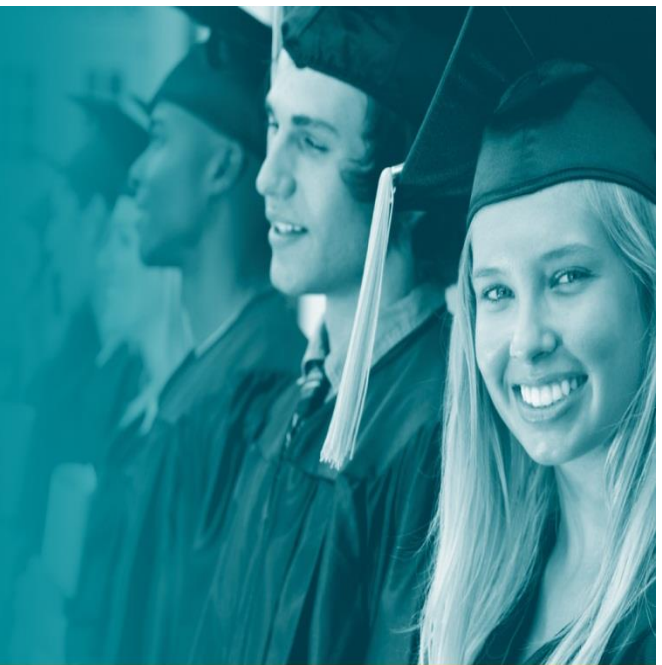# Outcomes-Based Funding: Current Status, Promising Practices and Emerging Trends – Appendix

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Appendix A: Outline of Method and Approach

Introduction

In this appendix, we present an expanded outline of the approach and methods used in this project. We consider the overall conceptual framework informing our general approach first and subsequently turn to further explanation of data collection and analysis in later sections.

Conceptual Framework, Research Questions and Overview of Approach

As we noted in the report, Dougherty and colleagues (Dougherty & Reddy, 2011, 2013; Dougherty & Natow, 2010) outline a set of underlying theories of action informing policy discussions on outcomes-based funding of higher education. The most prevalent of these theories supposes that performance funding models incentivize institutions to change their behavior in ways that will result in higher student achievement. This prevalent logic model provides an explanation most of all for the ways in which policy leads to institutional change (immediate impacts) but offers little explanation of how institutional changes prompted by the policies might lead to improved student outcomes (indirect or "ultimate" impacts). Critics have pointed out that the logic driving many policy debates in this area may underplay the complexity of the institutional task of improving student outcomes. Because there are relatively few studies that examine impacts in this way, this represents an area for research to contribute to the understanding of whether and in what forms outcomes-based funding has made a difference in achieving policy goals for access and success.

Current research findings on performance funding further indicate that in order to get a clear idea of the implementation and effects of the policy across variations in different contexts, it is important to look not simply at the presence or absence of the policy, but rather to take account of specific policy features. Dougherty and Reddy (2011) identify the following as relevant policy features:

- Length of time the policy has been in place
- Proportion of the appropriations that are in performance funding
  - Whether and how this feature has changed over time
- Performance measures
  - Whether and how this feature has changed over time
- Presence of other state accountability programs
- Institutional characteristics, such as:
  - Enrollment size, student populations
  - Mission
  - Revenues from tuition
  - Expenditures on academic support, instruction and administration
  - Percentage of part-time faculty
  - Residential campus status
- Jurisdiction-level variables
  - Private sector enrollments
  - Per capita appropriations for higher education
  - Student aid as a proportion of higher education appropriations
  - Government spending on need-based aid
  - Economic context

Our approach in this report takes this framework as a starting point. In our review of policies in selected jurisdictions, for example, we focused on relevant policy features incorporated into outcomes-based funding models in the US, Canada, Australia and nine countries in Europe. Moreover, as noted above, our review of research studies was designed to examine findings relevant to both the *immediate* impacts of the policy (i.e., shifts in institutional practices incentivized by the policy) and *indirect* or *ultimate* impacts, affecting student outcomes or research productivity *per se*. Taking the lead from implications for further research identified by Dougherty and Reddy (2011), our approach encompassed studies across institution types and policy contexts, and differentiated findings by relevant features, contextual conditions and the quality of the research methods used. Following the plan outlined in the sections below, we produced a policy inventory and a review of research relevant to supporting policy recommendations.

Our approach to the questions at the center of the project entailed a qualitative research study designed to synthesize policy insights and key research studies on the topic of performance funding in higher education.

The first component of our study, the *Review of Policies*, is based on data from an inventory of policy features in 30 selected jurisdictions. Drawing on the conceptual framework presented above, we developed a rubric listing and defining the features to be captured in the policy inventory (see Table 1 below). Based on the rubric, the policy inventory included indicators of quality of implementation, depth of financial support and student outcome levels associated with the policy. A list of jurisdictions included in the policy inventory is shown in Table 4 and is discussed further in the Data Collection section below.

The second component of the study, the *Review of Research*, entailed a comprehensive overview of research and policy reports published since 2003 regarding the potential effects of performance-based funding policies on student outcomes or research productivity. In order to support the rigor and focus of this analysis, a qualitative coding structure was derived from the conceptual framework identifying relevant policy features as well as from the research questions themselves. The team organized and documented these analyses using qualitative data analysis software (*Atlas.ti*). Low-inference coding, qualitative research memos and a collaborative approach helped to support and maintain the validity and relevance of our analyses. The process for developing the literature base is outlined in further detail in the Data Collection and Data Analysis sections below.

Interviews with three expert consultants comprised a final key component of the research plan. Experts on the specific topic of performance funding and public policy in higher education, identified through their published work, participated in in-depth interviews at the beginning of the project. The interviews focused on (1) these experts' views on the most promising threads within the literature and policy discourse, (2) their expert opinion on key policy features to be explored, and (3) emerging trends in the area of research and policy on performance funding.

These three data sources supported the project team in answering the following research questions for the project:

1. Review of Policies:
    a. What provinces, states and countries are funding their public postsecondary systems on the basis of outcomes and what proportion of funding is devoted to these funding mechanisms?
    b. Have outcomes-based funding policies in place within jurisdictions changed over time and, if so, how?

2. Review of Research:
    a. How has the implementation of performance-based funding affected the performance of higher education institutions?

b. What successful practices can be identified based on others' experiences?
c. What unsuccessful practices can be identified based on others' experiences?
d. What are the overall trends in outcomes-based funding in other jurisdictions?

The policy inventory functioned as the primary data source for the Review of Policies questions (questions 1a and 1b), while the literature review served as the principal data source for the examination of the first three Review of Research questions (questions 2a, 2b and 2c). The expert interviews helped to guide the data collection in both the policy inventory and the literature review, but also served as a primary data source for question 2d ("What are the overall trends in outcomes-based funding in other jurisdictions?"). As recognized scholars researching and writing about outcomes-based funding of higher education in multiple regional and national contexts, the expert consultants working with the research team on this project were in a unique position to draw connections and identify emergent practices that may not yet be reflected in research studies or policy reports. To ensure as complete and inclusive an overview as possible, the research team also drew on the policy inventory and literature base as data sources in examining this question.

This report presents our analysis of these three data sources and our principal findings across them.

Data Collection and Instrumentation

Policy Inventory

In producing the policy inventory, we summarized and coded policy features, basing this analysis on a focused set of variables identified through the project's conceptual framework. Data collection for the policy inventory was organized around a rubric outlining relevant policy features to be described for each case included in the study (see Table 1 below). While the elements of the rubric were adapted from Dougherty and Reddy (2011) and were revised based on our initial collection and review of policy documents, the rubric itself was further refined and finalized in consultation with our expert consultants.

The scope of the policy review was international and multi-level. We drew on recent policy reports (e.g., di Gropello Tanden, & Yusef, 2012; Friedel, Thornton, D'amico & Katsinas, 2013; Hillman, Kelchen & Goldrick-Rab, 2013; Jongbloed, 2010; Kirby, 2007; National Conference of State Legislatures (NCSL), 2014) to identify 30 contexts for review. These jurisdictions included three Canadian provinces, 17 U.S. states, Australia and nine selected countries in Europe. The selection criteria for these cases were based on the goals of gathering a set of jurisdictions that were similar enough in policy context to be relevant to future considerations in Ontario specifically, while still including a range of policies, jurisdictional sizes and economic contexts. Because of the complexity and change inherent in state-level policy discussions in the US, reports on the status of performance funding policy often vary for individual U.S. states. To address this variation in views, we based our selection of U.S. states on two reports released in 2013 (Friedel, Thornton, D'amico & Katsinas, 2013; Hillman, Kelchen & Goldrick-Rab, 2013) and the NCSL website (2014). States listed as having performance funding policies in place in two or more of these sources were included in the cases selected for the policy inventory. Further details on the process of case selection and the final list of jurisdictions selected for the policy inventory are included in Tables 2 through 4 below.

Primary and secondary sources (policy documents and government websites; and policy reports) were collected for each jurisdiction. Each source was saved in a durable format (e.g., PDF) with complete documentation. During the initial analysis phase, research team members used the rubric to establish whether the sources collected offered sufficient information to address the research questions. If further information was needed in specific cases, the team continued data collection through additional or alternative sources until we could confirm that the policy data set was as complete as possible.

Literature Base

In order to produce a sound data source for the literature review, we conducted a systematic search in a set of well-respected and complementary bibliographic databases (including EBSCO, ERIC and Education Full Text), using keywords and synonyms to identify relevant sources from the research and policy literature. Due to the increased attention to outcomes-based funding occurring in the last 10 years, we focused the search on reports, books and articles that were (1) aimed at either research or policy audiences, and (2) published in 2003 or later. Further detail on our documented approach in this literature search is shown below in Table 5.

Interviews

Finally, we conducted semi-structured interviews with three expert consultants. These interviews focused on gathering feedback on our draft materials and data collection plan, and also centered on the experts' thoughts regarding emerging directions in the area of performance funding. The semi-structured interviews, approximately 90 minutes in length, were conducted by telephone or videoconference, and were recorded and transcribed verbatim for analysis.

Data Analysis

The process of completing the rubric for each jurisdiction resembled a structured analytical protocol, whereby statistics and short descriptive statements were drawn from policy inventory documents using the rubric elements as *a priori* qualitative codes. Research team members completed an inventory record for each jurisdiction based on the rubric, noting the information needed (e.g., number of months policy has been in place as of September 2013) and providing a link or reference to the original source document and page. This method provided an efficient and consistent way to summarize and compare features across contexts.

In contrast, a semi-structured qualitative coding approach was used to analyze articles and reports for the literature review. Replicating an approach our team used successfully in previous studies (e.g., http://advocacy.collegeboard.org/sites/default/files/rethinking-stu-aid-effectiveness-of-stu-aid-policies.pdf), project researchers created a summary of findings and key methodological points from each source in the literature base. These summaries were then coded using a start-list of codes designed to capture key elements of the reports (e.g., "findings," "data set used"). In order to take account of emergent insights regarding potential effects of performance funding or successful practices, we also incorporated inductive coding of the article and report summaries.

Because the expert interviews were meant to identify emerging directions and unanticipated connections, we analyzed them using an iterative inductive approach. We employed low-inference open coding in early rounds, but built toward higher-inference codes and application of theoretical perspectives in subsequent iterations of coding (Carspecken, 1996). Coding and notes for all three activities were organized and documented using *Atlas.ti* qualitative data analysis software.

Table 1: Revised Rubric for Policy Inventory

Revised Rubric for Policy Inventory (September, 2013)		
(subject to further revision as the project proceeds)		
Component or Variable	**Numerical or short-text entry**	**Source reference**
Case ID		
Policy Title		
Specific jurisdiction (e.g., Alberta, Tennessee, Poland)		
Policy Level (Regional or National Policy)		
Number of months in place as of September 2013		
Regional or national context variables		
o Public sector enrollments		
o Private sector enrollments		
o Per capita appropriations for higher education		
o Student aid as a percentage of regional or national allocation for tertiary education		
o Description of change over time, if any (trend over previous 10 years)		
o Government spending on need based aid		
o Notes on current higher education policy context		
o Notes on current economic context		
o Notes on current political context		
Proportion of the appropriations that are in performance funding		
o Description of change over time, if any		
Performance measures included in the funding model		
o Description of change over time, if any		
Other state accountability programs currently in place		
Institutional characteristics (Brief narrative summary of the set(s) of institutions affected)		

Table 2: Selection of U.S. State Contexts Using Three Current Reports

	STATE	STATUS[1]	STATUS[2]	STATUS[3]	SELECTED
	SELECTION OF U.S. STATE CONTEXT FOR INCLUSION IN POLICY INVENTORY				
1	ALABAMA	TRANSITION			
2	ALASKA				
3	ARIZONA	CURRENT	DISCUSSIONS		
4	ARKANSAS	CURRENT	TRANSITION	NO LONGER	
5	CALIFORNIA	DISCUSSION			
6	COLORADO	TRANSITION	TRANSITION	NO LONGER	
7	CONNECTICUT				
8	DELAWARE				
9	FLORIDA	TRANSITION	DISCUSSION	NO LONGER	
10	GEORGIA	DISCUSSION			
11	HAWAII			CURRENT	
12	IDAHO		DISCUSSION	NO LONGER	
13	ILLINOIS	CURRENT	CURRENT	NO LONGER	X
14	INDIANA	CURRENT	CURRENT	CURRENT	X
15	IOWA				
16	KANSAS			CURRENT	
17	KENTUCKY	DISCUSSION	DISCUSSION	NO LONGER	
18	LOUISIANA	CURRENT	CURRENT	CURRENT	X
19	MAINE	DISCUSSION	DISCUSSION		
20	MARYLAND	DISCUSSION	DISCUSION		
21	MASSACHUSETTS	CURRENT		CURRENT	X
22	MICHIGAN	CURRENT	CURRENT		X
23	MINNESOTA	CURRENT	CURRENT	NO LONGER	X
24	MISSISSIPPI	CURRENT	DISCUSSION		
25	MISSOURI	CURRENT	TRANSITION	NO LONGER	
26	MONTANA	TRANSITION	DISCUSSION		
27	NEBRASKA				
28	NEVADA	CURRENT	DISCUSSION		
29	NEW HAMPSHIRE				
30	NEW JERSEY			NO LONGER	
31	NEW MEXICO	CURRENT	CURRENT	CURRENT	X
32	NEW YORK		DISCUSSION	NO LONGER	
33	NORTH CAROLINA	CURRENT		CURRENT	X
34	NORTH DAKOTA	CURRENT	DISCUSSION		
35	OHIO	CURRENT	CURRENT	CURRENT	X
36	OKLAHOMA	CURRENT	CURRENT	CURRENT	X
37	OREGON	TRANSITION		CURRENT	
38	PENNSYLVANIA	CURRENT	CURRENT	CURRENT	X
39	RHODE ISLAND				
40	SOUTH CAROLINA	DISCUSSION		NO LONGER	
41	SOUTH DAKOTA	CURRENT	CURRENT	CURRENT	X
42	TENNESSEE	CURRENT	CURRENT	CURRENT	X
43	TEXAS	CURRENT	DISCUSSION	CURRENT	X
44	UTAH	CURRENT	DISCUSSION		
45	VERMONT				
46	VIRGINIA	CURRENT	TRANSITION	CURRENT	X
47	WASHINGTON	CURRENT	CURRENT	CURRENT	X
48	WEST VIRGINIA	DISCUSSION	DISCUSSION		
49	WISCONSIN	DISCUSSION			
50	WYOMING	TRANSITION	DISCUSSION		

1. Univ. of Alabama Education Policy Center 2013 (Friedel, Thornton, D'Amico, & Katsinas, 2013)
2. National conference of state legislatures: http://www.ncsl.org/issues-research/educ/performance-funding.aspx (sept 30 2013)
3. Hillman, Kelchen, & Goldrick-Rab (2013 February). WISCAPE POLICY REPORT

Table 3: Selection of European Countries for Inclusion in Policy Inventory

Selected Countries	Rationale for Inclusion
Denmark	Northern Europe. Focusing first on more affluent countries will make it easier to see the effects of outcomes-based funding rather than the effects of extreme economic conditions. Extensive literature available.
Finland	Northern Europe. Focusing first on more affluent countries will make it easier to see the effects of outcomes-based funding rather than the effects of extreme economic conditions.
Germany	Western Europe. Focusing first on more affluent countries will make it easier to see the effects of outcomes-based funding rather than the effects of extreme economic conditions. Germany is the largest country in the EU and remains very influential.
Italy	Southern Europe. A larger country within the UN defined region. Influential in curriculum in higher education (e.g., via the Bologna Process).
Poland	Eastern Europe. A larger country within the UN defined region.
Romania	Eastern Europe. A larger country within the UN defined region. Policy literature available.
Sweden	Northern Europe. Focusing first on more affluent countries will make it easier to see the effects of outcomes-based funding rather than the effects of extreme economic conditions.
Switzerland	Western Europe. Focusing first on more affluent countries will make it easier to see the effects of outcomes-based funding rather than the effects of extreme economic conditions.
United Kingdom	Northern Europe. Recent re-structuring of tertiary education. Policy focus on performance funding. Selected specifically as relevant based on early discussions with HEQCO.

Table 4: List of Jurisdictions

Revised List of Relevant Contexts for Policy Inventory		
September, 2013		
Canada *(Kretovics & Michaels, 2005; Jones, 2006; Kirby, 2011)*		
	Alberta	
	British Columbia	
	Ontario	
United States *(17 U.S. states identified in Friedel et al., 2013; Hillman et al., 2013; and NCSL, 2013)*		
	Illinois	
	Indiana	
	Louisiana	
	Massachusetts	
	Michigan	
	Minnesota	
	New Mexico	
	New York	
	North Carolina	
	Ohio	
	Oklahoma	
	Pennsylvania	
	South Dakota	
	Tennessee	
	Texas	
	Virginia	
	Washington	
Europe *(8-10 countries selected from the following 18 identified in Jongbloed, 2010)*		
	Denmark	
	Finland	
	Germany	
	Italy	
	Poland	
	Romania	
	Sweden	
	Switzerland	
	United Kingdom	
Oceania *(Australian Department of Education Employment and Workplace Relations, 2009)*		
	Australia	

Table 5: Keyword Strategies and Databases to be Used

ERIC Thesaurus (1-7 in Table C-2)	
Root word	*Additional terms*
higher education	postsecondary education, colleges, universities
outcomes of education	outcomes of education, accountability, failure, success, outcome measures, program effectiveness, program evaluation, school effectiveness, success
funding formulas/schemes	budgeting, educational finance, state aid
policy	educational policy, financial policy, policy analysis, standards
resource allocation	budgeting, budgets, educational assessment, educational planning, funding formulas
state aid	full state funding, educational finance, finance reform, financial support, funding formulas, incentive grants, school funds, school support, state policy
performance funding	NONE
outcomes-based	NONE
outcomes	NONE
Education Full Text (12-14 in Table C-2)	
Root word	*Additional terms*
higher education	education, postsecondary education, higher education & state, higher education – finance, universities & colleges
funding formulas/schemes	education – finance
outcome-based education	educational accountability, performance, performance contracts in education
government aid to education	NONE
education and state	education, educational standards, state standards
performance funding	NONE

Appendix B: Percentages of Funding Allocated via Outcomes-Based Funding

	Jurisdiction	Title/Brief Description of Policy	% Funding Allocated via Outcomes-Based Funding
Australia		Tertiary Education Quality and Standards Agency (TEQSA)	9%
Canada			
	Alberta	Alberta Enterprise and Advanced Education (EAE)	
	British Columbia		
	Ontario	Ministry of Training, Colleges and Universities (MTCU)	< 2%
Denmark		Taximeter System	
Finland		The Finnish National Board of Education (FNBE) – The new University Act of 2010, core funding	34%
Germany		Excellence Initiative (launched in 2005)/The Higher Education Pact (2007)	20% (2006)
Italy		Quality Evaluation Research (VQR) 2004-2010 – ANVUR	7%
Poland		Medium-term expenditure framework (MTEF) and performance-based budgeting (PBB) (Webber D. 2007)	
Romania		The National Council for the Financing of Higher Education (CNFIS) – Base finance/complementary funding	
Sweden		Swedish Autonomy Bill	1.5%
Switzerland		Core funding for the Federal Institutes of Technology (FIT)	
United Kingdom		The framework for public service agreements (PSAs)	
United States			
	Arizona	In place 2012 SB 1530	
	Arkansas	Act 1203 of the Regular Session (Arkansas Higher Education Coordinating Board)	5%
	Colorado	Senate Bill 11-052 (Colorado Commission on Higher Education)	
	Illinois	In place 2011 HB 1503	< 1%
	Indiana	"Reaching Higher"; In place CHE Higher Ed Budget	5%
	Louisiana	performance agreement system (the GRAD Act)	15%

Jurisdiction	Title/Brief Description of Policy	% Funding Allocated via Outcomes-Based Funding
Massachusetts	In place 2013 HB 3538	
Michigan	Performance and Tuition Restraint Funding; In place 2012 HB 5372	3%
New Mexico	"Base Plus" formula model; In place LFC Hearing Brief	
New York	Formal discussions (Not yet)	
North Carolina	Performance Measures for student success (North Carolina Community College system); In transition SL 2012-142 Section 8.5	2%
Ohio	Ohio's Strategic Plan for Higher Education: 2008-2017; In place Section 371.20.80	
Oklahoma	Brain Gain	
Pennsylvania	The Pennsylvania State System of Higher Education (PASSHE)	2.4%
South Dakota	The South Dakota Opportunities Plan; In place Senate Bill 5	
Tennessee	Complete College Tennessee Act	100%
Texas	Closing the Gaps by 2015 (Texas Higher Education Coordinating Board); In place 2013 SB 1	10%
Virginia	State Council of Higher Education for Virginia (SCHEV)'s performance funding model; In place Virginia Higher Education Opportunity Act of 2011	
Washington	Student Achievement Initiative (SAI), State Board for Community and Technical Colleges)	0.8%