

ADVANCING A COMPREHENSIVE STUDY OF POST-COLLEGIATE OUTCOMES

FRAMEWORK AND TOOLKIT



MARCH 2015

AMERICAN ASSOCIATION OF COMMUNITY COLLEGES
AMERICAN ASSOCIATION OF STATE COLLEGES AND UNIVERSITIES
ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES

The American Association of Community Colleges (AACC) is leading the Post-Collegiate Outcomes (PCO) Initiative in collaboration with two partner organizations: the American Association of State Colleges and Universities (AASCU) and the Association of Public and Land-grant Universities (APLU).

As the voice of the nation's community colleges, AACC delivers educational and economic opportunity for 13 million diverse students in search of the American dream. Uniquely dedicated to access and success for all students, the AACC's nearly 1,200 member colleges provide an on-ramp to degree attainment, skilled careers, and family-supporting wages. Located in Washington, DC, the AACC advocates for these not-for-profit, public-serving institutions to ensure they have the resources and support they need to deliver on the mission of increasing economic mobility for all.

AASCU is a Washington, DC-based higher education association of more than 400 public colleges, universities, and systems whose members share a learning—and teaching—centered culture, a historic commitment to underserved student populations, and a dedication to research and creativity that advances their regions' economic progress and cultural development.

APLU is a research, policy, and advocacy organization representing 238 public research universities, land-grant institutions, state university systems, and affiliated organizations. Founded in 1887, APLU is North America's oldest higher education association with member institutions in all 50 U.S. states, the District of Columbia, four U.S. territories, Canada, and Mexico. Annually, APLU member campuses enroll 4.8 million undergraduates and 1.3 million graduate students, award 1.2 million degrees, employ 1.4 million faculty and staff, and conduct \$41 billion in university-based research.

AACC, AASCU, and APLU thank the Bill & Melinda Gates Foundation for its generous support to make the Post-Collegiate Outcomes Framework and Toolkit possible. Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving them the chance to lift themselves out of hunger and extreme poverty. In the United States, it seeks to ensure that all people—especially those with the fewest resources—have access to the opportunities they need to succeed in school and life. Based in Seattle, Washington, the foundation is led by CEO Dr. Susan Desmond-Hellmann and co-chair William H. Gates Sr., under the direction of Bill and Melinda Gates and Warren Buffett.

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The four Stakeholder Perspectives illustrate how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes. Institutions of higher education can utilize these pieces individually or together to reframe conversations about post-collegiate outcomes toward a broader understanding of the value of postsecondary education.

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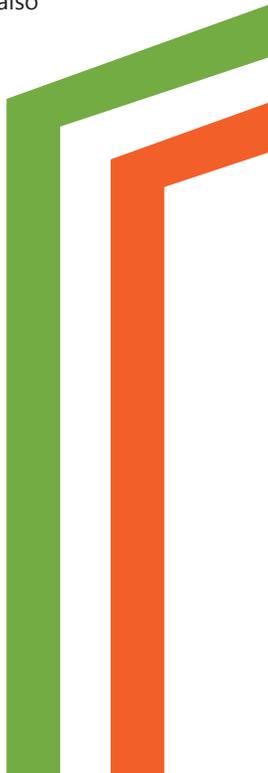
This section describes key dimensions for users to consider when defining and measuring post-collegiate outcomes contained within the framework.

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The two Deeper Dives provide more in-depth views of how the PCO Framework can be used to better understand post-collegiate outcomes. Two outcomes—earnings and social giving—are discussed.

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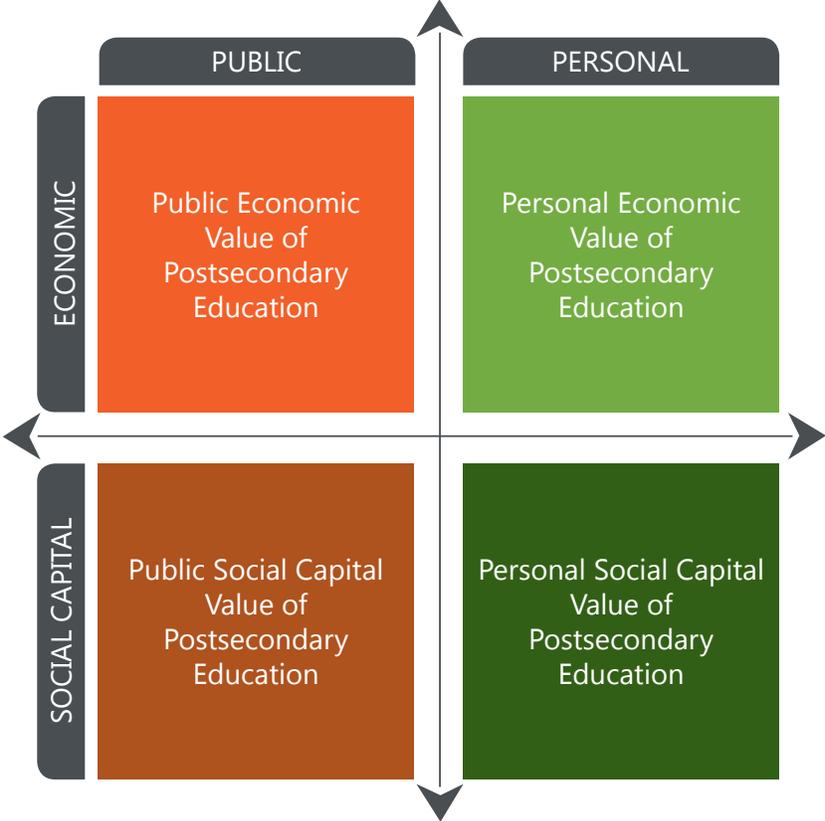
The final section lays the groundwork for future efforts and recommends where policy makers and advocates can focus their attention to broaden policy and public perceptions about the range of and responsibility for post-collegiate outcomes. Next steps for expanding the PCO Framework and Toolkit for institutional use are also provided.



EXECUTIVE SUMMARY

Colleges and universities are under increasing pressure to demonstrate the value they provide in students' post-collegiate lives. Such demands for greater accountability and transparency are due to concerns from policymakers and the public about college costs, student debt, and completion rates. Unfortunately, policymakers, colleges and universities, and a wide variety of stakeholders, including taxpayers, parents, and students tend to focus primarily on the short-term economic outcomes of college such as first year salaries and overlook less-accessible, quantifiable, and long-term outcomes. College graduates are more likely to vote and be active in their communities through volunteer service and philanthropy. Conversely, they are less likely to have chronic health problems and experience greater longevity than those who do not hold a college degree. These long-term outcomes are missing from much of the current conversation about post-collegiate outcomes.

Figure 1: PCO Framework



The goal of the Post-Collegiate Outcomes (PCO) Initiative is to provide a framework for a richer and more comprehensive discussion of post-collegiate student outcomes, as well as the development of consistent and meaningful measurement tools for reporting those outcomes. The PCO Framework (see Figure 1) focuses on four quadrants illustrating post-collegiate outcomes: public/economic, public/social capital, private/economic, and private/social capital. As the PCO Framework explains, the public/economic quadrant (top left) represents outcomes related to the public good, defined primarily in financial terms. The public/social capital quadrant (bottom left) represents outcomes related to the public good, defined primarily in non-financial terms. Likewise, the personal/economic (top right) quadrant encompasses outcomes related to the personal (or individual) financial good. Whereas the personal/social

capital (bottom right) quadrant includes outcomes that demonstrate the personal (or individual) value not defined in financial terms.

A toolkit supplement to the PCO Framework consists of documents that illustrate how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes; explore potential post-collegiate outcomes measures for use within the framework; and consider potential policy actions and implications within the context of the framework. Together, the PCO Framework and Toolkit create a common understanding of definitions, parameters, outcomes, metrics, and indicators for reporting an array of post-collegiate outcomes which more accurately assess the value of a college education.

POST-COLLEGIATE OUTCOMES INITIATIVE: OVERVIEW

Background

For decades, a college education has been widely recognized as conferring economic and social mobility, prestige, worldliness, self-knowledge, and moral refinement. It was a rite of passage for some and a portal to a better life for others.

With state budgets becoming tighter, lawmakers are more keenly focused on ensuring state dollars are well spent. As such, the value of higher education has come under intense scrutiny. The price of attending public colleges and universities has risen, in part, due to declining state financial support, leading to escalating debt burdens for students and families. The post-recession economy's slow recovery has until recently constrained job opportunities for many, including new college graduates. Although improving for degree holders (Stilwell, 2015), it is too early to know for certain whether the trend will continue. As a result, students, their families, educators, and policymakers are asking fundamental questions about the value of a college education.

Answering the Question of Value

Accurately delineating the multidimensional value of a college education is complex and remains an elusive task. Studies have shown college degree attainment is linked to, among other outcomes, increased workplace productivity, higher earnings with more comprehensive benefits, greater job satisfaction, better health, less reliance on public services, and increased civic participation. Yet existing approaches to delineate such value are hindered by incomplete data and privacy concerns, leading policymakers to show only a portion of post-collegiate outcomes because their understanding is based on inaccurate information.

While institutions maintain student records and many states have developed statewide longitudinal data systems (SLDS), linking student data to post-collegiate outcomes remains a significant challenge. For example, many graduates find employment in other states and

can no longer be measured once they depart the state of their alma mater. States may also have dissimilar data definitions and collection protocols, which complicate cross-state comparisons of data. National sample surveys such as the American Community Survey¹ and various longitudinal surveys conducted by the U.S. Department of Education² were designed to provide broad student outcomes. Yet, the results of nationally representative sample surveys cannot be tied directly to individual institutions or students, limiting their use in measuring post-collegiate outcomes. Often, social capital post-collegiate outcomes are not collected at all. As a result of these limitations, the post-collegiate outcome conversation lacks the common definitions and vocabulary necessary to have a meaningful conversation about the value of college education.

Initiative Overview

The goal of the PCO Initiative is to create a framework and set of tools that could be used to discuss, assemble, and report post-collegiate outcomes in order to advance a national understanding of the value of a college education. The PCO Initiative is sponsored by three national, presidential higher education associations—the American Association of Community Colleges (AACC), the Association of Public and Land-grant Universities (APLU), and the American Association of State Colleges and Universities (AASCU)—and is funded by the Bill & Melinda Gates Foundation. The PCO Initiative's association partners brought together subject matter experts and institutional leaders (see Appendix) to meet the goals and objectives of the Initiative.

The PCO Framework and Toolkit were created as a resource for defining and measuring the outcomes of postsecondary educational experiences. They seek to provide more complete evidence of the value of higher education to students, families, policymakers, and stakeholders. A better understanding of the benefits accrued to both individuals and communities as a result of higher education is particularly important given the current economically-focused environment in which

¹ United States Census Bureau, <http://www.census.gov/acs/www/>

² National Center for Education Statistics, Surveys and Programs, <http://nces.ed.gov/surveys/SurveyGroups.asp?group=2>

colleges and universities operate. Persistent questions remain about the market value of a college degree and students' abilities to secure jobs after leaving a college or university. While the public and personal economic benefits are significant and important, utilizing the PCO Framework to better understand outcomes from the public and personal social capital quadrants will provide critical information. For example, a metric that shows low career satisfaction among state workers may indicate an unstable employment base that will not sustain future growth in the industry or state. Therefore, the PCO Framework can reveal how the private/social capital outcome of job satisfaction directly relates to the economic growth of a state.

Providing higher education stakeholders with a more complete understanding of the interconnections between and among outcomes across the public/economic, public/social capital, private/economic, and private/social capital quadrants of the PCO Framework is one of the primary intentions of the PCO Initiative. The framework is designed to be flexible and to accommodate the full range of post-collegiate outcomes. The PCO Framework draws attention to the limitations of some outcomes by accurately and appropriately representing institutional accountability to students and the public. Multiple measures of key outcomes highlight and reinforce the strength of diversity within the U.S. higher education system while allowing for meaningful measurement and comparison of outcomes across institutions. Key outcomes include skilled workers for in-demand jobs, social giving, earnings, and career advancement.

Intentionally changing the conversation about post-collegiate outcomes to include broader societal benefits associated with a better-educated society, while acknowledging effects that are appropriate for institutional accountability, will require leadership and consistency in communicating to stakeholders. The PCO Framework and Toolkit include resources to provide a common vocabulary and direction for a more accurate assessment of the multi-dimensional value of a college education.

Initiative Objectives and Scope

The initiative's scope is limited to undergraduate student outcomes attributable to a college education, including students who did not complete college.

Institutional contributions, such as graduate education and technology transfer, are beyond the scope of this initiative.

In addition, the PCO Initiative was guided by four primary objectives:

- To develop a conceptual framework of post-collegiate outcomes for use by audiences both inside and outside the higher education community.
- To develop resources and tools to improve the understanding of stakeholders and guide the application of mission-appropriate post-collegiate outcomes.
- Where possible, to identify and define an initial set of post-collegiate outcome measures that could be reported with currently available data.
- To disseminate and promote the conceptual framework and tools to the higher education and policy communities.

Initiative Working Groups

To accomplish the objectives of the PCO Initiative, an oversight committee and two working groups of subject matter experts and leaders from two- and four-year institutions were convened in 2014 by the associations sponsoring the initiative. The groups had broad representation across various sectors, institutional missions, geographic areas, demographics, and areas of expertise. For a complete list of oversight committee and working group members, see the Appendix.

Working with staff from the sponsoring associations the Oversight Committee provided guidance on the initiative's scope, focus, and deliverables to the two working groups. The Framework and Measures Working Group created a conceptual framework and associated definitions for reporting post-collegiate outcomes informed by relevant research, models, and activities already underway. The Policy Working Group examined and refined the framework and definitions to increase its utility for policymakers and external audiences. Each of the three groups provided recommendations for the promotion and use of the framework by colleges and universities with key audiences: campus faculty and

staff, higher education governing bodies, policymakers, students and family members, and the public.

The PCO Framework & Toolkit

The conceptual framework emerged from the oversight committee and working groups' deliberations. The accompanying tools provide guidance for the initial applications of the framework by colleges and universities with key audiences. Together the framework and tools serve as the foundation for future work to define relevant metrics and indicators for a broad range of post-collegiate outcomes.

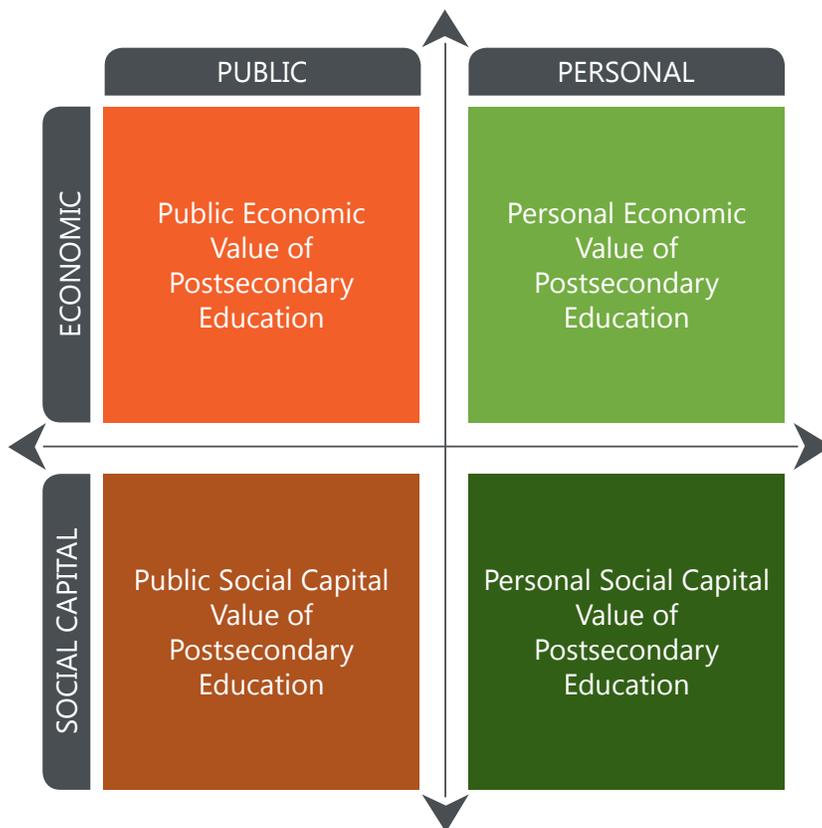
The PCO Framework

The PCO Framework consists of two intersecting continua: public and personal outcomes on the horizontal axis and economic and social capital

outcomes on the vertical axis as depicted in Figure 1. The continuum indicates that these outcomes occur over time and not just once, but on many occasions. The post-collegiate outcomes along these continua follow the collegiate experience regardless of the age of the former student.

The intersection of the horizontal and vertical axes results in four quadrants. As such, the public/economic quadrant (top left) represents outcomes related to the public good, defined primarily in financial terms. The public/social capital quadrant (bottom left) represents outcomes related to the public good, defined primarily in non-financial terms. Likewise, the personal/economic (top right) quadrant encompasses outcomes related to the personal (or individual) financial good. Whereas the personal/social capital (bottom right) quadrant includes outcomes that demonstrate the personal (or individual) value not defined in financial terms.

Figure 1: PCO Framework



The Organisation for Economic Co-operation and Development (OECD) (2014) defines social capital as “networks together with shared norms, values and understanding that facilitate cooperation within or among groups.” The OECD further describes social capital to involve personal relationships; social network supports; civic engagements; and trust and cooperative norms. As used in the PCO Initiative, however, social capital is conceptualized to include the separately defined notion of human capital, or “people’s knowledge, skills, health, and habits” (Lynch, 2015, p. 25). This conceptualized definition reflects the complex and inherent connections between social capital and human capital in that the development of one promotes the development of the other (Keeley, 2007; OECD, 2010).

The conceptualization of the PCO Framework was guided in part by work completed in 1998 by the Institute for Higher Education Policy (IHEP) that classified the benefits of a college education. The PCO working groups built upon the classification of benefits presented by IHEP. The original matrix was refined to make more explicit the continuous

nature of the two axes in recognition that the quadrants provide useful guide-posts for anchoring outcomes, but many outcomes cross boundaries. The flexibility introduced by continua allows for truer representations of the overlapping nature of many post-collegiate outcomes.

Defining Key Terms

The definition of key terms is required for users to clearly understand and apply the PCO Framework. This section

will focus on three broad concepts: outcomes, metrics, and indicators.

Outcomes. Outcomes are the results of a higher education experience that are evaluated or measured using the PCO Framework. Outcomes that result from educational experiences range from broad and diffuse to narrow and concrete. Broad “big picture” results are frequently not specific enough to create a single measurement definition and are often represented by a

Table 1: Examples of the Relationship Between Outcomes, Metrics, and Indicators

| Framework Quadrant | Outcome | Metric(s) | Indicator(s) |
|-------------------------|--------------------------------------|--|---|
| Personal/Economic | Employment of graduates in state | Percentage of college graduates employed in state following completion: <ul style="list-style-type: none"> • After 3 months • After 1 year • After 5 years <i>Potential data source: state unemployment insurance data</i> | Comparison of graduates’ employment rates to state targets or industry benchmarks. |
| Public/Economic | Return on investment of public funds | <ul style="list-style-type: none"> • Tax payments of full-time workers by education level over time. • Percentage of individuals living in poverty by education level over time. <i>Potential data sources: U.S. Census Bureau; Internal Revenue Service</i> | <ul style="list-style-type: none"> • Comparison of state income tax revenue to postsecondary attainment levels. • Comparison of state expenditures on public assistance to postsecondary attainment levels. |
| Personal/Social Capital | Work satisfaction of graduates | Work satisfaction rates among employed individuals by education level. <i>Potential data source: National Opinion Research Center, General Social Survey</i> | Comparison of work satisfaction rates among those with college credentials, high school diplomas, and less than a high school diploma. |
| Public/Social Capital | Civic engagement of graduates | <ul style="list-style-type: none"> • Voting rates among U.S. citizens by education level. • Percentage of individuals who volunteer by education level. <i>Potential data source: U.S. Census Bureau; Bureau of Labor Statistics</i> | <ul style="list-style-type: none"> • Comparison of voting rates in presidential elections to national targets. • National trends in volunteerism as compared to education attainment rates. |

combination of more discrete, concrete results that are easier to measure. For example, in the public/economic quadrant, broader outcomes include local economies strengthened by a wider tax base and a reduced reliance on social services. Within the personal/social capital quadrant, broad outcomes include life satisfaction, improved health and wellness, and the ability of individuals to think critically and solve problems, both on the job and as consumers.

Metrics. Metrics are standards of measurement or a system of parameters used to evaluate outcomes.³ Although some outcomes may be narrow enough to be captured by a single metric, it is more likely that a combination of metrics will be needed to comprehensively describe an outcome. Within the public/economic quadrant, for example, an outcome such as “community economic health” could be measured by three metrics: increased tax revenues, spending on social services, or the alignment of community members’ skills with in-demand jobs. The measurement of an outcome of “social giving” within the public/social capital quadrant might require several metrics, including the rates of volunteerism and charitable giving levels. Furthermore, some outcomes will be measured by metrics from more than one quadrant. For example, “wage levels” could be measured by increased personal earnings within the personal/economic quadrant and an expanded tax base within the public/economic quadrant.

Indicators. Indicators are statistics that provide a context or benchmark for metric results, making it possible to assess how well or how poorly an organization performs. For example, if 40 percent of degree holders from State University voted in the last state election, it is difficult to judge if that figure is “high,” “low,” or “about average” without additional contextual information such as the voting rates from the previous election or the national average of voter participation rates for college graduates. Depending on the expectations of a particular stakeholder group or the goals of a specific institution, the 40 percent metric could be better, worse, or equal when compared to the chosen benchmark. Indicators can clarify performance by comparing current outcomes

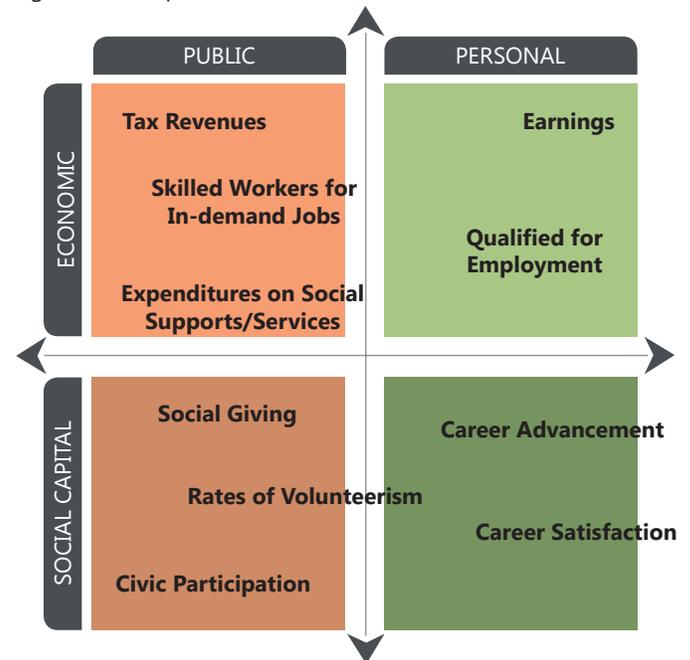
to national data, established goals, or even past performance of a similar group.

Examples of the relationship between outcomes, metrics, and indicators are shown in Table 1. The table is adapted from Baum, Ma, and Payea’s (2013) report, “Education Pays 2013: The Benefits of Higher Education for Individuals and Society.”

The Permeability of Outcomes

The continuous nature of the axes represented by the arrows illustrates how post-collegiate outcomes can be both public and personal thereby serving both economic and social capital goals. Outcomes sometimes fit neatly in a single quadrant, but they can also transcend the boundary of a single quadrant; see Figure 2 for examples. Additionally, some outcomes can be easily traced to the actions and intentions of specific institutions or programs whereas other outcomes are influenced by multiple actors. For example, involvement in religious organizations could also influence students’ behaviors

Figure 2: Examples of Outcomes Across the Framework



³ Adapted from Toward Implementation of Administrative Metrics, University of Minnesota, <http://conservancy.umn.edu>

related to volunteering or charitable donations. Future development of the PCO Framework will include recommended definitions and methodologies for gauging more complex outcomes that currently lack agreed upon definitions. Guidelines for the appropriate use of outcomes, to evaluate the contributions of an institution, and to assess the needs of a surrounding community, state, and the nation also need to be developed.

PCO Toolkit

The PCO Toolkit consists of supporting documents that illustrate how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes; provide in-depth explorations of developing measures for use within the framework; and discuss the potential policy actions and implications of the framework.

The PCO Toolkit includes:

1. Stakeholder Perspectives: Community Members
2. Stakeholder Perspectives: Employers
3. Stakeholder Perspectives: Students and Families
4. Stakeholder Perspectives: Policymakers
5. Dimensions to Consider When Developing Post-Collegiate Outcomes
6. Deeper Dive Into Earnings
7. Deeper Dive Into Social Giving
8. Policy Implications and Next Steps to Develop the Framework

Conclusion

Together, the PCO Framework and Toolkit create a common understanding of definitions, parameters, outcomes, metrics, and indicators for reporting an array of post-collegiate outcomes which more accurately assess the value of a college education. Additional work is needed to continue building out the PCO Framework and Toolkit so that they can be used as a comprehensive outcomes reporting system for institutions. Specifically, a more complete enumeration of the outcomes, metrics, and indicators that could be reported within the PCO Framework is needed.

APPENDIX A: POST-COLLEGIATE OUTCOMES (PCO) INITIATIVE COMMITTEE AND WORKING GROUP MEMBERS

Oversight Committee

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Nathalie Dwyer, Research Associate, VSA and SAM Project Coordinator, Association of Public and Land-grant Universities (APLU), DC

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STAKEHOLDER PERSPECTIVES: COMMUNITY MEMBERS

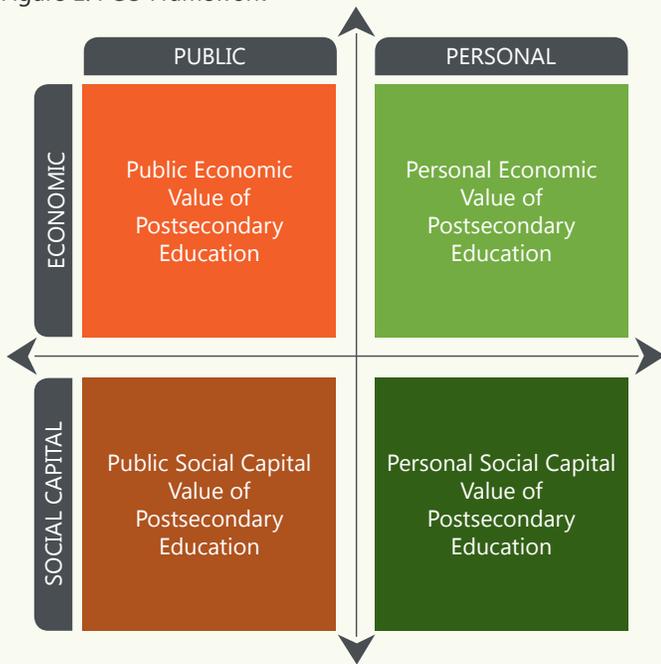
Stakeholder Perspectives illustrate how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes. In this document, outcomes of primary interest to community members are placed within the framework and additional connections are drawn to related, but sometimes less considered, outcomes.

For members of the broader communities in which college graduates live and work, the value derived from growing participation in higher education may be difficult to identify and measure. Yet scholars, college and university faculty and staff, and the public at large often agree that postsecondary educational experiences provide numerous positive outcomes for individuals, families, neighborhoods, and communities. With its comprehensive array of college outcomes along the

public, personal, economic, and social capital continua, the Post-Collegiate Outcomes (PCO) Framework (see Figure 1) helps members from a variety of communities understand and appreciate the impact college has on communities, individuals, and families. The PCO Framework also reinforces community members' appreciation for an educated population and the ways in which education contributes to a high quality-of-life for members of those communities. A more detailed description of the PCO Framework can be found in the "Post-Collegiate Outcomes Initiative: Overview" document.

The classification and measurement of outcomes from the perspective of community members requires viewing the PCO Framework with a slightly broader lens than typically presented by institutions, the media, and policymakers. Members of our communities include not only those who have direct interest in the institution through the institution's presence in the community or due to enrollment at the institution, but also those who benefit from public outcomes associated with higher than average educational attainment. Community members, therefore, approach post-collegiate outcomes from a variety of angles and may or may not initially be focused on the institutional accountability perspective or the individual student foci typically presented by the news media or by policymakers. To community members who are not directly engaged with institutions of higher education, regional or state population metrics, such as community well-being or skilled workers to fill in-demand jobs, may be more compelling. Individuals who are enrolled or who have friends or family enrolled in higher education programs will also find individual outcomes relevant, and may more easily connect those outcomes to corresponding community needs due to their immediate personal relevance. Consequently, understanding the specific needs of a particular group or audience will be more important in presenting appropriate post-collegiate outcomes of interest to community members than it would be with other stakeholder groups.

Figure 1: PCO Framework



Members of the broader community are most likely interested in the public/economic and social capital outcomes defined in the PCO Framework. A potential increase in the tax base due to higher average or median wages in an area, for example, results in more resources to create and maintain infrastructure and social and civic services. Similarly, the relationship between growth in degree attainment and higher rates of volunteerism and charitable giving creates resources that supplement those provided by local, state, and federal governments to address social needs in the community. Skilled workers available for in-demand jobs in a community provide additional benefits related to both personal and public outcomes of college attendance. Business and industry leaders may choose to remain in or relocate to a particular community because they are attracted, in part, to the presence of a skilled workforce. Downstream effects on individual and community wealth are also present in the form of boosted real estate property values. Outcomes related to the public/economic and social capital outcomes identified in the PCO Framework include:

- increased social giving for a community;
- increased volunteerism for a community; and
- an adequate supply of skilled workers available to fill in-demand jobs.

Additional but more subtle social capital benefits of a college education include better health and greater longevity. While harder to measure, more educated people have healthier lifestyles and are more likely to engage in preventative health care. Better access to good jobs for former college students also correlates with lower crime rates, and social cohesion is fueled by college graduates' heightened appreciation for diversity. Outcomes related to this include:

- diminished reliance on community social services;
- reduced health-care costs borne by the community; and
- enhanced community safety and security.

College graduates also tend to be more civically engaged. They vote more, participate more actively in community-based organizations through volunteering, and more readily lend financial support to social causes and the arts. In short, higher rates of voting promote political stability; volunteer participation and private donations lead to increased social capital; and higher educational attainment correlates with lower rates of crime.

On a broader level, communities benefit from the contributions of individuals through their support of civic, cultural, and artistic organizations, which help broaden community members' understanding of the world and contribute to their personal fulfillment.

Potential measures include:

- community voting rate by education level;
- perception of the value of education in increasing civic engagement; and
- participation in and support of community cultural activities.

Researchers in diverse fields (including public policy, economics, nonprofit studies, public health, and business administration) often acknowledge that the impacts of postsecondary education, for individuals and the public, have significant economic and social value. By using the PCO Framework as a lens, it is possible to appreciate both the personal/economic benefits and the broader, community-wide effects of an educated citizenry. Individual advantages include increases in economic opportunity, including higher earnings, employment stability, and development of work skills and productivity. Broader community gains manifest through increases in local, state, and national tax revenues, expanded opportunities for economic growth, and reduced dependence on social safety nets. Both individual and broader outcomes should be of interest to all members of any community.

STAKEHOLDER PERSPECTIVES: EMPLOYERS

Stakeholder Perspectives illustrate how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes. In this document, outcomes of primary interest to employers are placed within the framework and additional connections are drawn to related, but sometimes less considered, outcomes.

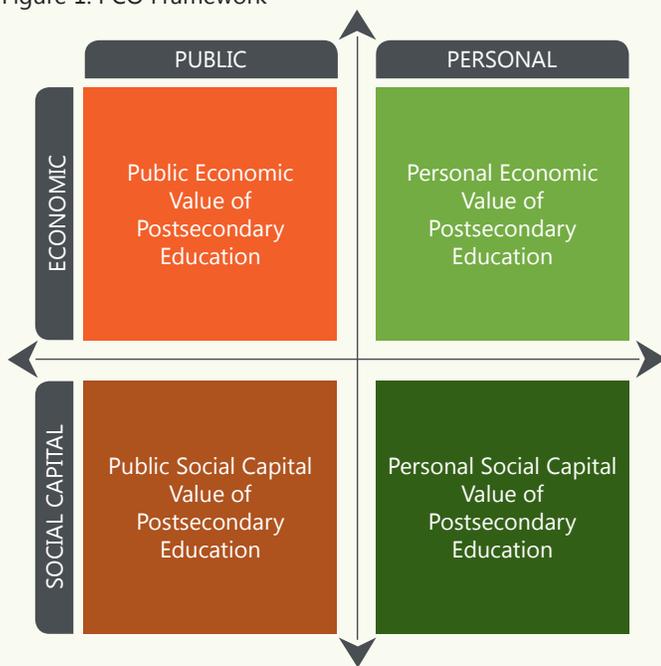
In an era of constrained public resources and concerns about the ability of the United States to compete in a global economy, colleges and universities are being asked to prove their worth. Are returns on investments in postsecondary education from public, private, and individual sources worth it? What are appropriate ways to measure the outcomes of a college education? Many existing accountability systems focus on short-term

employment outcomes for select groups of graduates, yet the economic health of a community and the adequacy of its workforce are critical considerations for employers.

Employers need to know whether or not colleges and universities are properly preparing qualified candidates. Preparation may take many forms, from completion of short-term industry certification programs to attainment of traditional academic degrees. With its comprehensive array of college outcomes along the public, personal, economic, and social capital continua, the Post-Collegiate Outcomes (PCO) Framework (see Figure 1) helps employers evaluate how well the colleges from which they recruit new employees are meeting their needs for knowledge, talent, and skills both for entry-level jobs and for career advancement. The PCO Framework also helps employers consider how the presence of an educated population in the communities where businesses are located contributes to a high quality-of-life for employees, which helps sustain a vibrant and innovative pool of talent. A more detailed description of the PCO Framework can be found in the “Post-Collegiate Outcomes Initiative: Overview” document.

First and foremost, employers will naturally want assurances that college graduates are ready to be productive employees. Employers are eager to know that students who have attended technical or highly specialized programs like welding or chemical engineering have acquired the skills necessary to meet the needs of in-demand occupations. All graduates should demonstrate problem solving and critical thinking skills, as well as be adept at both written and oral communication, and possess the ability to adapt to changing workplaces. Graduates should be able to interact with colleagues and clients whose backgrounds—ethnic, religious, economic, political, country of origin—are different from their own. While these outcomes are primarily related to individual employability and largely found in the personal/social

Figure 1: PCO Framework



capital quadrant of the PCO Framework, they also relate to important outcomes in the public/economic quadrant, such as:

- licensure and certification in key fields; and
- unemployment rates in in-demand fields within a community.

Employers are also keen to understand how post-collegiate outcomes contribute to a thriving community. However, individual and public outcomes are often difficult to distinguish. An educated population provides a more stable and adaptable labor force and a broader consumer base, while making fewer demands on public resources due to reduced reliance on social services and incarceration. Economic outcomes in the PCO Framework include:

- increased earnings resulting from higher levels of educational attainment;
- a robust public infrastructure to support employers' business needs built on a wider and deeper tax base; and
- reduced expenditures on social service programs.

While economic outcomes provide the most obvious value to employers, the PCO Framework illustrates how employers should also consider the ways in which individuals and communities accrue non-economic value from postsecondary education. Individuals who attend college or university report higher levels of job satisfaction and career advancement. They are more likely to have the skills necessary for effectively working in teams and communicating with colleagues and clients from different backgrounds in an increasingly globalized economy. Both contribute directly to productivity and the employer's bottom line. Increased education is also associated with lower rates of obesity and smoking, as well as longer life expectancy.

Yet, the benefits to employers involve more than the enhanced individual skills and knowledge resulting from a college education, even if those are critical. Employers take pride in the communities they inhabit, and seek to ensure that they are vibrant, culturally rich, and safe. Such outcomes are associated with the public/social capital quadrant of the PCO Framework, as these are spillover effects of an educated community. These positive features also help support a stable commercial market and allow businesses to thrive and expand.

Volunteerism, charitable giving, and voting rates all rise with educational attainment. Furthermore, healthy and involved employees provide a stable and engaged workforce. Ultimately, such social capital outcomes contribute to a more engaged citizenry and more vibrant communities, which also reinforce the stability of commercial markets. Social capital outcomes can be measured by:

- improved health and increased life expectancy;
- increased voter participation;
- higher levels of philanthropic giving; or
- higher levels of participation in arts and cultural activities.

While measuring the returns from postsecondary education, it is important for employers to take a full view. A true measure of post-collegiate outcomes includes an assessment of how colleges and universities contribute to the economic well-being of the community and individuals, as well as to the development of social capital in both.

STAKEHOLDER PERSPECTIVES: STUDENTS AND FAMILIES

Stakeholder Perspectives illustrate how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes. In this document, outcomes of primary interest to students and families are placed within the framework and additional connections are drawn to related, but sometimes less considered, outcomes.

A college education is a significant investment for students and their families. The hoped-for return is an opportunity to achieve more than preceding generations—to live a better life, to earn a better income, and to have a better understanding of the world. Clear and measurable outcomes of this investment can help students and families as they engage in the college choice process and evaluate the value of different

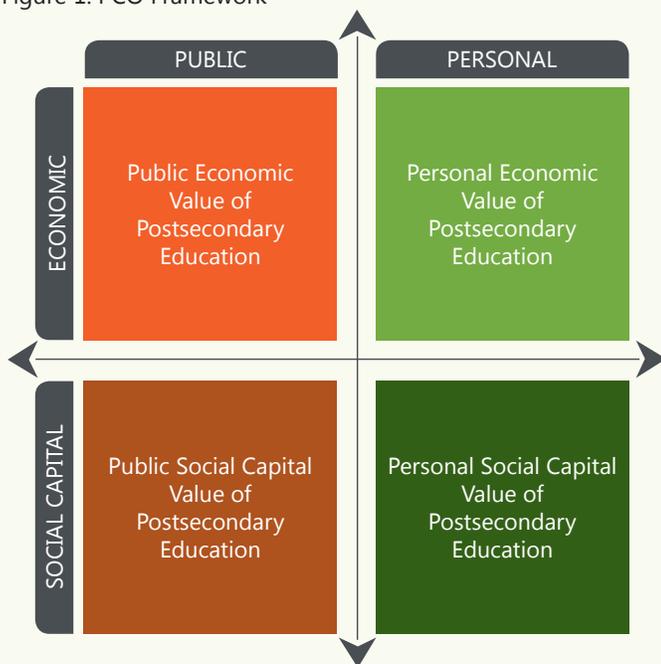
postsecondary options. With its comprehensive array of college outcomes along the public, personal, economic, and social capital continua, the Post-Collegiate Outcomes (PCO) Framework (see Figure 1) offers students and their families an opportunity to consider returns on their investment in higher education and to clarify their expectations of the college experience. A more detailed description of the PCO Framework can be found in the “Post-Collegiate Outcomes Initiative: Overview” document.

Outcomes consistent with the economic continuum, both public and personal, are of primary interest to students and families when evaluating the return on their investment in higher education. They want assurances that the time and resources spent in the pursuit of a college credential are a good investment. Specifically, prospective and current students, alumni, and family members want to know how the graduate will be able to apply what they learned during their postsecondary studies, a concern often expressed by the question of whether a recent graduate will be able to get a job that utilizes the credential they’ve earned. Some of the ways that economic outcomes like these can be measured and evaluated by student and families include:

- typical earnings of program completers by discipline and degree;
- employability of program completers; and
- student debt for program completers and non-completers.

Less considered, but equally important, are the post-collegiate outcomes in the personal/social capital quadrant. The focus here is on the effects of the knowledge, skills, and ways of making meaning about their world acquired by the student through their postsecondary experiences. The associated outcomes incorporate the personal intellectual growth (e.g., critical thinking ability, problem-solving skills, intellectual

Figure 1: PCO Framework



curiosity and the ability to satisfy it), discipline- and occupation-specific skills, and interpersonal competencies needed for success in career and life. These skills and abilities allow individuals to be more adaptable employees, more engaged citizens, and better informed consumers (Hart Research Associates, 2015).

Examples of metrics that could be used to examine personal/social capital outcomes include:

- levels of career satisfaction;
- cultural awareness;
- health and lifestyle choices; and
- career advancement.

The public/social capital quadrant captures the impact on society by those who pursue a postsecondary education. This may be the most elusive of the perspectives to concretely measure, yet it is this set of outcomes that propels college graduates into the next phase of their lives with meaning and a sense of investment in succeeding generations. These outcomes are a result of students understanding themselves not only as positive contributing members of their own communities but also as citizens of a global society. For example, civic and philanthropic engagement are two of the most powerful contributions made by college graduates. The relationship between students, alumni, and community-based organizations is a mutually beneficial one. Organizations are able to provide additional services to their clients, while students and alumni gain valuable experience applying their knowledge and skills for the benefit of others.

Outcomes associated with the public/social capital quadrant can be measured by:

- philanthropic giving;
- engagement in volunteerism; and
- voter participation.

By using the PCO Framework as a lens through which to understand and measure the outcomes of a postsecondary education, students and families can see that returns on their investment extend beyond job placement and compensation to include other results of the college experience, such as personal and professional development and application of learning for the benefit of others. Using this information, students and families can knowledgeably consider what they want to gain from their postsecondary experience and what they hope to accomplish personally and professionally afterward.

Colleges and universities can use the PCO Framework to select the outcomes and measurements that best represent the mission and priorities of their campus in order to more clearly communicate that information to prospective students and their families. The more widespread collection and dissemination of post-collegiate outcomes information allows students and families to make more sophisticated decisions about where to invest their time and money.

The PCO Framework illuminates a broader array of postsecondary outcomes and a schema to more strongly link data on the programs and credentials of institutions to the diverse impacts of those degrees.

References

Hart Research Associates. (2015). *Falling short? College learning and career success*. Washington, DC: Association of American Colleges & Universities.

STAKEHOLDER PERSPECTIVES: POLICY MAKERS

Stakeholder Perspectives illustrate how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes. In this document, outcomes of primary interest to policymakers are placed within the framework and additional connections are drawn to related, but sometimes less considered, outcomes.

Public spending by local, state, and federal governments provides critical support to higher education. As such, policymakers require an understanding of the economic return from those investments. With its comprehensive array of college outcomes along the public, personal, economic, and social capital continua, the Post-Collegiate Outcomes (PCO) Framework (see Figure 1) helps policymakers consider the full range of

desired outcomes involved in an effective postsecondary education experience. A more detailed description of the PCO Framework can be found in the "Post-Collegiate Outcomes Initiative: Overview" document.

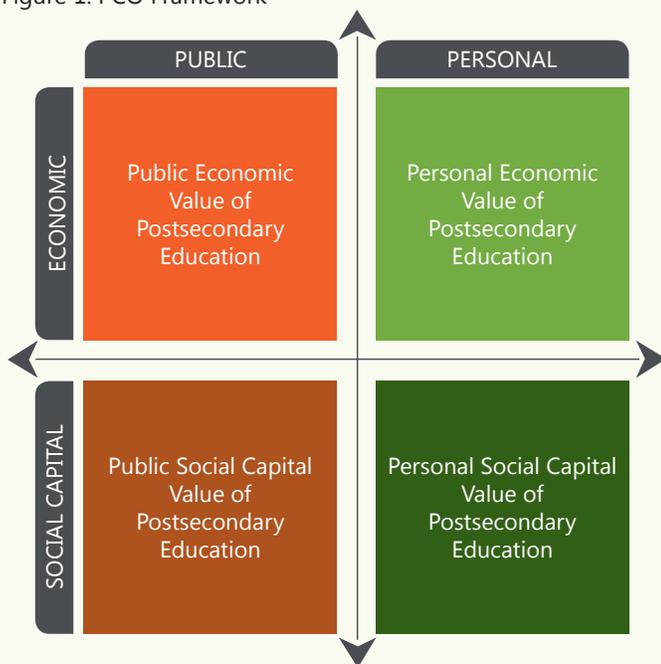
Higher education is an important driver of the economy since individuals with greater levels of education generate more tax revenue for local, state, and federal governments. Individuals' earnings, on average, increase in direct relation to postsecondary educational attainment (Carnevale, Rose, & Cheah, 2011). Furthermore, higher earnings contribute to the real estate tax base as a result of higher rates of home ownership among these individuals. It is evident that monies invested in postsecondary education provide an economic return that benefits the public. Consequently, policymakers have focused attention on graduates' earnings and deemed them a critical post-collegiate outcome.

Moreover, students and workers who have attained higher levels of education draw less frequently on the resources of social support mechanisms, such as food stamps or welfare. They are less likely to be unemployed, less likely to be incarcerated, less likely to have poor health, and less likely to use federal or state social services. Examples of how to measure public/economic outcomes include:

- size or value of national, state or local tax base;
- expenditures on and use of social service programs; and
- unemployment rates in in-demand fields.

While the pursuit of postsecondary educational experiences provides important economic returns to the public, the PCO Framework also draws attention to the essential non-economic, or social capital, returns provided when individuals attain higher levels of education. Postsecondary experiences are

Figure 1: PCO Framework



associated with public/social capital outcomes, such as higher rates of volunteerism, civic engagement, voting, and participation in cultural activities. The broader communities in which college students and graduates live and work are enriched by these kinds of engagement. Some colleges and universities intentionally design programs and activities to increase social awareness and promote civic engagement among their student body.

Outcomes associated with the public/social capital quadrant may be measured in a variety of ways:

- voter participation by education level;
- charitable donations by education level; and
- participation in arts and cultural activities by education level.

At the other end of the public/personal continua in the PCO Framework lie outcomes of an individual nature, which include both economic and social capital, and the impact those outcomes have in areas of concern for policymakers. Along with higher earnings, fringe benefits, and personal rates of savings increase with higher levels of education. Furthermore, the knowledge, skills, and ways of making meaning about their world acquired by students through postsecondary experiences lend themselves to greater success in life and career. Higher levels of educational attainment correspond to a greater sense of self-worth, better health, and greater longevity. Personal intellectual growth (e.g., critical thinking ability, problem-solving skills, intellectual curiosity and the ability to satisfy it), discipline- and occupation-specific skills, and interpersonal competencies also shape how graduates navigate career demands.

Potential measures for outcomes in the personal quadrants include:

- earnings;
- career advancement;

- application of critical thinking, problem-solving, and communications skills in workplace and other settings; and
- career satisfaction.

By using the PCO Framework as a lens through which to understand and measure the outcomes of a postsecondary education, policymakers can see that local, state, and federal returns on investment include personal outcomes—both economic and social capital—that are linked to public outcomes, such as tax revenue and higher rates of community giving. The outcomes of a postsecondary education allow individuals to be more adaptable employees, more engaged citizens, and better informed consumers.

Colleges and universities can use the PCO Framework to select the outcomes and measurements that best represent the mission and priorities of their campus in order to more clearly communicate that information to policymakers. The more widespread collection and dissemination of post-collegiate outcomes information allows policymakers to better understand the returns of public spending for higher education.

References

Carnevale, A. P., Rose, S. J., & Cheah, B. (2011). *The college payoff: Education, occupations, lifetime earnings*. Washington, DC: The Georgetown University Center on Education and the Workforce.

DIMENSIONS TO CONSIDER WHEN CREATING POST-COLLEGIATE OUTCOMES MEASURES

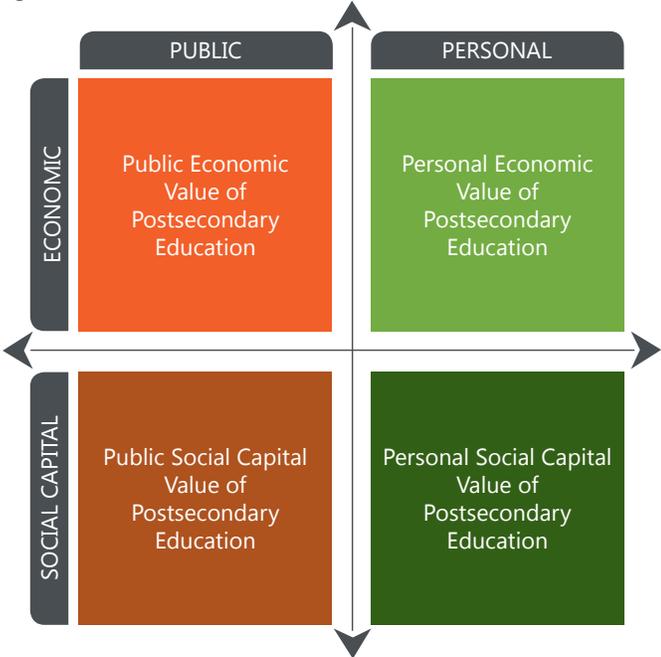
The goal of the Post-Collegiate Outcomes (PCO) Initiative is to provide a framework for a richer and more comprehensive discussion of student outcomes after college, as well as consistent and meaningful measurement tools for reporting those outcomes. The PCO Framework (see Figure 1) consists of two intersecting continua which create four quadrants: public/economic, public/social capital, personal/economic, personal/social capital. A more detailed description of the PCO Framework can be found in the “Post-Collegiate Outcomes Initiative: Overview” document.

As a supplement to the PCO Framework, this document provides more in-depth explorations of measures for use within the framework. The intent is to establish a set of dimensions that colleges, universities, and governing bodies should consider when developing or using PCO measures both now and in the future.

Stakeholders frequently resort to using only measures from the personal/economic quadrant as post-collegiate outcomes because they are comparatively easy to measure. Measuring outcomes from other quadrants, such as well-being or civic engagement, requires not only the creation and definition of outcome measures but also access to data at the individual level that are not as readily available. Although measurement for non-economic outcomes is more challenging, simply ignoring outcomes in the social capital quadrants may lead to

unintended and harmful consequences. For example, if accountability systems exclude outcomes from the social capital quadrants, institutions may experience pressure to shift curriculum away from programs in the liberal arts or topics in the humanities that contribute to an educated citizenry, strong communities, and more globally competitive employees. Even stakeholders who are concerned primarily with outcomes in the economic quadrants should pay attention to social capital outcomes like charitable giving, which may lead indirectly to a better economy by strengthening the social safety net.

Figure 1: PCO Framework



The PCO Framework establishes a vocabulary that higher education officials can use to talk about the spectrum of concepts related to post-collegiate outcomes. As the vocabulary develops and stakeholders hear these expanded yet consistent definitions, it will become easier to engage in broad, meaningful conversations beyond the easy-to-measure economic outcomes.

With that goal in mind, this document will establish some of the key dimensions as stakeholders begin to define or refine post-collegiate outcomes across the framework. Clear definitions are essential when creating measures of post-collegiate outcomes. The following section defines the terms used within the framework, specifically outcomes, metrics, and indicators. Additional dimensions are then proposed and examined, such as the level of analysis needed to properly use the measure, the time frame within which a measurement is taken, and the current or possible data sources available to construct the measure. Finally, the question of institutional mission or intentionality must be considered when determining the amount of importance or relative weight a measure should be given in institutional accountability.

Outcomes, Metrics, and Indicators

This section will focus on three broad concepts that are necessary to understand the potential applications of the framework: outcomes, metrics, and indicators.

Outcomes

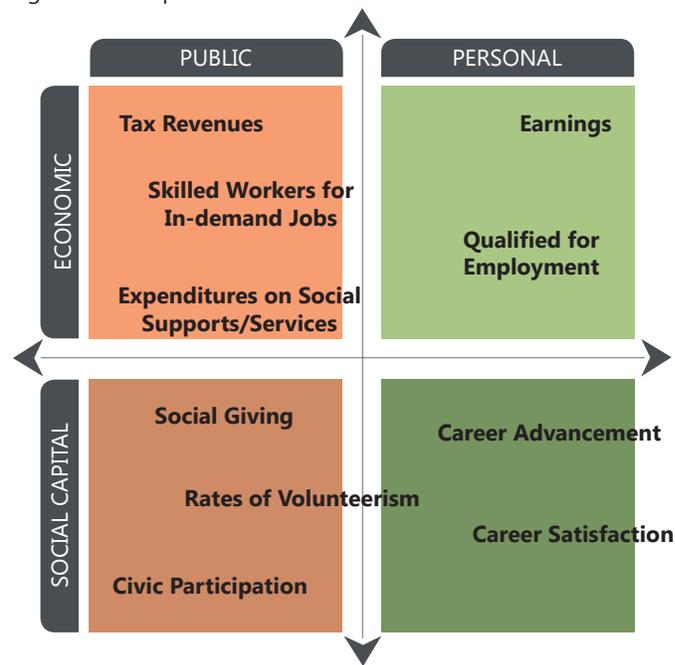
Outcomes are the results of a higher education experience that are evaluated or measured using the PCO Framework. Outcomes that result from educational experiences range from broad and diffuse to narrow and concrete. Broad “big picture” results are frequently not specific enough to create a single measurement definition and are often represented by a combination of more discrete, concrete results that are easier to measure. For example, in the public/economic quadrant, broader outcomes include local economies strengthened by a wider tax base and a reduced reliance on social services. Within the personal/social capital quadrant, broad outcomes include life satisfaction, improved health and wellness, and the ability of individuals to think critically and solve problems, both on the job and as consumers.

Outcomes sometimes fit neatly in a single quadrant, while others transcend the boundary of a single quadrant; see Figure 2 for examples. Additionally, some outcomes can be easily traced to the actions and intentions of specific institutions or programs, whereas other outcomes are influenced by multiple actors. Future development of the PCO Framework will include recommended definitions and methodologies for gauging more complex outcomes that currently lack agreed upon definitions. Guidelines for the appropriate use of outcomes, to evaluate the contributions of an institution, and to assess the needs of a surrounding community, state, and the nation also need to be developed.

Metrics

Metrics are standards of measurement or a system of parameters used to evaluate outcomes.¹ Although some outcomes may be discreet enough to be captured adequately by a single metric, in most cases, a combination of metrics can more comprehensively

Figure 2: Examples of Outcomes Across the Framework



describe the outcome under consideration. Within the public/economic quadrant, for example, an outcome such as community economic health could be measured by three metrics: increased tax revenues, spending on social services, or the alignment of community members’ skills with in-demand jobs. The measurement of an outcome of social giving within the public/social capital quadrant might require several metrics, including the rates of volunteerism and charitable giving levels. Furthermore, some outcomes will be measured by metrics from more than one quadrant. For example, wage levels could be measured by increased personal earnings within the personal/economic quadrant and an expanded tax base within the public/economic quadrant.

Indicators

Indicators are statistics that provide a context or benchmark for metric results, making it possible to assess how well or how poorly an organization performs. For example, if 40 percent of degree holders from

¹ Adapted from Toward Implementation of Administrative Metrics, University of Minnesota, <http://conservancy.umn.edu>

State University voted in the last state election, it is difficult to judge if that figure is “high,” “low,” or “about average” without additional contextual information such as the voting rates from the previous election or the national average of voter participation rates for college graduates. Depending on the expectations of a particular stakeholder group or the goals of a specific institution, the 40 percent metric could be better, worse, or equal when compared to the chosen benchmark. Indicators,

therefore, can clarify performance by comparing current outcomes to national data, established goals, or even past performance of a similar group.

Examples of the relationship between outcomes, metrics, and indicators are shown in Table 1. The table is adapted from Baum, Ma, and Payea’s (2013) report, “Education Pays 2013: The Benefits of Higher Education for Individuals and Society.”

Table 1: Examples of the Relationship Between Outcomes, Metrics, and Indicators

| Framework Quadrant | Outcome | Metric(s) | Indicator(s) |
|-------------------------|--------------------------------------|--|---|
| Personal/Economic | Employment of graduates in state | Percentage of college graduates employed in state following completion: <ul style="list-style-type: none"> • After 3 months • After 1 year • After 5 years <i>Potential data source: state unemployment insurance data</i> | Comparison of graduates’ employment rates to state targets or industry benchmarks. |
| Public/Economic | Return on investment of public funds | <ul style="list-style-type: none"> • Tax payments of full-time workers by education level over time. • Percentage of individuals living in poverty by education level over time. <i>Potential data sources: U.S. Census Bureau; Internal Revenue Service</i> | <ul style="list-style-type: none"> • Comparison of state income tax revenue to postsecondary attainment levels. • Comparison of state expenditures on public assistance to postsecondary attainment levels. |
| Personal/Social Capital | Work satisfaction of graduates | Work satisfaction rates among employed individuals by education level. <i>Potential data source: National Opinion Research Center, General Social Survey</i> | Comparison of work satisfaction rates among those with college credentials, high school diplomas, and less than a high school diploma. |
| Public/Social Capital | Civic engagement of graduates | <ul style="list-style-type: none"> • Voting rates among U.S. citizens by education level. • Percentage of individuals who volunteer by education level. <i>Potential data source: U.S. Census Bureau; Bureau of Labor Statistics</i> | <ul style="list-style-type: none"> • Comparison of voting rates in presidential elections to national targets. • National trends in volunteerism as compared to education attainment rates. |

Dimensions

Audience

Metrics and indicators for outcomes under consideration should be developed and communicated with the audience in mind. There are many audiences for post-collegiate outcomes measures. Some key audiences include, but are not necessarily limited to:

- students and their families (prospective, current, and former);
- guidance and admissions counselors;
- K-12 faculty and staff;
- campus faculty, staff, and administrators; and
- external stakeholders, such as
 - federal, state, and local policymakers;
 - accreditors;
 - institutional or system boards of trustees or regents;
 - members of the public, taxpayers, and voters;
 - employers;
 - peer institutions;
 - higher education researchers;
 - associations, organizations, and grant funders;
 - news media; and
 - think tanks.

Some metrics will resonate with some audiences but not with others. For instance, students and families may be most interested in the personal/economic metrics related to earnings, such as the median salary of a program completer one year after graduation, because they are making a direct investment in attending a particular institution. After graduation, as interests move toward

being members of communities, the attention of these alumni and family members may shift toward more tangible public outcomes, such as the maintenance of infrastructure made possible by larger tax bases.

Policymakers, on the other hand, are primarily interested in the public/economic metrics related to earnings, such as the changes in the tax base of a community, region, or state. While state and local government officials might be interested in the return on tax-dollar investment in higher education, they should also consider outcomes in the social capital quadrants to obtain a deeper understanding of the contributions of higher education experiences. Refer to the four “Stakeholder Perspectives” of the PCO Toolkit for a deeper discussion on how the framework can be used as a lens through which different stakeholders understand and measure post-collegiate outcomes.

As our national conversation evolves, the attention of these audiences may shift and the inter-relatedness of the outcomes in the personal/social capital quadrant and both economic quadrants should become more apparent. Understanding the audience for an outcome will help to ensure that the metrics which describe the outcome under consideration align with the audience’s interests. Such considerations will also ensure that metrics are presented in ways that are relatively easy to interpret, reducing confusion or potential for numbers to be taken out of context. Metrics are a tool to help higher education officials tell a more accurate story about the value of a college education based on evidence that has meaning for one or more stakeholders.

Level of Analysis

Post-collegiate outcomes appear at multiple levels of analysis. As discussed previously, individual earnings are an outcome of great interest to students and their families; policymakers also focus on aggregate earnings in relation to the federal, state, or local tax base. These different levels of analysis contribute meaningful information about the value of postsecondary experiences, but they also have different uses. It would be difficult to argue that a student should attend a particular institution or program on account of the tax base in the area in which they live would grow, just as it would be difficult to expect policymakers to craft local appropriations bills based on the median earnings

of students from one program. Recognizing these different levels of analysis helps to both expand our understanding of post-collegiate outcomes and focus on the right outcomes for the right purposes.

Similarly, some outcomes are easy to link back to particular colleges or universities, while others are better measured at the state, regional, or national level. These differences are important to keep in mind when identifying outcomes measures for use in institutional accountability initiatives, particularly when those initiatives are linked to institutional funding decisions. Further, some outcomes may be best measured at the department level due to the considerable variance that exists across an institution. For example, the median starting salary for social workers will differ from the median starting salary for engineers; and both of these earnings measures will most likely differ from the median starting salary measured at the institutional level.

For these reasons, not all metrics and indicators discussed in this framework will be suitable for use in institutional accountability. That does not, however, diminish the importance of these metrics and indicators; on the contrary, it is essential that these indicators and metrics be as much a part of the discussion on post-collegiate outcomes as those that can be ascribed to specific institutions. Failure to recognize the broader outcomes of collegiate experiences encourages viewing the contributions of U.S. colleges and universities through a dangerously narrow lens when the strength of the nation's system is its diversity.

College program or major. College programs (e.g., majors) are frequently the core level of analysis when institutions examine post-collegiate outcomes, especially in programs with their own accrediting bodies or those designed to lead to immediate entry into a specific job. For programs specifically designed to allow immediate entry into the job market, many of the measures in the economic quadrants of the framework may be appropriate, such as short-term outcomes related to earnings, job placement or employment in field of study, and value added to earnings.

However, while many college programs allow completers to enter directly into a job or career, not all programs

of study are intended to do so. Many programs prepare students for a range of potential careers. In fact, many students may pursue majors specifically because of their versatility. For these programs several measures in the social capital quadrants may be appropriate, such as adaptability or flexibility, experiences with diverse people and ideas, and the application of critical thinking.

Less appropriate at the program level may be measures in the public quadrants, though there are notable exceptions. Programs with a strong public service focus, such as social work or criminal justice, may choose to identify outcomes in the public/social capital quadrant if those outcomes align with their program mission. Programs that produce completers in in-demand fields, such as science, technology, engineering, mathematics (STEM) disciplines, may find metrics that fit them best in the public quadrants as well.

Credential level. Some programs or credentials are stepping-stones to further education, such as transfer-oriented associate degrees or bachelor's degrees designed to prepare students for graduate work. These areas may be less suited to assessing short-term, workforce-oriented outcomes. These credentials, however, lend themselves to outcomes related to continuing education. Additional degrees also tend to influence economic outcomes later in life, with average earnings generally increasing for each additional credential (Carnevale, Rose, & Cheah, 2011).

Institution. As calls for increased accountability in higher education typically have focused on institutions, it is reasonable to expect that there would be many post-collegiate outcomes appropriate to measure at the institution level. Outcomes related to the ability of graduates to repay debt, to obtain employment within a reasonable period of time, or to participate as contributing members of their communities are examples.

It is essential to consider institutional outcomes in the context of the student body, program array, and mission of the institution. Doing so avoids expectations that all institutions must account for all outcomes. For instance, an institution that primarily enrolls traditional undergraduates² who tend to live at least one year

² Traditional undergraduates are defined as those who enroll in college immediately after earning a high school diploma and pursue postsecondary education on a full time basis, <http://nces.ed.gov>

on campus might have different interpretations for evaluating post-collegiate engagement with voting or volunteerism than an institution serving a population primarily comprised of returning adults who commute. In addition, institutional measures must be considered in the context of whether or not the institution is trying to change an outcome (see Intentionality section below for a broader conversation of this dimension).

Community, regional, and national. Outcomes such as community infrastructure, public health, and economic growth are essential post-collegiate outcomes that contribute to the wealth of our nation, our global competitiveness, and the health and well-being of our citizens. Such outcomes, however, are most appropriately measured at levels that make it difficult to attribute changes directly to the actions of completers from specific programs or institutions. Measures at these higher levels may also have limited data sources, such as national sample surveys, which would not allow for disaggregation; for these measures, such data collection is an effective and efficient approach to gathering information.

Time Frame

There are several possible time frames for measuring post-collegiate outcomes. We illustrate this point below by analyzing the pros and cons of different time frames for measuring earnings.

One-year snapshot. Outcomes measured one year after graduation are informative, but this temporal horizon may have limited utility for some metrics, such as earnings. Given that research has shown that individuals change jobs frequently early in their career, this data point may not be indicative of the long-term labor market outcome of education. Further, some students delay employment and attend graduate or professional school. Research shows that this decision can pay financial dividends; individuals with advanced degrees can earn two to three times more than high school graduates. So, while almost requisite in policy contexts where there is pressure for immediate answers, measuring earnings one year after completion alone may not provide the most informative metric.

Multi-year frame. For some outcomes, allowing more time for the value to become expressed portrays a more accurate picture. As an example, the earnings curve for a baccalaureate degree in a liberal arts program generally increases significantly over time. Four-year higher education institutions with traditional undergraduates might prefer a methodology that reports earnings for both the short- and long-term. Short-term is defined as 1 to 5 years after a student receives a degree. First-year earnings will not necessarily capture the true economic value added, as individuals' first jobs are normally their lowest-paid jobs. Therefore, reporting long-term earnings, ranging from 6 to 10 years or more, would allow for more meaningful and accurate earning trajectories.

Pre-Post Comparisons. Some outcomes may be best reported using a pre-post methodology. For instance, an earnings metric could report earnings 1 or 2 years prior to receiving a degree and then 1 or 2 years after receiving a degree. The positive earnings can contribute to demonstrated value added from a credential. This methodology might be best suited for two-year colleges, which typically have more students who were employed full-time prior to attending a higher education institution.

In addition to considering how long after departure a measurement should occur, measurement duration must also be considered. For instance, the general health of the economy might best be measured over a period of several years and considered as a trend indicator instead of relying on a single point in time as an absolute metric. Similarly, it may be best to consider some measures as an average over a period of time. Examples of this might be the average amount of money donated to charitable organizations by a program completer per year, as well as the total amount of money donated by all completers per year.

Data Sources

Operationally defining a metric and evaluating the result requires identifying appropriate data sources. Not all metrics have immediately available, accessible, current data, and some metrics may not lend themselves to objective measurement (e.g., it would be impossible to compare someone's level of personal happiness post-completion to what it might have been had he or she not

completed). As with all measurement, the limitations of the data should be noted, especially when high-stakes decisions may be made on the basis of outcome metrics.

Post-collegiate outcomes data exist within agencies, corporations, and other entities external to the institution or university system. Accessing these data at the individual level to create the metrics desired requires the establishment of data sharing agreements, memoranda of understanding, privacy protection reviews, and the interest in cooperating between all relevant parties. Even when data sharing processes are established, the disparate sources of data may not have all the data required or the ability to report it in a useful form.

Intentionality

Intentionality identifies the extent to which a college or university has a stated goal, policy, or practice designed to produce a specific outcome. Many post-collegiate outcomes are applicable to all colleges, while others may be based on specific institutional missions or practices. For institutional accountability, intentionality can determine which outcomes are appropriate to include for a given institution, as well as whether an institution can rightly claim to have been a contributor to changes in outcomes in their graduates. For example, some colleges have explicit programs to increase civic or social engagement, such as mandating service-learning programs or courses, and would therefore expect to see increased participation in civic and social issues in their graduates than a school without such programs. Of course, care needs to be taken in accounting for other factors in the lives of completers that might influence the outcome. These factors may have mitigating or amplifying effects, and determining their influence may be difficult to accomplish.

Conclusion

This document has identified various dimensions that should be considered and addressed when developing and using post-collegiate outcomes measures in order to better communicate the value of higher education for students, communities, and society. The development of metrics for measuring the value of higher education should be an ongoing task of all college and university administrators. Furthermore, the work cannot take place only within single institutions, states, or even

regions. To effectively measure value added, and to communicate that measurement to constituents, these measures must be used across institutions, across states, and at the national level. It is critical that higher education administrators take a collective, proactive approach to data use and metric development so that meaningful and easily disseminated information is available to all stakeholders. While anecdotal evidence can be compelling, it is necessary to have a more comprehensive, data-informed view of what is happening to students after they leave campus to join the workforce and society. The PCO Framework and Toolkit exist to aid all institutions by providing a common vocabulary for use in defining specific metrics and indicators for the measurement of post-collegiate outcomes.

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DEEPER DIVE INTO EARNINGS

Numerous studies demonstrate that postsecondary education significantly improves an individual's financial security through a more stable career and earnings that increase over time (e.g., Baum, Ma, & Payea, 2013). Over the past four decades, those with a bachelor's degree have earned 56 percent more on average than high school graduates while those with an associate degree have earned an average of 21 percent more (Abel & Deitz, 2014). Do these aggregate statistics tell the complete story of the personal economic benefits of postsecondary education? What other issues should be taken into account when constructing and applying measures related to earnings? Given that many students enter college to increase their career and financial opportunities, careful consideration should be given to building meaningful and useful earning metrics. This

document explores factors to consider when creating metrics and indicators related to earnings within the Post-Collegiate Outcomes (PCO) Framework. A more detailed description of the PCO Framework can be found in the "Post-Collegiate Outcomes Initiative: Overview" document.

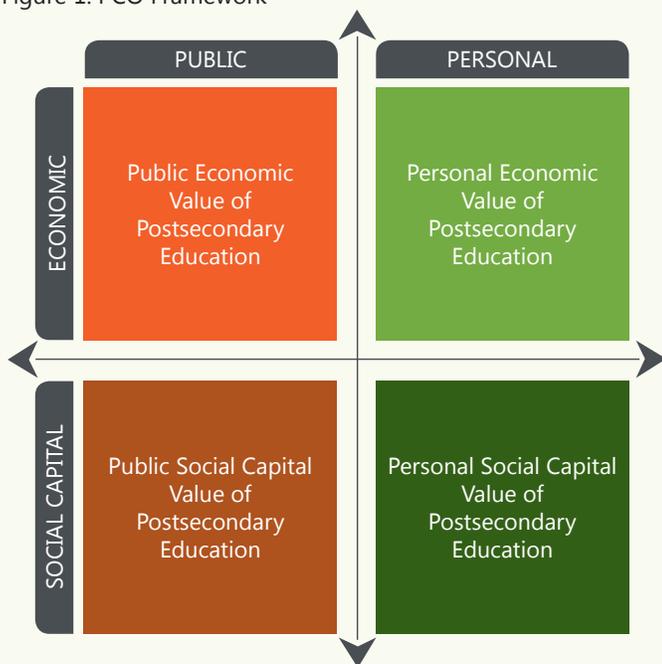
An earnings metric seems to fall along the public-personal continuum and squarely within the personal/economic quadrant. Society benefits from an individual's increased income through rising tax revenue and decreased reliance on the social safety net. The personal domain is where an individual experiences the benefits of the collegiate experience, such as increased personal savings. The domains are not mutually exclusive, but rather mutually reinforcing: individual benefits drive positive societal impact, which in turn is good for individuals. The following section defines earnings as an outcome and illustrates that earnings as an outcome is not as simple as it first appears. Earnings will be conceptually deconstructed into possible metrics and indicators that are necessary to illustrate their value in a variety of areas. An explanation of the metrics and indicators within the PCO Framework follows.

Outcome, Metrics, and Indicators

As discussed in the PCO Toolkit document "Dimensions to Consider When Developing Post-Collegiate Outcomes," three broad concepts are necessary to understand the potential applications of the framework: outcomes, metrics, and indicators. Outcomes are results of the higher education experience being evaluated or measured using the framework. Metrics are standards of measurement or a system of parameters used to evaluate outcomes. Indicators are statistics that provide a context or benchmark for metric results, making it possible to assess how well or how poorly an organization performs.

A student's post-completion earnings (i.e., wages or salary plus benefits) are a critical outcome of higher education. For the purposes of the PCO Framework,

Figure 1: PCO Framework



wages and salary are defined as monetary compensation received from an employer. Benefits are nonmonetary compensation, such as payment of health insurance premiums or reimbursement of commuting costs. Wages may include bonuses or commissions but would not include reimbursements for expenses incurred by an employee while conducting job duties (e.g., travel reimbursements). For individuals engaged in entrepreneurial endeavors, wages are the income received as personal compensation over and above the cost of initiating or sustaining the endeavor.

In this sense, earnings are fairly straightforward. The concept becomes more nuanced when considered relative to other factors, such as regional cost of living or earnings received before the postsecondary experience. Regardless, the essential definition of earnings here is compensation received in exchange for performing a job or engaging in an entrepreneurial enterprise.

It is fairly easy to demonstrate that education pays at the personal level. National data and research consistently show that lifetime earnings for individuals with higher levels of education (an outcome in the personal/economic quadrant) surpass individuals with no postsecondary exposure (Bureau of Labor Statistics, 2014; Baum, Ma, & Payea, 2013). Higher wages, in turn, contribute to a larger tax base, making more funds available to state and federal treasuries. Available public funds pay for the maintenance of communities' infrastructure, which is an outcome in the public/economic quadrant.

In the same quadrant, individuals with higher levels of education are less likely to be unemployed, even during times of economic recession. Consequently, it is an outcome that lowers government spending for unemployment compensation benefits. Finally, employer-provided health benefits could broaden access to preventative medical and dental care, increasing health and wellness of individuals (personal/social capital) and the larger population (public/social capital). Viewed in this way, it becomes clear that the various outcomes tied to employment easily span all quadrants of the PCO Framework.

As discussed in the PCO Toolkit document "Policy Implications and Next Steps to Develop the Framework,"

further work is necessary to develop a more complete enumeration of metrics and indicators associated with outcomes. The following sections will describe how the audience, time frame, level of analysis, data sources, and postsecondary institution intentionality may influence whether any given indicator or metric has value in a particular context.

Dimensions

Audience

As noted above, some outcomes related to individual experiences with higher education convey benefits to a broad array of stakeholders, some of whom benefit more directly than others. The most obvious audience for outcomes related to earnings is students and their families, who benefit directly from increases in earnings due to additional education. Similarly, as increases in personal earnings enlarge the tax base (and the capacity to pay for community infrastructure and services), members of communities with higher levels of educational attainment are more likely to enjoy well-maintained roads, high quality K-12 schools, an engaged volunteer community, and robust police departments.

Similarly, members of those communities are likely to be interested in outcomes such as greater public health and safer neighborhoods. Increased personal earnings associated with higher levels of degree attainment, therefore, are correlated with outcomes of interest to a set of stakeholders broader than students and their families.

Time Frame

The time frame of earnings outcomes is an important consideration. It can take years to demonstrate the full earnings value of higher education. Some degrees will not result in immediate earnings increases, especially when coupled with the need to repay educational debt. Additionally, as some students delay entering the workforce to attend graduate or professional school, short-term measurements of their earnings may be misleading because of skewed results.

Carnevale, Rose, and Cheah (2011) conducted a wage analysis study and determined that at each educational milestone (high school diploma, bachelor's degree, master's degree, and doctorate) there is an increase in

expected lifetime earnings. Individuals with advanced degrees can earn two to three times more than high school graduates and roughly one and a half times as much as those with a bachelor's degree (Bureau of Labor Statistics, 2014). Therefore, the potential influence of including earnings measurements for students with advanced degrees should be considered in longer-term metrics.

For returning adult students, who are more likely to have a determinable level of earnings prior to their enrollment, it may be best to report earnings outcomes using a pre-post methodology. The pre-post methodology compares earnings 1 or 2 years prior to an educational experience and earnings 1 or 2 years after completion. Net increases in earnings may be useful in showing the value of the educational experience in furthering an individual's career advancement. Care should be taken, however, to account for individuals who are seeking education for career retraining. Following completion, their incomes may decline initially. It's important to consider student intent in such cases and not rely solely on net decreases or increases in earnings.

Given the current societal focus on the cost of higher education, a potential value-added measurement is students' debt-to-income ratio. This metric examines the ratio between total debt a student takes out to pay for college (excluding parental education loans) and post-collegiate earnings. Debt-to-income ratio can be measured at various times. Given that the typical student loan repayment schedule is 10 years or more, it may be appropriate to measure debt-to-earnings at multiple points and to examine the change between measurements in order to ensure debt is declining at the expected rate.

Level of Analysis

The level of analysis must always be considered when reporting economic metrics and indicators. It will vary based on the metric or indicator reported. For example, it may be most appropriate to report short-term and long-term earnings at the program level (e.g., majors) to avoid providing misleading information to students and their families due to significant variation in earnings across

fields of study. For example, engineering, science, and technical fields tend to have higher first-year earnings than the social sciences or humanities. Breaking out to the earnings by program allows students to better identify their chosen field (or fields) and the typical earnings over time rather than seeing only one overall earnings number for the entire university.

Population-based outcomes, such as safer neighborhoods and increased public health, are best measured within a community or geopolitical area, such as a county or state. These outcomes are difficult to attribute to the actions of any individual student or institution, but they reflect important community improvements and should not be ignored. Alternatively, reports of life satisfaction among alumni may best be measured at the institution level, particularly if investigators can discern what portion of satisfaction is related to the college or university experience. The Gallup-Purdue Index,¹ a recent initiative that builds on Gallup's deep experience in population survey research attempts to parse such questions for individual institutions.

Data Sources

There are two types of sources to measure employment-related outcomes: administrative data and surveys. Administrative data is information already collected by institutions and governments for the purpose of managing programs. Using administrative data arguably leads to more objective and consistent measurement, but legal limitations on its use can make it challenging to access. Surveys are useful for capturing individuals' perceptions, like satisfaction with life and personal well-being. Using both types of data sources can build a more complete picture of how higher education's impact on employment adds value to individuals, communities, and society.

There has been an ongoing, state-by-state movement to capture earnings using a particular source of administrative data: Unemployment Insurance (UI) wage records. These records, which include individual employees' earnings, are reported by employers to state governments on a quarterly basis. There are several

¹ <http://products.gallup.com/168857/gallup-purdue-index-inaugural-national-report.asp>

current challenges to using these data to measure post-collegiate earnings, mostly due to complications in establishing data sharing agreements. It can take several years for higher education institutions and state agencies that collect the UI wage records to agree on the terms of the data exchange. A typical contract requires that all output given to higher education institutions be in aggregate form, making it impossible to match the data to specific student records in the institution's student database. This also requires institutions to decide what level of analysis (e.g., college program, institution) should be returned in the aggregate report and whether to request multiple reports at different levels of aggregation in order to respond to multiple needs. Finally, state UI wage records exclude self-employed individuals, making it difficult to track the outcomes of entrepreneurs, and are only identified for individuals who remain in the state where they graduated. Students who later move to another state can create a difficult challenge, especially for higher education institutions that are in close proximity to other states (e.g., U.S. states the Northeast are at greater risk than those in the Midwest or West). Some states have calculated post-graduation earnings for out-of-state graduates through the wage record interchange systems (WRIS and WRIS2) maintained by the U.S. Department of Labor's Employment and Training Administration,² but there are significant limitations on using these systems (Zinn & Dorrer, 2014).

Some UI wage data exchange contracts allow for higher education agencies to obtain student-level UI wage records. Such arrangements are rare and tend to have their own limitations. Housing wage data within a postsecondary data system allows for more in-depth analyses and understanding of links between students' individual characteristics and post-collegiate earning outcomes. However, both workforce and student data are very complex and it can take months to complete analyses and reporting.

Links between student records and individual tax records kept at the federal level, by agencies including the Social Security Administration (SSA), would be a potential

opportunity to overcome the limitations of using only UI wage records. Tax data would provide coverage of all students, whether or not they are self-employed or remain in the same state as the institution. However, federal law restricts how tax data may be used. Currently, no higher education institution has established a data exchange agreement with a federal agency for tax information.

Alumni salary surveys are a common method used by institutions to capture earnings and career progression. Alumni answer questions on various topics, such as short- and long-term earnings, career exploration, and career satisfaction. There are at least two primary limitations to alumni salary surveys. First, the salary information is self-reported, and respondents can misreport earnings. Second, there may be sample bias if only full-time employees respond to the surveys. Response bias can lead to inflated earnings reports. In addition to institutional surveys, the PayScale Salary Survey is a national online survey that asks questions about salary, experience, and the workplace.³ The PayScale database does not represent all college attendees, however, and it is subject to the same limitations as institutionally conducted salary surveys.

For metrics that look at average earnings within a geographic area, existing governmental agencies may publish or provide data, including trend data. For example, the U.S. Census Bureau shares data on the average level of educational attainment within geographic areas of interest. While having data on average education level and earnings for a geographic area does not establish a causal link between the two factors, it does suggest a relationship. If the correlation between education and earnings can be demonstrated repeatedly in a variety of circumstances, there is a stronger indication of causality.

As previously discussed, there are correlations between higher rates of educational attainment and higher earnings. Yet there are many competing and contributing factors that also influence whether a particular

² United States Department of Labor, Employment and Training Administration, Wage Record Interchange System, <http://www.doleta.gov/performance/WRIS.cfm>

³ PayScale, Inc., <http://www.payscale.com>

individual's earnings increase over the years. People who return to college to pursue career retraining, for example, may initially experience a decrease in earnings until they become established in their new field. Conversely, while students who choose to pursue additional degrees may have lower short-term earnings outcomes, the increase in their earnings over time is more likely to occur at a greater rate than it would for workers without additional degrees. These are just a few questions that institutions might think about when defining a measure for earnings.

Intentionality

Since at least the 1950s and the introduction of the post-World War II GI Bill, higher education has been considered a key to a vibrant, knowledge-based economy; a portal for individuals to enter the middle class; and a mechanism to advance the prospects of future generations. This direct link between higher education and socioeconomic advancement means that all institutions of higher education are intentional in preparing their students for future career success. However, the method of action and the nature of the specific outcomes may vary by institution. For instance, institutions that offer occupational certificates may focus on short-term wage increases for their students, whereas liberal arts institutions may look at a longer earnings trajectory. As with all outcomes, institutions should be careful to align metrics and indicators that are appropriate for their institutional mission and student intentions.

Conclusion

The earnings example is conceptually straightforward; increased income is widely understood as a beneficial post-collegiate outcome. Metrics and indicators regarding earnings, however, should be designed with care. Institutions and states must consider the appropriate time frame for measuring employment and wage outcomes, the appropriate level of aggregation for reporting those outcomes, and the value and limitations of available data sources.

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DEEPER DIVE INTO SOCIAL GIVING

Overall, individuals with higher levels of education engage in volunteer activities at higher rates than those with less education. For example, in 2014, 16 percent of high school graduates volunteered as compared to 27 percent of those with an associate degree or some college and 39 percent of those with at least a bachelor's degree (Bureau of Labor Statistics, 2015). Further, the relationship between education and total annual giving is usually found to be positive (Bekkers & Wiepking, 2011) Contributions made back to the community through activities such as volunteering or charitable donations can be broadly defined as social giving. When thinking about how to measure the different facets of social giving and the impact of postsecondary education, it is important to recognize that community needs change over time, as do donors' capacities to contribute time or money. The relationship of education with social giving may not be the same across all charitable sectors. This document

explores factors to consider when creating metrics and indicators related to social giving within the Post-Collegiate Outcomes (PCO) Framework. A more detailed description of the PCO Framework can be found in the "Post-Collegiate Outcomes Initiative: Overview" document.

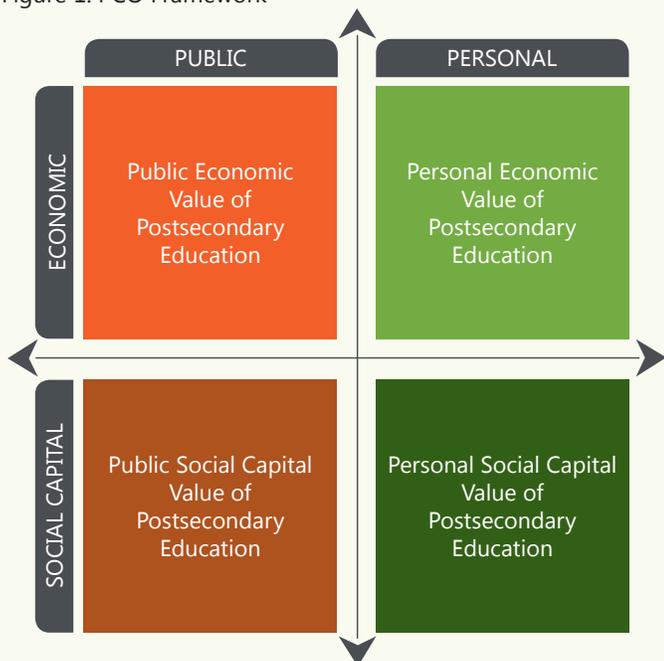
A social giving metric seems to fall in three quadrants: public/economic, public/social capital, and personal/social capital. The public domain is where society experiences financial support provided to such bodies as charities and cultural organizations, and the dividends of an educated citizenry as social capital benefits. The personal domain is where the individual experiences satisfaction with life, through increased connectedness to the community or organizations. The domains are not mutually exclusive but rather mutually-reinforcing: support for the community drives positive societal impact, which in turn increases an individual's satisfaction with life. The following section explains social giving as an outcome. Social giving will be conceptually deconstructed into possible metrics and indicators that are necessary to illustrate their value in a variety of areas. An explanation of the metrics and indicators within the PCO Framework follows.

Outcome, Metrics, and Indicators

As discussed in the PCO Toolkit document "Dimensions to Consider When Developing Post-Collegiate Outcomes," three broad concepts are necessary to understand the potential applications of the framework: outcomes, metrics, and indicators. Outcomes are results of the higher education experience being evaluated or measured using the framework. Metrics are standards of measurement or a system of parameters used to evaluate outcomes. Indicators are statistics that provide a context or benchmark for metric results, making it possible to assess how well or how poorly an organization performs.

Social giving can appear in many forms and meet varied needs within a community or organization. Contributions may consist of volunteering time to an organization (e.g., serving food to the homeless or working as an usher at a community theatre). Providing more skilled service (e.g.,

Figure 1: PCO Framework



as the treasurer for a board of directors or by donating website development expertise to an organization) is a contribution of time and talent. Monetary donations (e.g., in times of a humanitarian crisis to ensure the continuity of a not-for-profit organization) also fall within social giving. For the purposes of moving this example forward, social giving is defined here as any contribution of time, resources, or money made by the individual to advance a social, civic, or political cause.

A wide variety of organizations, causes, and individuals receive social giving contributions: international organizations addressing public health; state or regional agencies providing programs for youth; national associations dedicated to the advancement of social justice causes; and local political campaigns. The scope of social giving can be broad and deep. Individuals may choose one or two causes or organizations to receive their contributions, or they may give to a number of different causes in varying ways. Patterns of social giving may shift over time depending on a variety of factors, such as a job change that requires more travel, a life event that changes caretaking responsibilities, or a move to a new city where the giver is unfamiliar with organizations in need of assistance.

Some outcomes of social giving are clearly related to the public/social capital quadrant of the framework, such as efforts to ameliorate the effects of large-scale natural disasters, contributions to aid wildlife conservation efforts, or support of community theatre or arts events. It is similarly easy to identify outcomes related to the personal/social capital quadrant, particularly when social giving exposes the giver to a wide variety of people and results in feelings of personal fulfillment or happiness. The public/economic value of social giving is manifest in the social and economic supports provided through non-profit organizations, such as medical research aimed at curing costly diseases that take a toll in lives and dollars, food banks that help beneficiaries to stretch grocery budgets, or programs providing education to prisoners as a means of reducing recidivism.

As discussed in the PCO Toolkit document “Policy Implications and Next Steps to Develop the Framework,” further work is necessary to develop a more complete enumeration of metrics and indicators associated with outcomes. The following sections describe how audience, time frame, level of analysis, data sources, and

postsecondary institution intentionality may influence whether any given indicator or metric has value in a particular context.

Dimensions

Audience

Just as there are different types of outcomes, different audiences might be interested in social giving outcomes from across the framework. As noted above, some audiences—students and their families, and the guidance counselors who advise them—will initially be most interested in outcomes in the personal quadrants, especially those related to possible employment outcomes or long-term life satisfaction.

Student experiences, such as service learning, internships, and study abroad, are valuable to employers, but they also broaden students’ horizons, which could lead them to higher rates of social giving. While students’ and families’ interests are strongest in the personal quadrant outcomes, students and families are also concerned with outcomes in the public quadrants. They are members of the public, after all, and most of them are taxpayers. Students attending an institution in their community may already be aware of outcomes in the public quadrants, such as more arts and cultural events or the contributions made by alumni institutions to local organizations. These outcomes may be of less importance when determining whether to attend a given institution.

External stakeholders (e.g., taxpayers and policymakers) are more concerned with outcomes in the public quadrants, particularly those that encourage public health or economic growth. Of course, federal, state, and local policies do consider the role of individual contributions relative to the amount of tax expenditures for social, civic, and political causes. Employers have an interest in outcomes that span all the quadrants. As previously noted, activities that contribute to personal quadrant outcomes tend to contribute to more qualified and adaptable employees who are more satisfied with their lives. The public outcomes lead to stronger communities and economic markets—in short, to more favorable business outcomes.

Time Frame

As noted in the initial discussion of time frame, when creating indicators or specific metrics for an outcome, it

is important to remember that the time, duration, and volume of an activity or contribution will vary. For instance, one indicator may be most concerned with a snapshot of a given outcome at a given time, such as total time, resources, or money contributed within a given calendar year. Another indicator may focus on a trend or sustained activity, such as average amount of time, resources, or money contributed per year over the last five years. Both indicators say something about individual levels of social giving and an institution may decide that one or the other—or both—best reflects alumni outcomes.

In the example given above, both indicators would measure the volume of contributions but not necessarily the proportion of alumni involved; a few very active alumni could skew the totals. Therefore, indicators such as the proportion of alumni who completed their credential within a given year (academic or fiscal) and who are contributing time, resources, or money to a cause within their community at a particular point in time (e.g., during the fifth year post-completion) may offer yet another piece of information about the social giving outcomes of a set of individuals.

It may also be important to consider the amount of time that has passed since the individuals were engaged with higher education. Those who have been engaged more recently may have fewer financial resources to contribute to social, civic, or political causes, but they may more readily volunteer their time. Recent engagement with higher education may also make it easier to attribute social engagement to time in postsecondary education, especially if individuals were active in similar causes while on campus. Conversely, alumni who haven't been on campus for a period of time might have a greater ability to contribute financially, but less time for volunteering due to demands of family or work. Additional considerations and activities, such as involvement with other organizations that influence their social giving, might also affect their decisions to participate.

Level of Analysis

Social giving may present more challenges when it comes to level of analysis than other post-collegiate outcomes. It is difficult to clearly link many of the outcomes of

social giving directly to a particular college or university. (Exceptions include institutions being able to determine the engagement of their alumni and, at times, collecting data from alumni regarding their levels of participation in particular aspects of social giving within the personal/economic quadrant.) Many other outcomes for social giving are best measured at higher levels of analysis.

Most other indicators and metrics for social giving outcomes tend to be population measures that are best collected by geographical area, a method that makes them difficult to attribute to any individual institution. The challenge derives from the mix of residents and the presence of other organizations in an area that may also contribute to social giving outcomes. It is important to recognize, even for those measures of alumni involvement, that social giving is not limited to giving that occurs within the geographic region of either an institution or a completer. International humanitarian crises are frequently the impetus for one-time or ad hoc social giving. Similarly, many charitable organizations operate internationally.

Data Sources

Data sources for the various metrics related to social giving follow from the discussion in the Level of Analysis section. For those metrics that are geographic, governmental or other agencies may publish or provide data, including trend data, which could be correlated with data from the U.S. Census Bureau on the average level of educational attainment within that geographic area. While correlational data do not establish a causal link between the two factors, they do indicate a relationship. A full understanding of the exact nature of that relationship may not be necessary, so long as the correlation can be demonstrated repeatedly in a variety of circumstances. Therefore, correlational metrics such as these are useful in describing the relationship between increased educational attainment of a population and various expected outcomes.

In addition to governmental geographic data, the variety of national longitudinal sample surveys conducted by the National Center for Education Statistics (NCES)¹ may provide greater insight into the social giving behavior

¹ National Center for Education Statistics, Surveys and Programs, <http://nces.ed.gov/surveys/SurveyGroups.asp?group=2>

of postsecondary completers. These data are limited in terms of the cohorts of students included and in the ability to generally drill down to areas smaller than a state. Nonetheless, in the absence of more local data that specifically addresses the social giving behaviors of alumni, these data may be sufficient.

Institutions may also engage in surveys of their alumni to help identify the specific behavior of their graduates in the area of social giving. A given institution may be interested in whether the intensity of the volunteer participation—the number of hours worked or the nature of the activity (e.g., serving as a volunteer fire fighter within one's community)—of their graduates aligns with their institutional mission or initiatives on campus. Reliance on existing survey questions, such as those that might be included in national sample surveys or U.S. Census data, may preclude collecting this additional detail. In these cases, an institution may develop its own alumni survey, making it possible to report outcomes related to specific aspects of its institutional mission.

As with most outcomes from higher education, there are correlations between higher rates of educational attainment and higher rates of social giving that warrant its inclusion as a post-collegiate outcome. Yet, there are many competing and contributing factors that also influence whether a particular individual engages in volunteer activities. For example, one might argue that additional credentials should increase rates of volunteerism, but if a significant proportion of students are still engaged in higher education five years after their first credential, their rates may be lower due to demands of school, work, and family on their time. Similarly, students who engage in volunteerism prior to attending an institution might be drawn to a college or university with a service-learning focus in its mission.

Discerning whether the rate of social giving post-credential is a factor of their time on campus would be difficult. Alternatively, one might imagine that an institution located in an area with a high volume of mission-based religious institutions would have a higher baseline rate of volunteerism than one located in an area where there are fewer such institutions. These are just a few points that institutions might consider when defining a measure for social giving.

Intentionality

As alluded to in the Data Sources section, some institutions may have a more intentional focus on developing a sense of social stewardship or obligation within their students. Such institutions would naturally be more interested in demonstrating that their students do, in fact, exhibit increased social giving behaviors post-completion. (The comparison data for these institutions may be similarly situated for students who attended other institutions without a specific focus on engendering social giving behaviors. An alternative comparison might be the expected behavior of students prior to attending their institution.) Colleges or universities without a mission focus on social giving may wish to track general social giving outcomes, choosing to focus more of their post-collegiate outcomes reporting on areas more closely aligned with their mission. Of course, care needs to be taken in accounting for other factors in the lives of completers that might influence outcomes. These factors may have mitigating or amplifying effects, and determining their influence may be difficult to accomplish.

Conclusion

The example of social giving illustrates the importance for each institution or state to clearly define what social giving means within its own context and what types of outcomes might be attributed to postsecondary education. Does an institution's social justice mission, for example, include expectations that its graduates would be actively engaged within their local communities? A better understanding of the expected outcomes provides information to build appropriate metrics at the right level and select a suitable data source that allows an institution or state to track movement of the outcomes over time. The results can then be used in communication with key audiences or to guide improvements to better align with stated goals.

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POLICY IMPLICATIONS AND NEXT STEPS TO DEVELOP THE FRAMEWORK

Higher education is widely recognized as essential to improve the lives and future prospects of all Americans. Political leaders at the federal, state, and local levels support increasing college attainment. As more individuals view a college degree as a necessity and the balance between personal and public financial investment in postsecondary education shifts, there is increased pressure on institutions to demonstrate the positive outcomes or returns on such investments. The desire to document a solid “return on investment” is particularly acute for policymakers as tuition levels increase and student debt rises above the \$1 trillion mark.

The goal of the Post-Collegiate Outcomes (PCO) Initiative is to provide a framework for a richer and more comprehensive discussion about student outcomes after college, as well as consistent and meaningful measurement tools for reporting those outcomes. The supporting toolkit documents are resources that can be used to promote the framework to key audiences: campus faculty and staff, education governing bodies, policymakers, students and family members, and the general public. This document in particular focuses on implications for policymakers and potential next steps to further develop the PCO Framework.

The document begins with an introduction about why the typical measures of college value such as employment and wages are inadequate and how the PCO Framework can help expand our understanding of the full range of post-collegiate outcomes. The paper continues with a discussion of the need to develop new analytic tools and data sharing agreements in order to effectively answer complex policy questions, as well as address the implications for education policy at the state and federal level. This document concludes with potential next steps for the PCO Framework that can be utilized by a wide range of higher education stakeholders: colleges and universities, state systems of higher education, state policymakers, state agencies, regional compacts, federal policymakers, and national higher education associations. Each of these constituencies has a role to play in measuring the multi-faceted value of a college education.

Is College Worth It?

Measuring the Value of College

Articulating the value of a college education is of great interest to policymakers, colleges and universities, and a wide variety of stakeholders, including taxpayers, parents, and students. Yet there has been little concerted focus on developing a national framework for measuring post-collegiate outcomes or an in-depth analysis to address gaps in data. This combination of high public and political interest and technical shortcomings has left stakeholders with incomplete data and a lack of focus and direction. While a few exemplary institutions, states, and regions are working to correct these inadequacies, the impact of their work is limited by a lack of comprehensive, comparable data being made available across institutions, state agencies, and state lines. Even the pioneers in this area can track only a portion of their graduates’ post-collegiate outcomes.

To help lay the groundwork for more effective measurement and analyses of post-collegiate outcomes,

policymakers and stakeholders can focus their attention on several key areas: articulating and defining the policy expectations and questions around post-collegiate outcomes; authorizing and implementing data sharing agreements between higher education institutions and state agencies in a way that protects data and preserves privacy; identifying the appropriate accountability measures for colleges and universities to the state and taxpayers; and improving data availability and connectivity between and among public entities to increase transparency and meet policy objectives.

College Makes a Difference Beyond Dollars and Cents

Current policy discussions of post-collegiate outcomes usually focus on the wages of graduates, and rising levels of student loan debt and default. The economic downturn, cuts in state appropriations to institutions, the corresponding increases in tuition and fees, and public concern about the employment rates of graduates have fueled the focus on return-on-investment as the primary outcome of a college education.

An abundance of evidence points to the beneficial, non-financial outcomes of a college education. Results from employer surveys consistently rate cognitive learning, problem-solving, teamwork, and practical competence as essential skills for college graduates (Hart Research Associates, 2015). In addition to subject matter proficiency and building academic skills, the undergraduate experience contributes to broadening students' sociopolitical attitudes and values, as well as racial-ethnic attitudes, increased moral development, and cognitive and intellectual growth (Pascarella & Terenzini, 2005). These non-financial outcomes are not only important for individuals to more successfully navigate a complex, global community, but for a dynamic, engaged democratic society. The PCO Framework takes into account these outcomes of a college education in its four quadrants: public/economic, public/social capital, personal/economic, personal/social capital (see Figure 1). A more detailed description of the PCO Framework can be found in the "Post-Collegiate Outcomes Initiative: Overview" document.

Developing New Tools to Collect and Analyze Student Data

More Questions than Answers

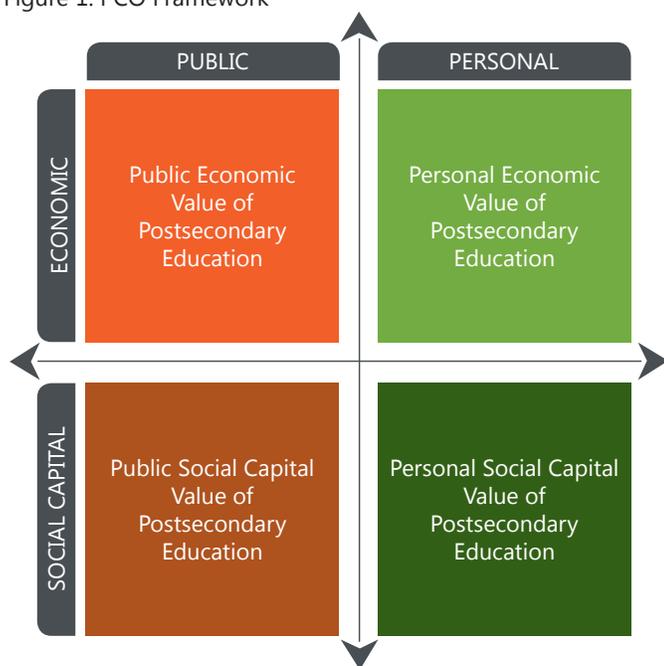
Despite good intentions, discussions about the need for new data and indicators do not match with the desired policy objectives. Often these discussions revolve around questions that can be answered with available data instead of identifying the policy questions that should be asked and then determining the data necessary to answer them. This approach either forces a narrow focus on outcomes that can be directly tied to an individual institution or program, or it mistakenly holds institutions and programs accountable for broader outcomes beyond their control. Too often there is a call for "more data" without sufficient thought given to how the data will be applied in answering policy questions.

Audiences and Purposes of New Tools

New data analytics and tools can provide solutions that help to mitigate this mismatch. For example:

- transparency and accountability for college and university leadership and policymakers to allocate resources;
- consumer information for students, families, and counselors to make informed decisions;
- institutional benchmarking for university faculty and staff to track an institution's relative performance over time; and
- demonstration to the public and taxpayers of the multiple returns on investment, including decreased reliance on government support, increased health and wellness, and higher levels of civic participation.

Figure 1: PCO Framework



Each of these applications has a specific audience that uses the data and tools for distinct purposes. Recognizing the diversity of uses and audiences for post-collegiate outcomes data, and explicitly stating the varying needs for different data, will help bring clarity to conversations and reduce confusion created when metrics appropriate for one use are incorrectly applied to another. While the same metrics may serve multiple purposes, this is not always the case. Most often, the tools that are useful to one audience are not

nearly as useful to another. More complete and granular data sources allow information to be aggregated and broken out in different ways to better meet the needs of multiple audiences without increasing the reporting burden for institutions or individuals. In selecting metrics and designing tools, it is important to consider the varied objectives, intended audiences, purposes, and applications for which information is sought and used. A serious effort to meet the data needs of each particular audience will require testing and feedback from many parties.

Beyond tailoring metrics and tools to suit particular needs, it is important to also consider appropriate levels of measurement and analysis. For example, many reports and news stories look at the overall “value” of a college degree in terms of additional income for graduates.¹ In many cases, however, it would be more informative to look at particular institutions, majors, or student demographic characteristics to answer the question of value and to explore any differences in more depth. Further still, some outcomes are best considered in terms of state, regional, or national contexts. Traditionally, the institution has been the primary unit of analysis, but as more information on a broader range of post-collegiate outcomes becomes available, it is worth considering situations where the scope should be expanded. Some of the benefits in the public/economic quadrant will be best assessed at state, regional, or national levels.

Policy Implications

Apples and Oranges: Equating Data Availability with Valid Accountability Metrics

Once data collection and analysis tools are developed, it is important to discuss appropriate policy questions and to structure accountability metrics for desired performance outcomes. In general, institutional accountability metrics should conform to several specifications:

- Institutions should not be held accountable for outcomes over which they have little or no control. Ranking institutions on the number of graduates who are employed within the same state as a particular university makes little sense for a large research university that attracts students from diverse domestic and international backgrounds. Similarly, graduates may choose, for a variety of legitimate reasons, to pursue careers that do not directly apply to their undergraduate areas of study. Yet, it is not uncommon for institutions to be held accountable for the percent of graduates who are “employed within their field of study.”²
- Outcomes measured should be consistent with the mission and stated priorities of the institution. A one-size-fits-all approach will not be effective for measuring post-collegiate outcomes across different types of institutions. It may be reasonable to measure the social contributions of graduates from a liberal arts college with a strong service-learning or civic engagement focus. On the other hand, such a measurement would be inappropriate for a technical college that focuses on high levels of mechanical competence.

Metrics at levels other than the institution level are important and need to be described and defined, as well. Yet, given the need for institutions to respond to increasing calls for transparency and accountability about the outcomes for their students, institution-level metrics will likely be the first to emerge from the application of the PCO Framework and Toolkit.

State Support of Public Education

Adequate state investments in public higher education are critical for maintaining state economic competitiveness and individual economic mobility. These investments recognize public higher education’s long-standing contributions to social, cultural, and democratic advancement. In the last several years, precipitous

¹ For example: Leonhardt, D. (2014, May 27). Is college worth it? Clearly, new data say. *New York Times*. Retrieved from <http://www.nytimes.com/2014/05/27/upshot/is-college-worth-it-clearly-new-data-say.html> <http://www.nytimes.com/2014/05/27/upshot/is-college-worth-it-clearly-new-data-say.html?abt=0002&abg=1>

² Phillips, C. (2014, November 16). A matter of degree: Many college grads never work in their major. *Times Free Press*. Retrieved from <http://www.timesfreepress.com/news/life/entertainment/story/2014/nov/16/matter-degree-many-college-grads-never-work-/273665/>

declines in per-student state and local funding for public colleges have contributed to higher tuition rates and growing student debt.

Coupled with high unemployment rates among young Americans, such funding shortfalls have intensified the need to measure and document higher education's contributions to state economies through a more educated citizenry. Unfortunately, the contributions of college graduates continue to be discussed in almost exclusively financial terms. Frequently forgotten or undervalued is how increased levels of college attainment is linked to the renewal of democratic institutions and builds cross-cultural competencies that are vitally important in our increasingly interconnected global world. The PCO Framework provides a tool to illustrate a more complete picture of the benefits to the state from higher education at the institution level as well as the state and national level.

Limitations on Rating the Performance of Colleges and Universities

The Postsecondary Institution Rating System introduced by President Obama and under development by the U. S. Department of Education is intended to be a transparency and accountability tool for students and families. At this point in time, the proposed college ratings system leaves many unanswered questions but implies the use of a complex system that would rate institutions in the areas of access, affordability, and outcomes using a number of metrics, some of which are untested or lack a suitably comprehensive data source. The proposal is severely hampered by the lack of comprehensive federal data and has drawn attention to the need for more complete data that accurately reflect the enrollment, progress, and completion patterns of today's diverse students.

At the state level, the growing interest by policymakers in performance-based funding is also limited by the available data, which is largely situated in the personal/economic quadrant of the PCO Framework. As statewide longitudinal data systems become more comprehensive, additional data points for comparison

will be available. The increasing availability of data may tempt state policymakers to immediately use the data as accountability metrics or benchmarks rather than considering what outcomes are most appropriate for the institutions within their state. It is important to consider metrics beyond student progress and completion; science, technology, engineering, and mathematics (STEM) degree production; and labor market outcomes within state borders. The social capital quadrants offer a guide to additional, broader outcomes.

Harnessing the Power of Data Within State Borders and Beyond

Student unit record data systems, including K–12 and postsecondary statewide longitudinal data systems, the National Student Clearinghouse, and the National Student Loan Data System, allow for both greater flexibility and easier analysis and comparison of outcomes within sub groups. Much of the power of student unit record (SUR) data systems comes from linking them with other data sets to provide additional context and information. SUR data systems also allow for outcomes to be disaggregated more easily, without increasing the reporting burden on institutions. Virginia is one state at the forefront of linking student data from colleges and universities to state labor data provided by employers. The State Council of Higher Education for Virginia (SCHEV) has been collecting SUR data from two-year and four-year public and private colleges and universities since 1992. SCHEV has linked student unit records to Virginia labor records since 2012 and annually reports graduates' employment by program degree at eighteen months and five years after degree completion. These reports and data are publicly available, allowing participating Virginia colleges and universities, as well as policymakers, students and families, to use the results to explore the employment outcomes of their graduates and to make strategic planning decisions.

Colorado, Florida, Tennessee, Texas, and others have also linked, state-level SUR data with state unemployment insurance, workers compensation, and other records to better understand employment and wages.³ Linking student records to federal data sources (e.g., Internal

³ Two selected examples of this are the American Institutes for Research and Optimum Advisors' CollegeMeasures.org and the University of Texas's seek UT (<http://www.utsystem.edu/seekut/>).

Revenue Service, Social Security Administration, and Census Bureau) could provide a wealth of information about post-collegiate outcomes that could be traced back to institutions, programs, and student socioeconomic and demographic characteristics.

At the same time, the limitations of data must be recognized when using the data to support decision-making, develop policy, or build an accountability system. For example, states that link student and unemployment insurance records fail to capture data regarding graduates who move outside the state, as well as large categories of graduate data, such as the self-employed or those serving in the military. To treat these “missing” people as unemployed for institutional accountability purposes would be inaccurate and unfair. Another limitation is the lack of available information on occupations. While existing data can reveal whether STEM graduates work in a STEM industry, they cannot determine whether that graduate’s job involves performing science and engineering work. In short, industry is a crude proxy for occupation in determining post-collegiate outcomes.

Steps to increase the interoperability of existing state systems would help alleviate the shortcoming of “missing” graduate data due to the geographic limitations of the statewide longitudinal data system. Interoperability is partly a technical challenge, but it also reflects differences in state laws and regulations (e.g., minimum cell sizes, other data requirements) that limit sharing. Perhaps the best example of systems working together across states is the Western Interstate Commission for Higher Education’s Multistate Longitudinal Data Exchange (MLDE) Pilot Project (Prescott, 2014). This cooperative effort has proven that state leaders can facilitate the exchange of information across state borders on a large scale.

Lessons learned from the MLDE, however, show that interstate data sharing is not always an easy proposition.

Many entities need to be shepherded; legitimate concerns about data privacy and confidentiality have to be carefully addressed; an intricate and well-defined process to sort through and blend many distinct data sources and structures must exist; and maintaining focus about accomplishing intended results and target outcomes from among the vast array of information that results can be challenging (Prescott, 2014).

Finally, there is the linking of institutional and potentially even statewide longitudinal data systems with survey data directly from students and alumni.⁴ The Gallup-Purdue Index is a recent example of this approach. Purdue University sought to better understand its outcomes and articulate its value to graduates by working with Gallup to survey its alumni about their experiences at the university. Rather than viewing institutional data and alumni survey data as separate efforts focused on different demographics, these data sets can be linked and powerfully complement one another when they provide data on the same demographic but from different perspectives. Privacy concerns are the greatest challenge with linking student and employee data. Issues of data and privacy have appropriately received much attention from policymakers⁵ and scholars.⁶ Tensions may exist between privacy issues and public policy interests in new data. Careful work is needed to reach a reasonable balance between protecting individual privacy and mining the information potential of new data sets. An important task will be to draw boundaries around the kinds of information collected that may be undesirable or unethical, even if technically feasible.

Policy Implications for a Federal Student Unit Record System

Increasingly, the creation of a federal SUR data system is a potential solution to many of the concerns mentioned above with respect to statewide longitudinal data systems, such as students who work in a state other than the one in which they earned their degree. An SUR

⁴ New survey-based efforts such as the Gallup-Purdue Index are seeking to broaden the conversation about post-collegiate outcomes

⁵ Executive Office of the President. (2014). Big data: Seizing opportunities, preserving values. Retrieved from <http://www.whitehouse.gov/issues/technology/big-data-review>

⁶ Lane, J., Stodden, V., Bender, S., & Nissenbaum, H. (2014). Privacy, big data, and the public good. New York, NY: Cambridge University Press. See <http://www.dataprivacybook.org/>

data system could supplement or even replace some components of the Integrated Postsecondary Education Data System (IPEDS)⁷ currently maintained by the U. S. Department of Education, which collects only institution-level data. A federal source, similar to those being created by the states, would provide many of the same benefits outlined above, such as the ability to link the education records of students with their employment history. Creating a federal SUR data system, like those at the state level, raises some legitimate concerns that would need to be addressed in a careful and thoughtful manner.

The Association of Public and Land-grant Universities, the American Association of Community Colleges, and the American Association of State Colleges and Universities all favor the creation of a federal SUR data system with appropriate safeguards for student privacy and data security. The public colleges and universities represented by these three associations enroll 73% of the undergraduates in the U.S. Such a system, carefully designed, could more readily answer questions both about student progression through college and post-collegiate outcomes asked by institutions, policymakers, students and parents, and the public.

While proposals to enhance existing federal data systems have been advanced (e.g., Voight, Long, Huelsman, & Engle, 2014), an overarching, consistent, national structure for a federal student unit record data system has not yet been presented. A federal SUR data system could more feasibly link to data sets in existing federal systems, including databases maintained outside the U.S. Department of Education, such as the U.S. Department of Labor, the Department of Defense, or the Internal Revenue Service.

The potential for linkages with other federal data sources, however, raises concerns about ensuring appropriate privacy. The higher education policy community representing private nonprofit and for-profit institutions are opposed to establishing a federal SUR data system citing concerns about student privacy.⁸ Inappropriate use of the data is a valid issue, one that must be seriously addressed for the protection of

individuals. Some supporters, on the other hand, argue the creation of a federal SUR data system might provide greater privacy protection by eliminating the need for institutions to rely on third-party providers, who may pursue other commercial endeavors with student data.

Another important consideration for building a federal SUR is for the data collected to remain parsimonious; the data submission must not become unduly burdensome for campuses. Limited data collection means that an SUR data system is not the “perfect solution” for all data questions from policymakers. The PCO Toolkit proposes some guidelines for determining the types of post-collegiate outcomes measures to which institutions may appropriately be held accountable. Additional work will be necessary to determine which measures should be monitored for all institutions and to identify the individual data elements needed at the national level for both accountability and transparency purposes.

Potential Next Steps for the Framework

Post-collegiate outcomes are a critical piece of information for higher education stakeholders and have the potential to contribute to more exact valuations of a college education. Students and families need clear, accurate information about the outcomes they can expect from a college experience. They, along with policymakers, need to better understand what is realistic in terms of the outcomes institutions can influence. Expanding the conversation about post-collegiate outcomes to reflect the broader societal outcomes resulting from higher education will require the active engagement and support of many stakeholders. The PCO Framework and Toolkit provide the parameters and a common vocabulary for stakeholders to take steps to advance this conversation in local, state, regional, and national contexts.

Potential Next Steps for Colleges and Universities

Faculty and staff at institutions have the most direct connections to prospective students, current students, and alumni. They are invested in the success of their students after degree completion. Many are the institutional interface for students and have an essential

⁷ National Center for Education Statistics, Integrated Postsecondary Education Data System, <http://nces.ed.gov/ipeds/>

⁸ National Association of Independent Colleges and Universities. (2014, March 11). Statement from David L. Warren regarding the RADD Report on student unit record data. Retrieved from http://www.naicu.edu/news_room/news_detail.asp?id=19735

role in helping students recognize the contributions of the collegiate experience in all areas of life and their future. Faculty and staff at colleges and universities are critical to aligning curriculum, course delivery, and other learning experiences with post-collegiate outcomes. College and university leaders can engage key faculty and staff in institutional strategic discussions around the PCO Framework and Toolkit, as well as in better aligning curriculum and programs with desired post-collegiate outcomes.

Colleges and universities can dedicate additional financial and personnel resources to better understand their own post-collegiate outcomes and data gaps within the PCO Framework. Coordinated, sustained efforts are necessary within an institution to lead discussions and engage internal and external stakeholders in sharing data, discussing and overcoming obstacles, and setting up procedures and systems for consistent, valid, and meaningful data exchanges.

Colleges and universities contribute in many significant ways to taxpayers and, subsequently, to local and state economies. As colleges and universities consider their strategic goals, messaging, and policy interactions with stakeholders at the local, state, and national level, they can use all four quadrants of the PCO Framework to tell their institution's story and demonstrate its value.

Potential Next Steps for State Systems of Higher Education

State systems of higher education encompassing a range of institutions are powerful conveners to promote collaboration, set metrics and indicators for post-collegiate outcomes, and overcome data gaps and data sharing barriers using the PCO Framework and Toolkit. The National Association of System Heads (NASH) recently launched a related initiative, the Taking Student Success to Scale initiative, which aims to improve student success through evidence-based interventions. Systems of institutions and national educational associations play a key role in helping to refine policymakers' understanding of the influences of higher education in both public and private areas. State systems of higher education are vital for explaining the necessity of public support in higher education as a means of advancing economic growth through higher education.

Potential Next Steps for State Policymakers and State Agencies

State policymakers can be key champions in working through obstacles, advancing shared data, and improving the understanding of post-collegiate outcomes. State policymakers are best able to see the tremendous personal, social, and economic value that higher education brings to their states. Imagine the cost to a state if it had to create from scratch the diverse networks for educational access and advancement present in states today.

Many state agencies have useful data to provide a clearer picture of post-collegiate outcomes in states, but often these data are in closed agency or departmental systems inaccessible to other state agencies, colleges and universities, and external stakeholders. The development of statewide longitudinal data systems in many states is a good start, but overcoming cultural differences, data collection objectives, and territorial issues to share even simple and comparable information may be a challenge. State policymakers can work with stakeholders to identify existing data, data needs, and to overcome information-sharing barriers for the common good.

State policymakers naturally want clear metrics and measurable outcomes and indicators to determine the return on state investments in higher education and to demonstrate the value of publicly supported higher education institutions to their constituents. But state policymakers must allow time for the cleaning and analyzing of data and the development of data-sharing tools to secure data integrity, privacy, and validity before attempting to use the data to answer policy questions or to set up indicators for measurement of desired outcomes. Policymakers should encourage institutions and stakeholders to include all stakeholders representing the diversity of higher education experiences in their state. They should also work with all stakeholders to set policy objectives for data collection and analysis and to jointly determine policy questions relevant to the attraction and retention of talent.

Potential Next Steps for State Policymakers and Regional Compacts

One question that the PCO Framework hopes to answer is: who is the most effective keeper and broker of data provided on students by higher education and

on employees by employers within and beyond state borders? Statewide longitudinal data systems are paving the way for data connectivity, but there continue to be limitations on sharing data within states and especially across state lines. Likewise, institutions under different control (public vs. private) have challenges preventing them from producing metrics and indicators to evaluate public and personal investments in higher education. State policymakers can play a role in authorizing states' attorneys general and other state education and labor officials to establish data security agreements. Data security agreements will then facilitate interstate data exchange between state agencies, which collect employee data, and institutions, which collect student data.

State policymakers can also develop partnerships with their peers in neighboring states since graduates from a policymaker's home state may find employment in neighboring states. The regional compacts (WICHE, MHEC, SREB, etc.) of which many state policymakers are members may have a role to play in PCO Framework discussions. There may also be a place for regional student data clearinghouses along the lines of the WICHE MLDE project mentioned above.

Potential Next Steps for Federal Policymakers

As the nation's postsecondary students become increasingly diverse and educational delivery systems become more flexible to meet the needs of students and the workforce alike, the inadequacies of the current federal data systems become more apparent. Over the past five years, numerous efforts have been made to include post-collegiate outcomes information within federal consumer information and institutional accountability tools (e.g., the College Scorecard, Gainful Employment, and the Postsecondary Institutional Ratings System). From a technical perspective, these efforts have been hampered by the lack of a reliable, comprehensive data source and agreement about the appropriate metrics to describe outcomes after college.

The PCO Framework and Toolkit will assist federal policymakers in determining who holds data for which outcomes in each quadrant and help to guide conversations on the appropriate method and level of reporting at the institutional, state, regional, and federal level.

While the implementation of a federal SUR data system is often cited as the panacea that will resolve all data access and connectivity problems, it is not the perfect solution, as evidenced by the diversity and range of issues that had to be addressed during the development of statewide longitudinal data systems. These lessons should be considered carefully as any federal system is considered. Any federal data system design should also take into account the investments already made by state systems, which would allow a smaller, more parsimonious federal unit record system that would extend the reporting options to include those outcomes that cannot be adequately measured at the state or institutional level.

Federal policymakers should also encourage states and institutions to remove obstacles to more effectively exchange data and to pilot post-collegiate outcomes metrics and indicators at the local and state levels. Removing policy barriers that stand in the way of connecting key data sources is another priority, as is reducing the burden on institutions for reporting and coordinating data solely for accountability purposes.

Potential Next Steps for National Presidential Higher Education Associations

The expertise that the American Association of Community Colleges, Association of Public and Land-grant Universities, and American Association of State Colleges and Universities have acquired through the development of the PCO Framework and Toolkit position them to be helpful in the future. Additional work is needed to continue building out the PCO Framework and Toolkit so that it can be used as a comprehensive outcomes reporting system for institutions. The national presidential higher education associations can convene a range of expertise from institutions to address further development of the PCO Framework and Toolkit. Specifically, a more complete enumeration of the outcomes, metrics, and indicators that could be reported within the PCO Framework is needed. Ideally, assessment and measurement experts from higher education and workforce or labor backgrounds would be convened to detail an initial set of outcomes, in each of the four quadrants within the PCO Framework that could be used for institutional accountability.

While one of the promises of the PCO Framework is to expand beyond a focus on outcomes for which

institutions should be held responsible, the need to provide evidence for policymakers and consumers is so great that it deserves priority. These three associations are prepared to build not only on the PCO Framework, but on other national initiatives they have sponsored in the past decade including the Voluntary System of Accountability, the Student Achievement Measure, and the Voluntary Framework of Accountability.⁹

In addition to identifying specific outcomes and measures, the national presidential higher education associations should give consideration to creating a reporting methodology that articulates institutional outcomes across the four quadrants of the PCO Framework to a variety of audiences. Recommendations for advocacy on data availability and connectivity could result from this work by the national presidential higher education associations.

Conclusion

Today, we face new questions about the value of a higher education in the United States. Higher education has always been about more than just preparing for a job, though. The public value of an educated citizenry has been recognized since the inception of our nation, even if it cannot be tied directly back to an individual's experience in a specific program or institution. Thomas Jefferson stated in 1778:

Those persons, whom nature hath endowed with genius and virtue, should be rendered by liberal education worthy to receive, and able to guard the sacred deposit of the rights and liberties of their fellow citizens, and that they should be called to that charge without regard to wealth, birth or other accidental condition or circumstance.¹⁰

This belief in the transforming power of higher education has been the basis for most of American policy decisions related to higher education: The Morrill Act of 1862, The Morrill Act of 1890, The GI Bill of 1944, the National Defense Education Act of 1958, and the Higher Education Act of 1965.

We have more data about our students and citizens than ever before, but have not yet learned how to use it. The Post-Collegiate Outcomes Framework and Toolkit will be useful to institutions, state systems of higher education, state policymakers, state agencies, regional compacts, federal policymakers, and national presidential higher education associations. We are once again at a transformational time for higher education in America. We all have a role to play. What we do with the opportunities ahead is up to us.

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