b>	<b>8%</b>	<b>3%</b>	<b>12%</b>
<b>The cost to get an education at one of Pennsylvania's PUBLIC universities is affordable</b>	<b>25%</b>	<b>38%</b>	<b>14%</b>	<b>11%</b>	<b>12%</b>

Source: Higher Education Affordability Survey, Floyd Institute, Franklin and Marshall College, 2005

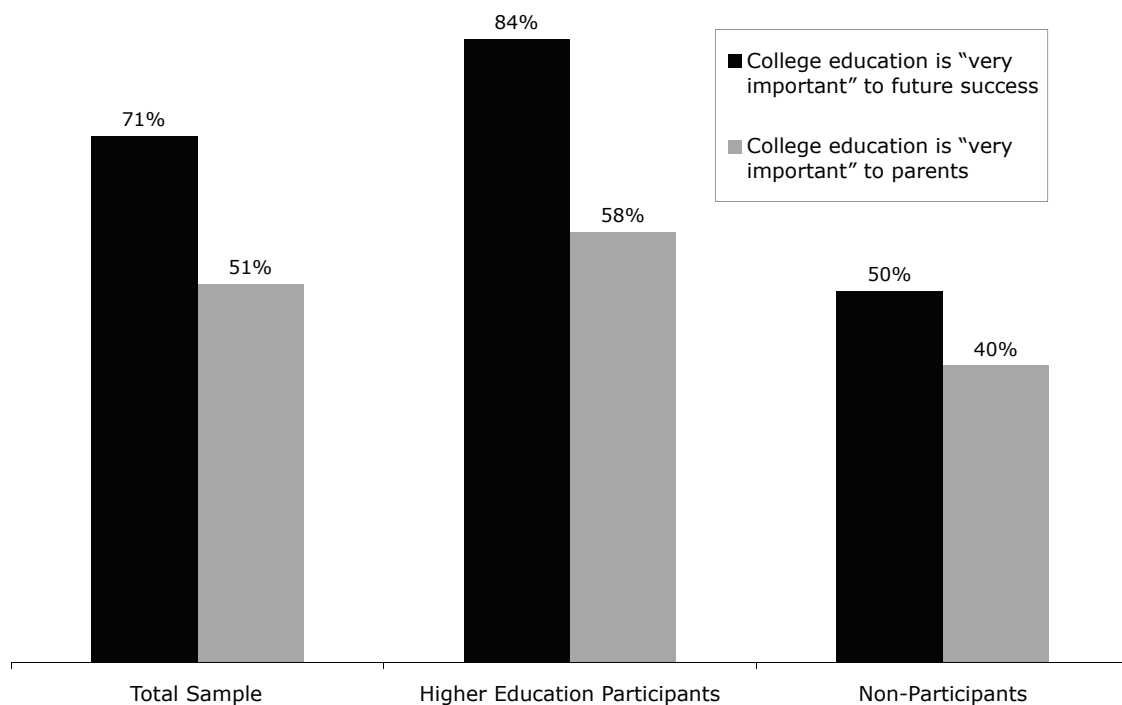
Those students who attended college but dropped out (12 percent) show the same patterns as those who wanted to attend college but could not. Cost (24 percent), starting a family (12 percent), being dissatisfied with school (12 percent), starting to work (7 percent), and losing interest (6 percent) were the main reasons that these students dropped out of school.

Altogether, one out of four Pennsylvanians either wanted to attend a college or university and felt they couldn't or started college but didn't finish a degree. A third of these young adults—8 percent of the total weighted population—cited the cost of attendance as a principal factor in their decision either not to attend or to discontinue their enrollment. That percentage can be viewed from two perspectives. It is certainly a smaller proportion than the hue and cry currently surrounding discussions of higher education affordability would suggest. On the other hand—and really the more important point—8 percent is a lot of young people who feel that the current cost of attending college pushes a higher education beyond their means. It is a potential pool of students that neither the Commonwealth nor its institutions of higher education can afford to ignore.

**Attitudes About Higher Education in Pennsylvania**

The Floyd Institute survey included a series of questions to measure young adults' attitudes toward and knowledge about the state's higher education infrastructure. The assumption is that, to some degree, their attitudes and the knowledge they have about the higher education infrastructure are likely to affect their ambitions and actions. The questions inquired about educational quality, accessibility, and the actual costs of attending higher education institutions.

**Display 32**  
**Importance of Higher Education**



Source: Higher Education Affordability Survey, Floyd Institute, Franklin and Marshall College, 2005

More than three out of every four (78 percent) respondents believe the overall quality of the colleges and universities in Pennsylvania is “excellent” or “good.” A majority of young adults also believes that tuition at the state’s public universities is a worthwhile investment, that there is a higher education institution nearby at an affordable price, that the state’s public universities provide a good education for the price, and that the state’s public universities are affordable (Display 31). Those who have some experience with higher education are much more likely to agree with each of these statements than are those who lack such experience, although a majority of non-participants does agree with each statement listed in Display 31.

As shown in Display 32, most young adults in Pennsylvania (71 percent) believe that acquiring a college education is “very important” to their future success. Only 12 percent says that a college education is “not very important” or “not important at all” to future success. Over half (51 percent) report that getting a college education is “very important” to their parents. Once again, there are differences in the responses of higher education participants and non-participants: those with no experience are much less likely (50 percent) than those with at least some experience (85 percent) to believe a college education is “very important” to future success. Those with no higher education experience (40 percent) are also less likely than those with at least some higher education experience (58 percent) to say that attaining a college degree was “very important” to their own parents. There is evidence here that those who have never gone on to higher education thought it less important than those who did.

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## Summary

That most young adults in Pennsylvania found their higher education options to be expensive, but still affordable—and the fact geography, ethnicity, and college readiness play more significant roles in determining who goes to college than the rising cost of attending—ought to give pause to those who believe American higher education has a cost crisis or that the tuitions that colleges and universities charge are thwarting the opportunities of young people in large numbers. The survey and subsequent analysis suggest that the cost of attendance is only one of many factors that impact higher education participation for most young adults. Just as important, the survey provides a reliable estimate of the number of Pennsylvanians who believe the high tuitions charged by Pennsylvania institutions precluded them from either starting college or persisting until they earned a degree—8 percent. Far more determining was the belief on the part of non-attenders that they were poorly or not at all prepared to attend college (43 percent) while nearly three-quarters of the non-attenders reported that needing to work was a dominant reason for not pursuing a college education.

What is also clear from the survey is that perceptions are beginning to shape realities. The survey actually contained three separate queries testing a respondent's price sensitivity. When the respondents were asked to agree or disagree with the statement, "Regardless of cost, tuition at Pennsylvania's public universities is a worthwhile investment," 86 percent answered in the affirmative. When the proposition was "Pennsylvania's public universities provide a good education for the price," 77 percent answered in the affirmative. But when the question focused on "affordability" and the proposition read, "The cost to get an education at one of Pennsylvania's public institutions is affordable," only 63 percent answered in the affirmative. At the same time when asked whether getting a college education had become more difficult in the last five years, half agreed that it had.

On the other hand, our estimate that 8 percent of young adults concluded that they had been priced out of the market is more than just troublesome. Helping that specific group of potential students will require carefully targeted initiatives, rather than any broad-brush attempt to lower the cost of college for everyone either by bullying colleges and universities or by imposing price controls.

the economy's needs:  
**educational  
supply & demand**

**P**articularly in an age of markets, higher education plays an important public role in providing the skilled employees a modern economy requires. Given the scale of the Commonwealth's investment in both public institutions of higher education and individual students through grants awarded by the Pennsylvania Higher Education Assistance Agency (PHEAA), policymakers rightfully ask: "Are those investments helping to ensure a growing and vibrant economy? Is Pennsylvania getting the skilled workers it will increasingly need?"

In recent years, Pennsylvania's public agencies have been focusing on charting the human resources as well as infrastructure investments the Commonwealth needs to ensure its own economic future. Today, there is a fundamentally better understanding of the kinds of jobs Pennsylvania's firms and entrepreneurs will need to create—as well as a lingering question whether Pennsylvania's institutions of higher education will be able to supply the needed graduates. To answer this question we asked, "How well have Pennsylvania's higher education institutions responded over the last ten years to demands for producing the high-tech graduates employers say they have been seeking, too often without success?" Here, the analysis explored whether or not there had been a marked increase in the number of baccalaureate degrees awarded in mathematics, science, computing, and engineering by Commonwealth higher education institutions over the last decade.

### **The Supply of Graduates with Technical Degrees**

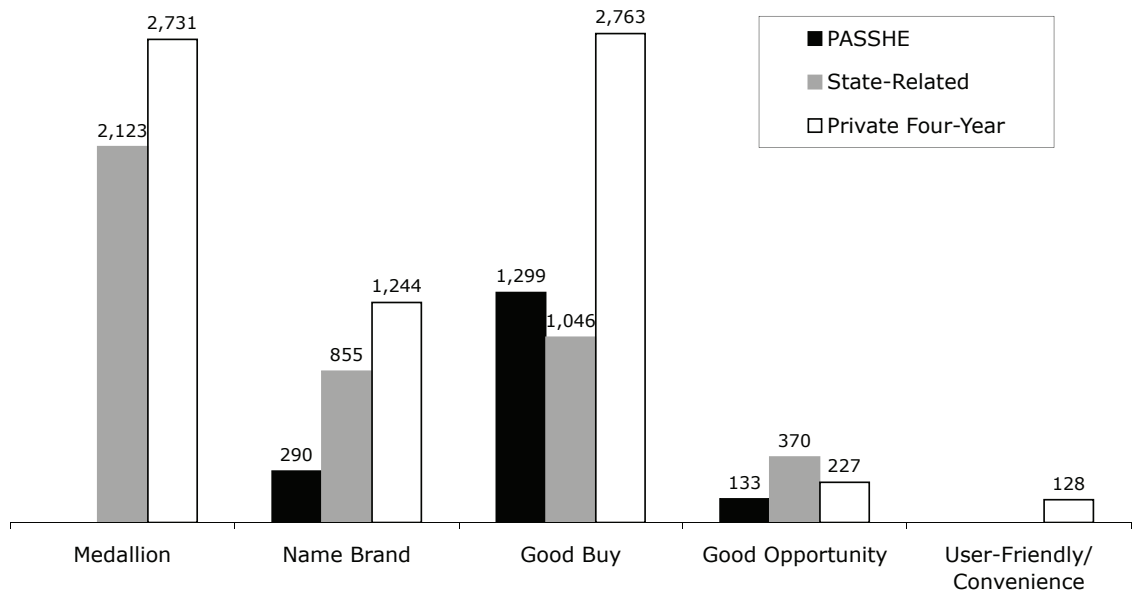
In 2004, degree production in the disciplines of mathematics, science, computing, and engineering was substantial—a sum total of 13,209 baccalaureate degrees in these fields (Display 33). The problem, however, was not the number of graduates but their distribution in terms of the institutions they attended (Display 34). They turn out to be the very institutions that tend to import students from out of state rather than educate current residents.

Pennsylvania is a major importer of college students. In 2004, one of four first-time undergraduates in Pennsylvania hailed from outside of the Commonwealth. Private *Medallion* institutions were the biggest importers of students (79 percent of their freshman classes), followed by private *Name Brand* institutions (54 percent) and private *Good Buy* institutions (43 percent). Even the only *Medallion* State-Related university drew nearly a third of its freshmen class from outside of the state.

The problem is that these importing institutions are also the institutions most likely to produce graduates in mathematics, science, computing, and engineering. Mobile to start with, these students have less well-developed attachments to Pennsylvania—and hence are more likely to return home or relocate where the best jobs are found. What Pennsylvania may lack are not college graduates in these fields but jobs that appeal to them more than positions in other states. The shortages that employers regularly report may have more to do with the shifting currents of a national, even international labor market for skilled technical workers, than it does with any perceived under-supply of graduates with technical skills and degrees.

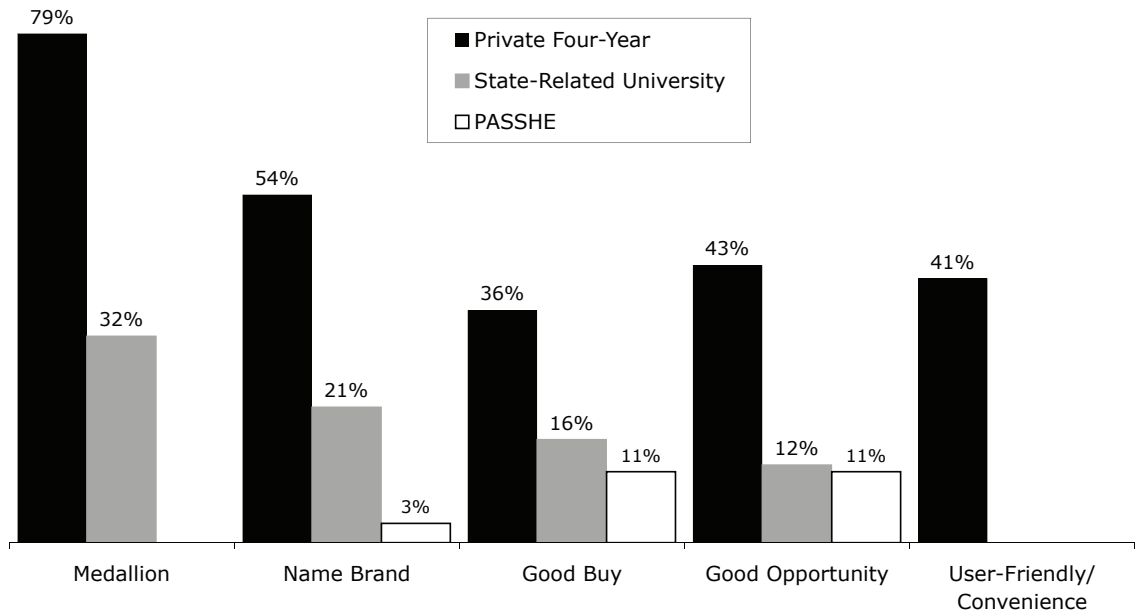
This point is reinforced by the growth in baccalaureate degrees granted for technical majors by Pennsylvania colleges and universities over the last decade (Display 35). In 2004, Pennsylvania higher education institutions graduated 2,454 more students with baccalaureate degrees in mathematics, science, comput-

**Display 33**  
**Bachelor's Degrees in Mathematics, Science, Computing, and Engineering, 2004**



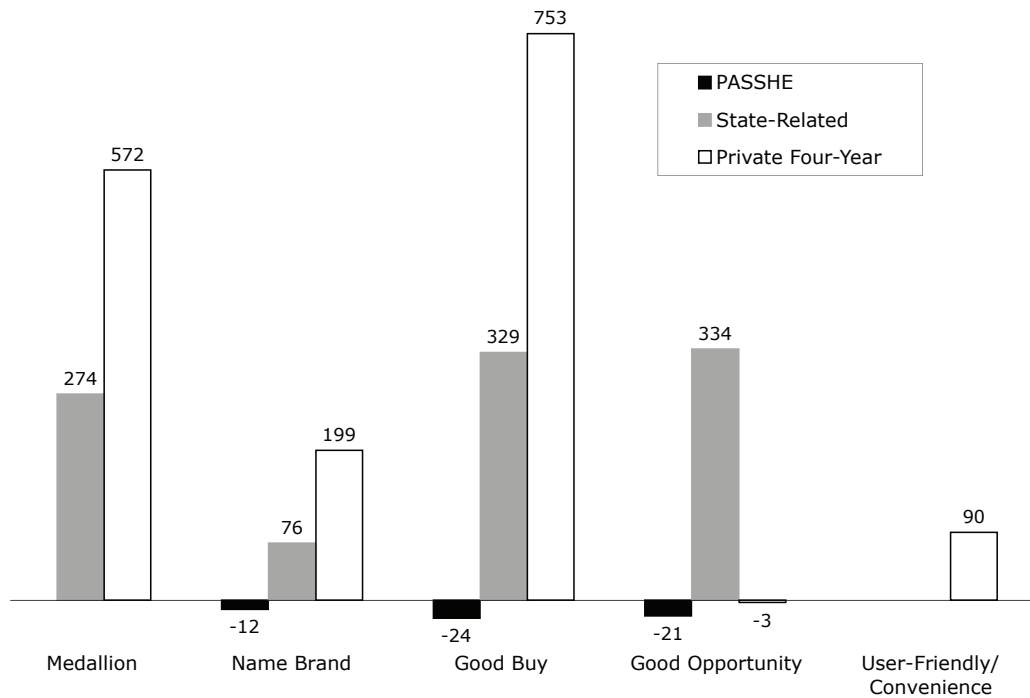
Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 34**  
**Percentage of Freshman Class from Outside of Pennsylvania, 2004**



Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004

**Display 35**  
**Net Change in Bachelor's Degrees in Math, Science, Computing, and Engineering from 1994 to 2004**



Source: U.S. Department of Education, Integrated Postsecondary Education Data Systems (IPEDS), Fall Enrollment 2004 and 1994

ing, and engineering than they did in 1994—a 23 percent increase in a decade. But again, most of that growth was in colleges and universities that tend to import students, institutions whose students most likely were better attuned to the national labor market than focused on opportunities in Pennsylvania.

## Summary

For the Commonwealth, there is some modestly good news in this analysis: Pennsylvania's colleges and universities have responded well to the need to increase their production of technically skilled graduates in mathematics, science, computing, and engineering. Our best guess, however, is that a substantial portion of this growth comes from out-of-state students responding to national labor market signals that technically challenging jobs will be the better jobs over the long run. For the Commonwealth to substantially increase the number of college graduates who are both technically proficient and likely to work in Pennsylvania, those institutions with large in-state enrollments will have to substantially increase the number of students they graduate with degrees in math, science, computing, and engineering.

The most immediate need is for the Pennsylvania State System of Higher Education (PASSHE) to reverse the recent decline in the number of their graduates with baccalaureate degrees in these fields. A longer term strategy would likely focus on community college programs that offer entry into technological careers, either through subsequent articulation in a four-year program or immediate entry into the labor market following the completion of a two-year degree. Were the Commonwealth to substantially increase the number of community colleges and community college outlets in Pennsylvania, the goal of increasing the number of proficient technical workers would be further served. Pending an increase in the supply of those who want to both study and work in Pennsylvania, Commonwealth employers will have to make their jobs more attractive by offering higher salaries, better working conditions, and more opportunities for advanced study. In this latter endeavor the Commonwealth could become an active partner, both assisting in the start-up of new graduate programs and providing additional grants of student aid.

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remediation:  
a community  
college enterprise

**T**here is a growing sense that remediation—the “R” word—is helping to drive up costs across higher education, along with great confusion about what counts as remediation, what it costs students and institutions, and who offers it. Despite the centrality of these questions, there is a paucity of data detailing the success or failure of the current remediation programs offered by Commonwealth institutions. There also has been an insufficient examination of the link between college remediation and K-12 policy.

As a first step toward gaining a better understanding of the role remediation plays in postsecondary education across Pennsylvania, we worked with a sample of ten institutions, inquiring about who among their students required remediation, how much the institution spent on delivering that remediation, and their sense of success and failure in having remediated students’ progress toward graduation. The sample was comprised of one state-related university, three Pennsylvania State System of Higher Education (PASSHE) institutions, three four-year private institutions, and three community colleges.

What surprised us most was the consistency of the answers to the questions we asked. We had expected a wide variety of practices and definitions, not only institution-specific but also idiosyncratic. Instead, the institutions in our sample had relatively common goals, employed many of the same tests and methods, and generally set policies designed to separate “remedial college credits” from college credits that “count towards graduation.” While our sample is relatively small, the consistency of what we learned gives credence to the general conclusions we were able to draw from our interviews and site visits.

### **What is Remediation?**

Remediation is narrowly defined as non-credit, pre-collegiate courses principally in math and composition. For the most part, it is the institution that a student chooses to attend that determines whether or not he or she needs remediation. Most institutions use a combination of high school grades in specified courses plus a student’s SAT score to determine whether that student is exempt from taking the placement exams that, upon entrance, indicate which students require remediation in either math, composition, or both. The actual number of students “requiring” remediation thus becomes a function of how high the institution sets the bar—either in terms of who is exempt from taking the placement exams or what constitutes a passing grade for those exams.

Remediation courses do not count towards graduation and cannot be considered part of the minimum course load required to be eligible for a grant from the Pennsylvania Higher Education Assistance Agency (PHEAA). In most institutions, remediation courses are seen as programs of developmental education, which also include study skills and guidance. The need for such courses is especially marked for returning adult learners, recent immigrants, and those for whom English is a second language.

Both remediation and developmental education programs are often described as the pathway by which students without the full panoply of academic skills necessary to succeed in college can gain access to a baccalaureate program.

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## Who Does It?

For Pennsylvania's community colleges, remediation and developmental education are now a core responsibility. These courses are taught by full-time faculty members as part of their regular teaching loads. Our best estimate is that between 50 and 70 percent of entering community college students require some remediation—as much as four courses over their first two semesters, although the average is more likely between two and three courses in their first year.

Middle-market institutions (principally institutions in the *Good Buy*, *Good Opportunity*, and *User-Friendly/Convenience* markets) also regularly teach a limited set of remedial courses in composition and pre-collegiate math. Our best estimate is that roughly one in six first-year students of middle-market institutions enroll in one or two remedial courses in their first semester. We believe that the low number of students placed in remediation courses is more a function of the standards those institutions use than the quality of the students' preparation. In the California State University system, for example, the proportion of first-time enrollees requiring remediation ranges upward from a third to a half of each entering cohort. To the extent that students genuinely requiring remediation are placed in regular first-year courses, the likelihood is that those courses will include substantial remediation.

*Medallion* and *Name Brand* institutions have little interest in offering remediation and only in conjunction with programs designed to support students admitted under special circumstances. Many do not even test their freshmen, using instead SAT scores and "As" or "Bs" in high school math and English courses to establish basic proficiency. Some of these institutions have developed extensive articulation programs with neighboring community colleges, which guarantee students with associate's degrees from those institutions full admission to junior standing in the major of their choice.

## How Much Is Being Spent on Remediation?

In community colleges, remedial/developmental education is a significant budget item—upwards of 10 percent of the institution's annual budget. In four-year institutions with formally established remedial/developmental programs, the costs are limited, largely because part-time and adjunct faculty teaches the courses.

## Who Really Pays?

Clearly, remediation is a major cost-driver at community colleges. Those institutions now see helping unprepared students to "catch-up" and become academically prepared for college as a major part of their mission. As one community college president put it: "We are the safety net for 'No Child Left Behind.'" It is clear, as well, were community colleges not encouraged to engage in this mission, and absent a sudden and dramatic improvement in the performance of the secondary schools who most often send their students to community college, the inevitable result would be a decline in college participation and success rates for both African Americans and Hispanic Americans.

The cost of maintaining this safety net falls in rough thirds on the Commonwealth of Pennsylvania, on the localities that support community colleges, and on the students themselves. The two-thirds of this funding supplied by public agencies represents a second payment for instructional services that were originally the responsibility of the secondary schools attended by remediated students. A rough calculation would be that the Commonwealth and local agencies could save 10 percent of their current appropriations to community colleges if every student was truly college-ready—that is, academically prepared to engage in college-level work.

There is some suspicion that extensive programs of remediation incur additional costs that the Commonwealth must bear, principally in the form of PHEAA grants underwritten by the Commonwealth.

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The PHEAA rules are clear—remedial courses do not count toward satisfying the minimum course load the agency requires for student support. If the eligible student enrolls in more than the minimum number of courses, however, those additional courses could be in remedial education. Time and energy largely limit the number of remedial courses thus funded to a maximum of four per year—and reports from the institutions in our sample indicate the estimate is more likely one or two courses per year.

PHEAA itself reports that only 11.9 percent of the nearly 118,000 students enrolled in community colleges did so using PHEAA grant funds. In part, this low utilization rate derives from the fact that many students attending a community college with a Pell Grant do not have sufficient further need for a PHEAA grant as well. It is also the case that many who attend community college decide to do so well after the deadline for submitting a PHEAA application has passed. Given the heavy concentration of remedial education in the Commonwealth's community colleges and the fact that, for whatever reason, relatively few community college students have PHEAA grants, it is highly unlikely that PHEAA funds are underwriting remedial education across the Commonwealth.

On the other hand, it is likely that the federal government is underwriting a portion of the costs associated with remedial education through the awarding of Pell Grants. For the 2003-2004 academic year, the Pell Program awarded grants to 215,000 Pennsylvanians. Assuming that most of those students attended Pennsylvania institutions and that upwards of half attended community colleges, it follows that Pell grants were awarded to three times as many community college students as were PHEAA grants. While it is arithmetically possible that none of these grants went to students taking substantial numbers of remedial courses, it is more likely that they did.

It is also possible that students requiring remediation bore additional costs for doing so; they may have spent a year of Pell eligibility in remedial courses without earning a year's worth of college credits that count for graduation. If significant numbers of students requiring remediation used a significant portion of their Pell eligibility to cover the cost of attendance while primarily taking non-college-credit-bearing remedial courses, then they would not have enough remaining eligibility to cover the full cost of their undergraduate degrees. While plausible, such a possibility remains unlikely. Too many students requiring remediation withdraw before exhausting their eligibility. The more likely scenario is that these students acquire student debts that they will be hard-pressed to pay because they lack the college degree that would make a higher paying job a genuine possibility.

The answer to the question, "Who really pays?" is that everyone pays—some more than others. The real problem with remediation is that too often it comes too late to make a real difference for the students who could benefit most from a college education.

## **Summary**

Remediation will continue to be a vexing issue for Pennsylvania. In institutions with increasing enrollments, the most likely result will be to exclude most and eventually all students requiring remediation. But for the Commonwealth's community colleges, remediation will remain a core responsibility—and an increasingly important one, because of the tuitions that remediated students bring as well. Two broad, although not necessarily mutually exclusive, choices will likely face the Commonwealth: (1) invest in the academic programs of those secondary schools currently producing most of the students requiring remediation; and/or (2) rationalize the Commonwealth's investment in community college programs of remediation. What will likely not work is to "hang tough," insisting that remediation is neither the business of higher education nor the financial responsibility of the Commonwealth.

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conclusions:  
**the making  
of policy**

**W**e come at last to the question that has shaped this study from the outset: Could there be a set of public initiatives—a public agenda—that could result in a significantly improved system of higher education in Pennsylvania? What might the Commonwealth do and who might be charged with doing it better?

### **The Right Tools**

The Chair of this project, Ronald Cowell, serves as President of the Education Policy and Leadership Center and is a veteran of 24 years in the Pennsylvania Legislature. He has long argued that, when it comes to proposing changes in public policies, it is important to begin with the tools and levers available to public officials.

### **The Bully Pulpit**

The easiest thing for policymakers to do is talk—about what is important, what is wrong, what needs either fixing or additional investment. At least once each year, with the Annual Budget Message, the Governor has an opportunity to define a public agenda. The priorities noted by the Governor are noted by others as well. But in addition, there are frequent occasions—formal and informal—when the Governor speaks to attentive audiences.

Historically, governors and secretaries of education have used the bully pulpit to remind Pennsylvania colleges and universities of the importance of restraining tuition increases or the need to develop policies that allow students to readily transfer credits from one accredited institution to another. When the bully pulpit works, the need for more formal policy enactments may recede.

### **Constitutional Amendment**

The most formal and far-reaching policy tool available to the Governor and General Assembly is the constitutional amendment. Were the Commonwealth to consider creating a new and enduring “right” to postsecondary education for Pennsylvanians, a constitutional amendment would be a likely avenue to consider.

### **State Statutes**

Most major initiatives fall short of requiring a constitutional amendment and instead are enacted through a state statute, which can within constitutional limits either mandate, prohibit, or create incentives or inhibit certain behavior on the part of other individuals or organizations that are subject to the provisions of the statute. For example, a state statute created the Pennsylvania Higher Education Assistance Agency (PHEAA) and another subsequent statute created the framework for the Commonwealth’s program of student grants. Similarly, state statute created the Pennsylvania State System of Higher Education (PASSHE), providing for its authority and duties. State statute provided for the establishment of community colleges as well. Others have created reporting requirements for higher education institutions, including information about faculty workloads and crime statistics. Largely by omission, state policymakers have chosen not to create a single governing or coordinating structure for all of higher education (or all of public higher education) in the Commonwealth. Largely by ambiguity, the General Assembly has left unclear whether certain higher education institutions are covered by the state’s Right-to-Know statute.

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If, in order to exert more direct control over public institutions of higher education, a fundamental change in current funding arrangements would be required, the likely vehicle for making that change would be statutory language. To date, Pennsylvania lawmakers have been restrained in the use of state statutes to influence higher education.

### **Regulations**

The General Assembly can also delegate to Commonwealth agencies authority to enact regulations or regulatory law. The regulation-making process is subject to review by the state's Independent Regulatory Review Commission. Regulations typically clarify and provide additional detail for statutes and often fulfill a specific assignment explicitly delegated to the agency by a statute approved by the General Assembly.

Regulations adopted by the State Board of Education, for example, currently outline procedures for the establishment of new higher education institutions in Pennsylvania, as well as the process by which the State Board considers applications for new programs or new campuses as provided by state statutes. Regulations also provide the additional detail for the implementation of the state statute requiring higher education institutions to report campus crime statistics. Other State Board regulations pertain to requirements for teacher preparation programs.

Regulations would become a more significant policy tool for shaping the state's mixed system of higher education were the General Assembly to assign to the State Board of Education additional responsibility to regulate the activities of some or all of higher education in Pennsylvania.

The expanded use of statutes and regulations to promote standards-based reforms that are reshaping K-12 education in the Commonwealth may serve as an important precedent for state lawmakers interested in a similar reshaping of higher education across the Commonwealth.

### **Master Plan for Higher Education**

The General Assembly requires the State Board of Education to prepare and submit to the General Assembly every five years a Master Plan for Higher Education. There is, however, little evidence that the General Assembly has used or even considered previous Master Plans, even when the State Board has managed to complete its work on time.

Still, the Master Plan for Higher Education is potentially an important policy tool for expressing a Commonwealth policy for higher education—provided the issues it addresses have both public and legislative saliency.

### **Appropriations**

The expenditure of all Commonwealth and federal funds available to state government must be approved through the appropriations process of the General Assembly—either within the context of the General Fund Budget or through several non-preferred lines of funding. These appropriations are all laws of the Commonwealth, whether they provide funds to an agency of state government or to some independent entity. Most appropriations to Commonwealth agencies are distributed under provisions of the law to other individuals and organizations.

For higher education, the General Assembly largely has treated appropriations to various sectors of higher education incrementally and equally. The general practice has been that all sectors receive what they received the previous year, plus a little more, with the “little more” being approximately equal for the state-owned universities, the state-related universities, the community colleges, and the private institutions. On occasion, however, there is a departure from this general practice, such as the case of community college funding in 2005.

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### **Conditions Attached to Appropriations**

The amount of an appropriation is always important, but so can be the conditions that are attached to it. Those conditions may mandate, prohibit, encourage, or inhibit the use of the funding for various purposes. The more narrow the conditions attached to some or all of an appropriation, the more targeted will be the use of the funding. In some cases, eligible non-state applicants for the use of appropriations made to and to be distributed by a state agency are effectively restricted by conditions attached to the appropriation.

When conditions are attached to appropriations, the General Assembly and the Governor must specify the desired outcome as well as an accountability process for determining whether the condition has been met. Attaching conditions to an appropriation is a fundamentally more complex process than simply determining “how much” ought to be appropriated.

Traditionally, however, the Pennsylvania General Assembly has attached few conditions to the appropriations it makes directly to higher education institutions or to Commonwealth agencies for ultimate distribution to higher education institutions. Put more directly, the General Assembly has neither defined public expectations nor created workable procedures for ensuring institutional accountability in the use of state funds appropriated for higher education.

### **Appointing Authority**

The final policy tool available to the Commonwealth is the authority and responsibility to make appointments as provided by state statutes. For example, it is the Governor who appoints the Cabinet secretaries most relevant to higher education: Education, Policy and Planning, and Budget. The Governor also appoints most members of the State Board of Education, selects the chair of the State Board and the chair of its two councils, and appoints many of the members of the governing boards of a variety of higher education institutions.

Legislative leaders select the chairs of the legislative education committees who in turn also sit as members on the State Board of Education. Legislative leaders also make appointments to many governing boards of higher education institutions. Those who have appointing authority have a significant power to influence the operations and decision-making of the entities to which they make appointments. Sometimes, the appointment itself can send a message about perceptions, expectations, or priorities.

## **The Hot Button Issues**

We have spelled out the policy options available principally to remind those who seek to improve higher education across the Commonwealth that there are established means for achieving a variety of ends. As a general rule, however, Pennsylvania policymakers have been reluctant to employ these tools, choosing instead to be relatively non-intrusive in terms of impacting the operations of colleges and universities in the Commonwealth. Regardless of the means, from our vantage point Pennsylvania policymakers should consider addressing four major issues identified in this review of the current status of higher education in Pennsylvania.

### **Issue #1: Educational Participation and (Consequently) Attainment**

The most obvious challenge facing higher education in Pennsylvania is the need to increase the participation of underserved populations—principally African Americans, Hispanic Americans, and rural Pennsylvanians. To do so, the Commonwealth will require practical strategies for overcoming two large obstacles.

The first barrier is a substantial deficit in the performance of a large number of school districts across Pennsylvania. On the most recent Pennsylvania System of School Assessment (PSSA), 40 percent of Commonwealth school districts failed to ensure that at least half of their 11th grade students qualified as

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proficient in math. Only 30 school districts out of 498 (6 percent) could boast that three-quarters of their 11th graders were proficient in math. The PSSA scores were better for both reading and writing. Still, in only 160 (32 percent) of the school districts did 75 percent or more 11th graders qualify as proficient in reading. The same results pertained for writing—in just 156 school districts did 75 percent or more of 11th graders qualify as proficient in writing. Proficiency in all three subjects—reading, writing, and mathematics—is essential for students to succeed academically in college. Improve secondary school performance in these areas, and a parallel increase in college participation and increased educational attainment should naturally follow.

It is important to note that the Commonwealth's colleges and universities will bear significant responsibility in this endeavor. They train most of the teachers in the Commonwealth, help set the standards for educational success, and through their articulation of college entrance requirements have a hand in shaping the secondary school curriculum. In a very real sense, the quality of K-12 education across the Commonwealth is a reflection of the quality and sense of civic responsibility exhibited by Pennsylvania's colleges and universities.

The second obstacle is the absence of a community college or community college outlet in more than half of Pennsylvania's 67 counties. Here, it is important to consider not just the nature and style of the academic programs (including remediation) that community colleges offer, but the fact that community colleges and community college outlets are seen as low-cost, low-risk portals for entering higher education.

Some obvious questions are worth asking. Would the Commonwealth entertain and have the financial wherewithal to support a substantial expansion of the number of community colleges across Pennsylvania? Would the Commonwealth financially support the expansion of an existing community college into an adjacent county or region? Would the Commonwealth consider a financing plan like the one employed by New York State, in which counties without community colleges who send their students to a neighboring county to pursue postsecondary education assume responsibility for the one-third charge that localities now pay when one of their students enroll in a within-county community college or community college outlet? In this regard, do the financial and other arrangements used by the Harrisburg Area Community College, which bills itself "Central Pennsylvania's Community College," provide a practical model for expanding community college access to underserved counties? What other arrangements might the Commonwealth consider to encourage the expansion of a Pennsylvania network of community colleges? Would, for example, distance or electronic education expand access, particularly in rural areas?

### ***Issue #2: The Cost of Attendance***

Despite the current outcry proclaiming that a higher education has become so expensive it is unaffordable, we have not been persuaded. Part of the problem is conceptual. When something is unaffordable it implies that it simply will not be purchased, at least by a majority of consumers. That is certainly not the case for higher education in Pennsylvania—enrollments have continued to rise along with the prices students are expected to pay and the benefits they are expected to garner from their college educations. Health insurance and with it access to health care, on the other hand, has become truly unaffordable for a growing number of American families who are now simply going without.

Based on our analysis of Pennsylvania data and the results of the Floyd Institute survey, we have concluded that cost plays a less important role in shaping the choices Pennsylvanians make about whether to pursue a college degree, the specific institutions to which they apply and eventually attend, and whether or not to persist in their enrollment. It may be that Pennsylvania is a special case. With nearly half (49 percent) of all baccalaureate enrollments in private institutions, one likely result is that a much higher benchmark for tuitions is being set across the Commonwealth, leading to the conclusion that public

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tutions are well within reach of most students and their families. At the same time, Pennsylvania has one of the very best state student aid agencies—PHEAA—which over the last 40 years has helped students finance their college educations while at the same time making them better informed consumers. The Floyd Institute survey finding that the tuitions charged by public institutions in the Commonwealth were generally acceptable helps explain how and why consumer education can trump media perceptions when it comes to students and their families deciding what is and what is not affordable. Still, it was troubling to note that among those who said the costs associated with college attendance prevented them from seeking a degree, there was a persistent over-estimate of the actual cost of attendance.

We are mindful, however, that the tuitions charged by Pennsylvania’s public institutions are among the highest in the nation. Public agencies have a special obligation to monitor on a continuing basis whether those prices have crossed the threshold separating what is affordable and what is unaffordable. PHEAA has both the data and the technical expertise necessary to design a more robust monitoring system. The Commonwealth might also consider commissioning a survey like the one designed by the Floyd Institute on a regular basis—perhaps every other or every third year. What the Commonwealth cannot afford is to “suddenly discover” in five or ten years that high prices have eroded college enrollments.

Still to be addressed are the 4 to 8 percent of young adults in Pennsylvania who feel that the high cost of attendance has already deterred them from earning a postsecondary degree. While the size of this group is small, it is troublesome precisely because those who are most likely to feel economically pinched come from the same groups whose college participation rates lag behind those of their neighbors—African Americans, Hispanic Americans, and young adults in rural communities. Targeted efforts will be required to better prepare those students for college while they are still in high school, to teach them how to better use the financial aid already available to reduce the net price of attending a college or university, and to make more funds in the form of grants available to them.

### **Issue #3: Meeting Labor Market Demands**

On this issue we have come to the conclusion that more is likely less. As we read the data, Pennsylvania’s colleges and universities are graduating substantial numbers of young people with degrees in mathematics, science, computing, and engineering. Indeed, over the last decade the number of undergraduate degrees awarded in these fields has increased by 23 percent. The problem is that those who earn these degrees are among the most mobile graduates in the country—free to go anywhere the best jobs are found. One of the ironies that emerges from this analysis is the possibility that Pennsylvania is considered a better place in which to study than to work. A large part of the answer, we believe, lies in increasing the proportion of graduates from PASSHE institutions with degrees in math, science, computing, and engineering.

There are also a host of jobs requiring technical skills but not necessarily baccalaureate degrees. Experience teaches that publicly funded programs offering enhanced financial aid—more grants, less loans—can attract candidates to these fields. PHEAA now has five years of experience administering the Commonwealth’s New Economy Technology Scholarship (NETS) program, whose goal is to educate and retain a workforce of highly trained technology experts that will help Pennsylvania attract and support new employers. The program includes an element of merit-based aid as well as a structure that makes the institution enrolling a NETS grantee an active partner in the program. Continued monitoring of the benefits and cost-effectiveness of the program is one way to gauge the likely need for additional funds to be invested in this way.

We were also struck in our conversations with those representing employer groups of the importance they placed on a fundamental strengthening of math and science education in high school. In a world of trade-offs, the more lasting investment in a technologically adept workforce may be the one that dramatically increases the proportion of Pennsylvania 11th graders who qualify as proficient in mathematics on

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the PSSA. Increasingly what employers mean when they talk about high school graduates who are both college- and work-ready, are high school graduates who are proficient in math and science and who understand the principles involved when developing and producing technically advanced products.

***Issue #4: Making Sense of Remediation***

For the foreseeable future, significant numbers of Pennsylvania students seeking a higher education will require remediation in both mathematics and composition—indeed the results of the Commonwealth’s own PSSA exam strongly suggest that even more students should be required to remediate. In short, remediation is here to stay. It should be treated not as a necessary evil, but as an educational safety net. While a host of agencies, ranging from the Pennsylvania Department of Education (PDE) to PHEAA and including most of the Commonwealth’s colleges and universities, have a direct stake in building successful programs of remediation, it is the community colleges that have made remediation a core responsibility. The Commonwealth might consider making Pennsylvania’s community colleges the focus of its investments in remediation. One possibility would be to create a program of Commonwealth-funded incentives and rewards for community colleges that operate successful programs of remediation. Such an initiative could promote additional partnerships between community colleges and high schools and also between community colleges and four-year institutions.

At the same time, there needs to be a greater sharing of information regarding what works and what does not. One of the more interesting insights we gained in discussing the delivery of remedial courses with the ten institutions we visited was that students who participated in a remedial program often did better than expected once they began taking regular college courses. In part it was a matter of mastering the technical skills the programs were designed to teach—but students also received an added boost by participating in the smaller classes and receiving more personal attention from instructors.

The state-related university in our sample also had an interesting tale to tell. Last fall, the institution closed out its last remedial math and composition sections for a lack of students—the institution’s increased competitiveness was bringing more applications and more admissions by top students, so that admitting students with marginal records was no longer necessary. But the institution had also been remarkably proactive in building sustaining partnerships with three nearby community colleges. University faculty working collaboratively with community college faculty were designing and delivering courses to community college students that were fully aligned with the university’s curriculum. As a result, the university could promise to any student completing the requisite courses with a “B” average at a participating community college full admission with junior standing to the university in the major the community college student designated during his or her first two years of study. Here is another program that can serve as an effective model of how to expand the educational opportunities of students who did not fully master the college preparatory curriculum while still in high school.

At bedrock, making sense of remediation means achieving a better alignment between programs of secondary and postsecondary education across the Commonwealth. More attention should be paid to the defining of what high school students must master to succeed in college. Better alignment means colleges and universities collectively must become more successful as well as coherent in defining educational requirements and goals. Better alignment would both reduce some of the need for remediation and make it easier to transfer credits between institutions. Currently the California State University (CSU) is experimenting with an Early Assessment Program that links high schools and CSU campuses. The Commonwealth might explore whether a similar program could work in Pennsylvania.

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## **A Final Word**

We conclude with an injunction to do no harm. Higher education across Pennsylvania is largely a success story. Having been left to their own devices, the Commonwealth's college and universities have responded well if not always perfectly. The task at hand is to learn how better to use the forces of the market and the Commonwealth's limited funds to broaden access to underserved geographic as well as minority populations; to continue to strengthen the teaching of math, science, computing, and engineering at both the collegiate and secondary school levels; and to achieve a better alignment among the Commonwealth's rich variety of postsecondary programs.

Our conclusion is that no great crisis faces higher education in Pennsylvania. While Pennsylvanians worry about the growing expense associated with obtaining a college education, to date those worries have not resulted in reduced enrollments. While there are always worthwhile ways for colleges and universities to spend money, we remain convinced that what is needed are targeted investments with well-defined beneficiaries and outcomes rather than a general investment which might benefit most institutions but only a little.

# appendix: data sources

Display	Data Source	Items	Detail 1	Detail 2	Aggregate
1	Census 2000 File: SF3	Pct25 Sex By Age By Educational Attainment For The Population 18 Years And Over	By County	Total	Aggregated to State Level
	Census 1990 File: STF3	P057 Educational Attainment	By County	Total	Aggregated to State Level
2	Census 2000 File: SF3	Pct25 Sex By Age By Educational Attainment For The Population 18 Years And Over	By County	Total	Aggregated to State Level
	Census 1990 File: STF3	P057 Educational Attainment	By County	Total	Aggregated to State Level
2a and 2b	Census 2000 File: SF4	Pct65 Sex By Age By Educational Attainment For The Population 18 Years And Over	By County	By Race	Aggregated to State Level
	Census 1990 File: STF3	P058 Race By Educational Attainment	By County	By Race	Aggregated to State Level
6	Census 2000 File: SF4	Pct63 Sex By College Or Graduate School Enrollment	By County	By Race	College or Graduate School Enrollment Ages 18-24
7	Census 2000 File: SF3	Pct25 Sex By Age By Educational Attainment For The Population 18 Years And Over	By County	Total	Aggregated to Region Level
	Census 1990 File: STF3	P057 Educational Attainment	By County	Total	Aggregated to Region Level
8	PA Department of Education	High School Graduate Report (PDE-4037)			
		Private and Non-public Schools High School Graduates by County, School, Racial/Ethnic Category, Gender and Post-High School Activity 2003-04			Aggregated to Region Level
		Public Schools High School Graduates by County, School, Racial/Ethnic Category, Gender and Post-High School Activity 2003-04			Aggregated to Region Level
9	PA Department of Education	High School Graduate Report (PDE-4037)			County level
		Private and Non-public Schools High School Graduates by County, School, Racial/Ethnic Category, Gender and Post-High School Activity 2003-04			Aggregated to Region Level
		Public Schools High School Graduates by County, School, Racial/Ethnic Category, Gender and Post-High School Activity 2003-04			Aggregated to Region Level
10	PA Department of Education	EdNA (Education Names & Addresses) County lists	By County		
		Market Segments Based on Data from IPEDS			
11	IPEDS* Fall Enrollment 2004	Total Enrollment in 274 Degree Granting Institutions			*Integrated Postsecondary Education Data Systems
		Institution Types From IPEDS			
	National Center for Education Statistics	The Digest of Education Statistics for 2004, Table 176			Total Enrollment Data are for 2002
12 and 13	IPEDS Institutional Characteristics and Student Charges 2004				Aggregated by Institution Type
14	IPEDS Fall Enrollment 2004	Undergraduate Enrollment Only			
15-23	IPEDS Fall Enrollment 2004	Race/ethnicity, gender, attendance status, and level of student: Fall 2004			
		Undergraduate Enrollment Only			
24	Percent Scoring Below Basic Reading	PSSA results from PA Dept of Education			School Districts aggregated to County
	Median Income	Census 2000 File: SF3	Median Family Income		
	Unemployment Rate 2004	Bureau of Labor Statistics			
	Total Seats	IPEDS Fall Enrollment			
	Community College in County	PA Dept of Education, EdNA	websites and phone calls		
25	PSSA results from PA Dept of Education.	Public Schools Only			
		Rural Status from <a href="http://www.ed.psu.edu/crec/ruralschools.pdf">http://www.ed.psu.edu/crec/ruralschools.pdf</a>			
		Participation Rates from Public Schools High School Graduates by County, School, Racial/Ethnic Category, Gender and Post-High School Activity 2004			
26	Special survey of high school graduates 18- to 34-years-old	Floyd Institute, Franklin and Marshall College			
27	Special survey of high school graduates 18- to 34-years-old	Floyd Institute, Franklin and Marshall College			
28	Special survey of high school graduates 18- to 34-years-old	Floyd Institute, Franklin and Marshall College			
29	Special survey of high school graduates 18- to 34-years-old	Floyd Institute, Franklin and Marshall College			
30	Special survey of high school graduates 18- to 34-years-old	Floyd Institute, Franklin and Marshall College			
31	Special survey of high school graduates 18- to 34-years-old	Floyd Institute, Franklin and Marshall College			
32	IPEDS Completions 2004	By Major and Degree level	Bachelor's degrees in Selected areas		
33	IPEDS Fall 2004 Enrollment	Residency of First Time Freshmen			
34	IPEDS Fall 2004 Enrollment	Degrees in Mathematics, Science, Computing, and Engineering			
35	IPEDS Fall 2004 Enrollment	Freshmen with residency outside of PA			
36	IPEDS Fall 2004 Enrollment				
	IPEDS Fall 1994 Enrollment				

