Do community college baccalaureate degree policies increase degree production?

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Abstract

A recent study by The College Board found, not surprisingly, that there is a positive correlation between education level and increased earnings. This relationship between higher education and higher income exists across all racial and ethnic groups, as well as for men and women, (Baum, Ma, & Payea, 2013). In addition to the benefits to the individual of higher education, there are many benefits to society as well. For instance, higher levels of education are related to lower unemployment and poverty rates, increased tax revenues, and less reliance on public assistance, (Baum et al., 2013). Given the myriad of benefits to individuals and society, and the need for an educated workforce to meet the demands of a globally competitive economy, there is a need to increase current levels of baccalaureate attainment.

Recently, some community colleges have been authorized to award bachelor's degrees, a potentially important state policy to increase baccalaureate completions. The community college baccalaureate (CCB) degree is unique in that the bachelor's degree is awarded by the community college rather than a four-year institution. CCB degrees are typically offered in education, healthcare and nursing, technology, business, and other workforce-oriented degrees in fields with high demand (Cohen & Brawer, 2008). The CCB is intended to provide affordable access to higher education, ease enrollment capacity issues, meet workforce demands, and serve working adults and those who are geographically limited in their ability to pursue postsecondary education (Bragg & Ruud, 2012).

Very little is known empirically about the effects of allowing community colleges to confer baccalaureate degrees, yet several states are currently engaged in heated debates about whether or not to allow the CCB. The CCB may increase the number of graduates in needed fields by increasing access and capacity, but it is also possible that overall state degree production in a field remains unchanged, as interested students simply switch from more

expensive four-year institutions to less expensive community colleges to obtain their degree. The purpose of this study is to investigate whether the number of baccalaureate degrees in specific fields has increased in states that have adopted the policy to allow community colleges to confer baccalaureate degrees.

Background

The community college developed out of a need to prepare a trained workforce and expand access to higher education beyond secondary school (Cohen & Brawer, 2008). Community colleges have assumed other functions that have been responsive to the needs of the local communities they serve. An extension of this responsiveness is the emergence of the community college baccalaureate degree in which a bachelor's degree requiring four years of study is conferred by a public community college.

Supporters of the CCB degree argue that such an offering is consistent with the mission to serve the educational needs of communities, and that the community college baccalaureate degree is needed because many students are unable to obtain baccalaureate-level education from a four-year university, whether due to cost, academic preparedness, or geographic location (Floyd & Walker, 2009; Hanson, 2009; McKinney & Morris, 2010; Ruud, Bragg, & Townsend, 2010). Opponents argue that there are other alternatives to address baccalaureate attainment needs and that the CCB degree is not necessary (Eaton, 2005; Wattenbarger, 2000). Critics further argue that a CCB would be viewed as a "second-class degree," and that for community colleges to offer baccalaureate degrees would shift attention and resources away from the core mission of community colleges (Levin, 2004; Wattenbarger, 2000).

Concerns about institutional identity, purpose, and mission are significant, however, it would be difficult to dispute that recent economic shifts have dramatically changed the need for

a highly educated and globally competitive workforce. To continue to serve the community and meet local needs, community colleges do need to remain flexible and adaptive. In fact, Levin notes that organizational change is often driven by the economic global marketplace, (Levin, 2004). Walker (2001) argues that the real community college mission is to prepare students such that they have the skills and qualifications needed job market, and often the required qualification is a baccalaureate degree.

There are many challenges associated with adopting a CCB policy: political opposition, tension between two-year and four-year public institutions, significant planning and effort required to transition to a CCB school, costs associated with upgrading facilities, equipment and resources, hiring. Why do it then? Some argue that the anticipated benefits of the CCB are worth the effort. The CCB is expected to increase access to baccalaureate education in communities with unmet need, especially those with working individuals, those with families, those in geographic locations where public four-year education is not accessible, and those generally underrepresented in higher education. The CCB provides a more affordable option than public four-year institutions; (Russell, 2013). The CCB is thought to be a way to encourage those with some college education to return and earn a bachelor's degree. Also, expand "community college commitment to economic development" and "respond to community needs for specialized programs," (Walker & & Pendleton, 2013) . It has also been noted that CCB programs address "public demand for academic programs associated with professions such as health care and education – fields that flagship public research universities and many regional comprehensive four-year institutions tend to underserve," (Koch & Gardner, 2013, p. 185).

Using the field of nursing as an example, there are multiple factors that are leading to a projected shortage of qualified nurses, both in practice and those who go on to teach nursing. In

the next 15 years, the U.S. population is expected to grow by about 13%. The field of nursing should also be growing to meet the demands of a growing population. However, nursing programs at public four-year institutions are not keeping pace with these needs, (Koch & Gardner, 2013). It has been reported that more than 36,000 qualified nursing applicants were rejected from baccalaureate degree-granting nursing programs in 2003-04 due to limited capacity or limited resources, (AASCU, 2005, cited in Koch & Gardner, 2013). By 2020, "experts believe there will be a national shortage of registered nurses reaching more than 800,000," (Koch & Gardner, 2013, p. 185). Beth Hagan, the Executive Director for the Community College Baccalaureate Association noted, "The university systems are overwhelmed with the demand for teachers and nurses, and not come close to the requirement of the health-care system…For that reason, several states have started to have community colleges confer BSNs," (Beth Hagan quoted in (Wood, 2009)

As of 2010, 54 institutions in 18 states had been approved to offer the CCB (Russell, 2010). Florida authorized the CCB in 2001 and, as of 2011, had a CCB program in 18 with programs in nursing, education, supervision and management, and engineering technology. Enrollment in Florida's CCB programs increased from 2,834 students in 2006 to 8,155 in 2009 – an increase of 188%, (Holcombe, 2010; Holcombe & Smith, 2010, cited in Floyd & Falconetti, 2013).

Other studies have looked at the impact of implementing the CCB. Rice (2013) notes that since Great Basin College (GBC) in rural Nevada implemented the CCB in 1999, about 500 students graduated from baccalaureate programs in education, nursing, and integrative studies (as of 2012). As of 2011, baccalaureate degrees accounted for almost 15% of the colleges degree awards annually. McKinney, Scicchitano, & Johns (2013) surveyed administrators at

administrators at all community colleges that have offered at least one baccalaureate degree since fall 2010 (n=37). With an 86% response rate results showed that common curricular areas for CCB programs include Business, Healthcare /nursing, Education, Technology, Public Safety/criminal justice, Social work/human services, Fine arts/communications, and Science/mathematics, The most common reasons cited for implementing the CCB was to increase baccalaureate access, address unmet needs in the community, improve access for underrepresented students. Interestingly, about 60% of students enrolled in CCB programs are age 25 or older, (McKinney, Scicchitano, & Johns, 2013).

In an exploratory study of teacher education bachelor's degree programs offered either by community colleges or by former community colleges that have subsequently been reorganized as senior colleges, Floyd & St. Arnauld (2007) surveyed administrators from ten associate's degree granting schools now offering baccalaureate teacher education programs in six states (WV, UT, GA, NV, NM, FL). Their results suggested that the CCB teacher education programs have been successful as measured by student achievement and job placement. Among the eight of 10 schools with outcome data on licensure exam pass rates, seven had 100% and one had 98% pass rates. The authors note,

> It is admittedly limited in its scope and methodology but this study suggests that those community colleges that have introduced a limited number of baccalaureate programs have not abandoned their long-standing commitment to access and a comprehensive curriculum. Although all 10 colleges contacted for this study are no longer classified by the Carnegie Foundation as community colleges but rather as "four-year baccalaureate/associate's" colleges or "associate/public 4-year" institutions (Townsend, 2006), those individuals interviewed in this study emphasized that their institutions retain a strong commitment to a community-based mission. Furthermore, although the Carnegie Foundation may have reclassified these institutions, the states of West Virginia, Florida, and Nevada still regard these institutions as community colleges in statute and for purposes of funding. (Floyd & St. Arnauld, 2007, p. 80).

Despite the controversy that the CCB has engendered in some states, it is not clear that allowing the CCB will increase degree production within a state, as many state legislatures intend when they allow CCBs. There are three main scenarios that could occur after a state enacts a CCB policy:

- *Increase in degree production at public universities, with no change for other types of institutions.* One of the major drivers for allowing CCB degrees is concern that the state is not producing enough educated workers in a specific field, due to restricted access to the educational pipeline. If pent-up demand for degrees in a specific field exists, allowing CCB degrees should increase degree production at public institutions, but not other types of institutions.
- *Increase in degree production at public universities, with a corresponding decrease at other types of institutions.* One feature of community colleges is their low tuition, especially compared to private, not for profit and for profit institutions. One possible outcome after enactment of a CCB policy is that potential students who would have attended an expensive private institution might instead attend a nearby, cheaper community college. This implies that overall degree production for a state would remain stable, but that the mix of degree production across institution types would shift.
- *No change in overall degree production.* Increasing access to the baccalaureate will not necessarily increase degree production if there is not pent-up demand on the part of potential students for that particular field. Many other factors affect whether students pursue degrees in the workforce-oriented fields at which the CCB degree is targeted. It is possible that policymakers may overestimate the effect of access on

> degree production, such that allowing the CCB degree for a field in a state may yield no significant impact on degree production, simply because access to college is not the major inhibiting factor preventing individuals from working in that field in that state.

It is clear that there are varied and strongly held opinions on the issue of whether or not the CCB is a good idea and an appropriate solution to meet the increasing needs for baccalaureate graduates. Existing empirical studies of the CCB are generally qualitative or descriptive – what we don't yet have is a systematic study of the impact of the CCB on baccalaureate degree production. Our study, using fixed effects with state-level panel data, will allow us to examine baccalaureate degree production rates nationally, comparing those that have adopted the policy with others. The longitudinal data with state fixed effects enables us to isolate the effect of the policy change to assess whether any change in degree production is attributable to the policy change. Otherwise, the change in degree production could be related to other unmeasured factors.

Methodology

We analyze the effect of allowing community CCB degrees on degree production using a state-level panel dataset spanning the years 1997-2011, with state fixed effects to take into account unobserved heterogeneity. The dependent variable is the number of baccalaureate degrees granted within a state in the field of nursing, defined as all degrees awarded in the 4-digit Classification of Instructional Programs code 51.38, Registered Nursing, Nursing Administration, Nursing Research and Clinical Nursing.

These data are taken from individual institutional IPEDS Completions Surveys for each year, and are aggregated to the state level depending on the type of institution granting the

degree: public, private not-for-profit, and for-profit. Examining the effect of the CCB policy enactment on these three types of degree production will shed some light on which of the three scenarios described above best describe the effect of CCB policies.

We focus on a single field of study for two reasons. First, the number of different disciplines in which CCB degrees have been granted varies, and nursing has been one of the most popular. If these polices are indeed increasing degree production, we should be able to most easily detect the effect for academic disciplines that have been widely adopted across several different states, as opposed to those that have been adopted by only a few states. Second, the major threats to inference in our models are time-varying variables that are correlated with both degree production and implementation of a CCB policy. As discussed below, wages are one of these variables, and state-level wages for registered nurses are available from the Bureau of Labor Statistics. Linking occupational wages to academic disciplines is less clear for other fields of study.

Our measure of policy change is based on an American Association of State Colleges and Universities policy brief (Russell, 2010) that surveys the growing movement of allowing community colleges to offer baccalaureate degrees. The brief provides a list of states implementing the CCB and the year of first approval (see Table 1).

A primary issue here is defining what is meant by a CCB. Currently, states have taken one of two approaches to the CCB (Russell, 2010). First, a community college is allowed over time to transform itself into a four-year institution. Utah Valley Community College, for example, was authorized to offer baccalaureate degrees and was renamed Utah Valley State College. Second, a community college maintains its traditional structure, and is allowed to offer

a baccalaureate degree in only a few areas, typically those viewed as high need by the state. Florida has taken this approach with its community college system.

From a policy perspective, it is difficult to distinguish between the two types of institutions. Both offer a mix of associate's and baccalaureate degrees, with the main difference being the proportion of degrees offered at each level. For states wishing to increase the number of degrees awarded in a particular area, say nursing, it does not really matter whether a community college adopts a broad range of baccalaureate programs that include nursing, or whether a community college is allowed to only offer a single baccalaureate degree in nursing – the effect on state nursing degree production should be the same. Thus, we do not distinguish between the different ways that community colleges have been authorized to offer CCB.[1]

It is also not clear when the policy should have an effect on degree production. Once a baccalaureate degree is allowed, students finishing an Associate's degree at that time could conceivably complete their baccalaureate degree within two years of the policy enactment. New students, however, would take at least four years to complete their degree after policy enactment. We test for the effects of the CCB policy using two- and four-year lags after a state first allows CCB degrees in nursing.

The main threat to inference with our analytic approach is time-varying variables that are correlated with state degree production and whether a state adopts a CCB policy. We include two sets of variables to reduce this threat. The first, and most important, are variables that measure the demand for nurses within a state. It is likely that as demand for registered nurses increases, hospitals and other providers begin to lobby the legislator to expand nursing degree programs, resulting in the passage of a CCB policy. Rising demand will also increase wages, attracting

[1] Given our reading of the literature, in practice it may not be possible to clearly distinguish between the two approaches in terms of coding states.

more students to pursue a nursing degree than would otherwise. Implementation of a CCB policy for nursing degrees would then seem to increase degree production, when market forces might actually be responsible for the increase.

We use state-level Occupational Employment Statistics data from the Bureau of Labor Statistics (2014) that provides the annual wages for registered nurses (occupation code 29-1141) Wages provide the measure of state-level demand that we include in our fixed effects models. Because the Bureau of Labor Statistics does not provide state-level salary data by occupation before 1997, 1997 is the first year in our panel dataset.

The second set of variables consists of control variables that could plausibly be related to both degree production and CCB policy implementation in some way. These include the size of the state population, poverty rate, unemployment rate, and the percentage of Democrats in the upper and lower houses of the state legislature.

Results

Tables 2 and 3 show the results of the state-level fixed-effects models, with the number of nursing degrees produced by public, private not-for-profit, and for-profit institutions as the dependent variables, and two- and four-year lags after states first allowed CCB degrees. While the direction of the coefficients is in line with students switching from higher-priced private institutions to public institutions for their nursing degree, the size of the coefficients is not substantively significant, and neither are they statistically significant.

One possible explanation for these null results is the variation in treatment intensity across states, as seen in Table 1. With the exception of Florida, states generally allow only one or two community colleges to grant baccalaureate degrees in nursing. Given the size of some of these states, it is likely that allowing only a single institution to grant degrees will yield

negligible effects on state-level degree production. Florida, however, has been very aggressive in expanding CCB degrees, allowing 11 different community colleges the ability to grant baccalaureate degrees in nursing.

We test the possibility that CCB policies have only had a significant effect in the state of Florida by recoding our measure of CCB degree policy implementation, such that all CCB states other than Florida are treated as non-CCB states. The results from these models are presented in Tables 4 and 5. As with the previous analyses, the coefficients for the two- and four-year lag variables are not statistically significant.

Discussion

Awarding baccalaureate degrees at the community college level has received much attention during the past decade. Currently 18 states allow some community college to offer these degrees, and there is even a national association devoted to the movement (the Community College Baccalaureate Association, www.accbd.org). Despite the attention this alternative pathway to completion has received, our analysis finds that opening up this pathway has no discernible effect on state-level nursing degree production.

There are several explanations for our null results. First, measurement error could be limiting our ability to isolate the effect of allowing CCB degrees. Given the variation across states in the process of approving the CCB, how it is implemented, and how changes are documented, it is difficult to know with certainty how effective, if at all, the CCB policy may be. From our conversations with the executive director of the Community College Baccalaureate Association, there appears to be little systematic research behind the dates listed in articles describing when and where CCB degrees have been implemented. For example, these dates could be a mix of legislative approval, implementation, and first cohort to begin dates. We plan

to combine analysis of IPEDS data with qualitative research for each CCB state to confirm the dates listed in Russell (2010).

Second, the field of nursing in particular is affected by the shortage of qualified teaching faculty. While some community colleges are offering CCB degrees in nursing, the size of these programs may be limited to due difficulty in hiring nursing faculty. The implication here is that as these programs grow in size, there effect may become more apparent.

Third, and related to the previous point, these programs have not until very recently graduated many students. In the last year of our panel (2011), these programs graduated about 1,100 students, compared with 48,300 from public four-years and 34,300 from private, four-year not-for-profits. Such a small number of graduates, spread over several states, may simply be to small to have a measurable impact on state-level degree production. To address this concern, we plan to include teacher education and information technology programs in the next version of the paper.

Finally, the small number of graduates from these programs raises the question of whether implementation of a CCB policy is an adequate response to workforce shortages in a state. The implicit assumption of these programs is that lack of access to a degree program is a major factor in the workforce shortage. Given the slow growth in the CCB nursing programs during the past decade, it is likely that factors other than access are driving nursing shortages within states.

References

American Association of State Colleges and Universities. (2005). Higher education's role in solving the national nursing shortage. *AASCU Policy Matters.* Retrieved from http://www.aascu.org/uploadedFiles/AASCU/Content/Root/PolicyAndAdvocacy/PolicyPublications/Nursing%20Shortage.pdf.

Baum, S., Ma, J., & Payea, K. (2013). Education Pays: The Benefits of Higher Education for Individuals and Society. Trends in Higher Education Series. The College Board. Retrieved 3/2/2014 from http://www.dev.skylinecollege.edu/sparkpoint/about/documents/education-pays-2013-full-report.pdf

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics, accessed February 1, 2014: www.bls.gov/oes/.

Cohen, A. M., & Brawer, F. B. (2008). The American Community College. Fifth Edition. The Jossey-Bass Higher and Adult Education Series.

Eaton, J. (2005, October 28, 2005). Why Community Colleges Shouldn't Offer Baccalaureates. The Chronicle of Higher Education, 52, 25-26.

Floyd, D., & Garcia Falconetti, A. (2013). The Baccalaureate Movement in Florida: A Decade of Change. In N. Remington, & R. Remington (Eds.). *Alternative Pathways to the Baccalaureate: Do Community Colleges Offer a Viable Solution to the Nation's Knowledge Deficit?* (pp. 85-107). Sterling, VA.: Stylus Publishing.

Floyd, D., & St. Arnauld, C. (2007). An Exploratory Study of Community College Baccalaureate Teacher Education Programs: Lessons Learned. *Community College Review*, 35-66.

Floyd, D., & Walker, K. (2009). The Community College Baccalaureate: Putting the Pieces Together. *Community College Journal of Research and Practice,* 33, 90-124.

Hanson, C. (2009). The Community College Baccalaureate: An Historic and Cultural Imperative. *Community College Journal of Research and Practice*, 985-994.

Holcombe, W.N. (2010, May). *To benefit our state: Baccalaureate degrees in the Florida College System.* Presentation at the National Institute for Staff and Organizational Development's annual meeting, Austin, TX.

Holcombe, W.N., & Smith, E.J. (2010). *Baccalaureate program trends and accountability* (Program Review). Retrieved from the Florida Department of Education website: http://www.fldoe.org/fcs/osas/evaluations/pdf/fyi2010-02.pdf.

Koch, A., & Gardner, J. (2013). The Comprehensive Baccalaureate: An Idea Whose Time has Come! In N. Remington, & R. Remington (Eds.). *Alternative Pathways to the Baccalaureate: Do Community Colleges Offer a Viable Solution to the Nation's Knowledge Deficit?* (pp. 178-189). Sterling, VA: Stylus Publishing.

Levin, J. S. (2004). The community college as a baccalaureate-granting institution. Review of *Higher Education*, 28(1), 1-+. doi: 10.1353/rhe.2004.0029

McKinney, L., & Morris, P. A. (2010). Examining an Evolution: A Case Study of Organizational Change Accompanying the Community College Baccalaureate. *Community College Review*. 37 (3), 187-208.

McKinney, L., Scicchitano, M., & Johns, T. (2013). A National Survey of Community College Baccalaureate Institutions. *Community College Journal of Research and Practice,* 37(1), 54-63.

Rice, J.P. (2013). Mission Metamorphosis. In N. Remington, & R. Remington (Eds.). *Alternative Pathways to the Baccalaureate: Do Community Colleges Offer a Viable Solution to the Nation's Knowledge Deficit?* (pp. 36-49). Sterling, VA: Stylus Publishing.

Russell, A. (2010). Update on the community college baccalaureate: Evolving trends and issues. *Policy matters: A higher education policy brief*. Washington, DC: American Association of State Colleges and Universities. Retrieved from http://www.congressweb.com/aascu/docfiles/AASCU_Updated_Community_College_Baccalaureate.pdf

Russell, A. (2013). Update on the community college baccalaureate: Evolving trends and issues. In N. Remington, & R. Remington (Eds.). *Alternative Pathways to the Baccalaureate: Do Community Colleges Offer a Viable Solution to the Nation's Knowledge Deficit?* (pp. 67-82). Sterling, VA: Stylus Publishing.

Ruud, C. M., Bragg, D. D., & Townsend, B. K. (2010). The Applied Baccalaureate Degree: The Right Time and Place. *Community College Journal of Research and Practice* 34, 136-152.

Walker, K. (2001). Opening the Door to the Baccalaureate Degree. *Community College Review*, 29(2), 18-28.

Walker, K., & & Pendleton, E. (2013). The History of the Community College Baccalaureate Movement: Meeting the Educational Needs of the 21st Century In N. Remington, & R. Remington (Eds.). *Alternative Pathways to the Baccalaureate: Do Community Colleges Offer a Viable Solution to the Nation's Knowledge Deficit?* (pp. 7-16). Sterling, VA: Stylus Publishing.

Wattenbarger, J. L. (2000). Should Community Colleges Offer Four-Year Degrees? *The CQ Researcher*, 10(15), 345.

Wood, D. (2009). A New Solution? Community Colleges Begin Offering the BSN. Retrieved 11 15, 2013, from NurseZone.com: http://nursezone.com/student-nurses/student-nurses-featured-articles/A-New-Solution-Community-Colleges-Begin-Offering-BSN-Degrees_32340.aspx

Wortock, J. (2012, October 4). Information about the RN-BSN at Community Colleges Model: RN-BSN Exemplar - St. Petersburg College. Retrieved from Campaign for Action: http://campaignforaction.org/resource/informatio-about-rn-bsn-community-colleges-model

Table 1. Community College Baccalaureate Nursing Degree Programs

State	Year of first approval	N of institutions with nursing programs
Arkansas	1998	1
Florida	2001	11
Georgia	1997	3
Indiana	2004	1
Louisiana	2001	1
Nevada	1998	1
New Mexico	2004	1
New York	1996	3
Utah	1992	2
Washington	2005	1

Source: Russell (2010), p. 2.

Table 2. Nursing Degree Production, State-Level Fixed Effects Models

	Public		Private, not for profit		For profit	
	B	SE	B	SE	B	SE
CCB policy, two-year lag	11.348	42.301	-22.901	73.682	-65.244	53.710
RN annual wages	-10.134*	5.376	-8.462	6.781	11.370	11.345
State population <5	0.562	0.489	1.520	1.266	-2.574	1.961
State population 5-17	-0.026	0.407	-1.925**	0.811	0.294	0.763
State population 18-24	-1.653**	0.653	0.513	0.883	-1.340	2.048
State population 25-44	-0.094	0.234	-0.023	0.299	0.583	0.701
State population under 45-64	0.402*	0.210	0.418	0.343	0.123	0.902
State population >64	2.315***	0.455	0.178	0.713	1.158	1.551
Poverty rate	1.068	3.830	3.043	4.731	10.939	8.920
Unemployment rate	-2.135	7.907	-2.878	9.043	10.944	15.939
Democratic % of lower house	-0.064	1.517	-1.687	1.989	0.006	2.212
Democratic % of upper house	-1.596	1.336	2.330	1.448	-0.267	3.192

Note: *** p<0.01, ** p<0.05, * p<0.1. All models include state and year fixed effects, with standard errors clustered by state; n=686. Analyses do not include Nebraska.

Table 3. Nursing Degree Production, State-Level Fixed Effects Models

	Public		Private, not for profit		For profit	
	B	SE	B	SE	B	SE
CCB policy, four-year lag	22.270	43.093	-28.591	72.390	-74.875	63.144
RN annual wages	-10.089*	5.385	-8.478	6.810	11.355	11.306
State population <5	0.575	0.493	1.512	1.257	-2.590	1.969
State population 5-17	-0.021	0.409	-1.922**	0.805	0.308	0.764
State population 18-24	-1.666***	0.645	0.527	0.892	-1.307	2.050
State population 25-44	-0.100	0.232	-0.024	0.296	0.575	0.698
State population under 45-64	0.404*	0.208	0.414	0.342	0.111	0.904
State population >64	2.313***	0.457	0.184	0.714	1.173	1.557
Poverty rate	0.863	3.619	3.290	4.590	11.575	9.343
Unemployment rate	-2.094	7.901	-2.926	9.108	10.824	16.066
Democratic % of lower house	0.016	1.497	-1.751	1.996	-0.137	2.148
Democratic % of upper house	-1.608	1.339	2.337	1.448	-0.254	3.180

Note: *** p<0.01, ** p<0.05, * p<0.1. All models include state and year fixed effects, with standard errors clustered by state; n=686. Analyses do not include Nebraska.

Table 4. Nursing Degree Production, Florida versus All Other States

	Public		Private, not for profit		For profit	
	B	SE	B	SE	B	SE
CCB policy, two-year lag	-48.649	80.959	31.685	150.033	39.847	95.900
RN annual wages	-10.827**	5.497	-7.978	6.759	11.998	11.565
State population <5	0.577	0.490	1.524	1.340	-2.520	1.922
State population 5-17	-0.069	0.389	-1.870**	0.889	0.393	0.767
State population 18-24	-1.605**	0.632	0.474	0.895	-1.398	2.091
State population 25-44	-0.065	0.233	-0.063	0.327	0.501	0.686
State population under 45-64	0.413*	0.215	0.409	0.354	0.103	0.907
State population >64	2.276***	0.452	0.210	0.756	1.198	1.553
Poverty rate	0.956	3.992	3.432	4.747	10.930	8.940
Unemployment rate	-3.147	7.762	-2.794	8.968	11.130	16.088
Democratic % of lower house	-0.142	1.520	-1.542	2.029	0.356	2.254
Democratic % of upper house	-1.532	1.346	2.262	1.451	-0.368	3.187

Note: *** p<0.01, ** p<0.05, * p<0.1. All models include state and year fixed effects, with standard errors clustered by state; n=686. Analyses do not include Nebraska.

Table 5. Nursing Degree Production, Florida versus All Other States

	Public		Private, not for profit		For profit	
	B	SE	B	SE	B	SE
CCB policy, four-year lag	-0.398	82.718	177.746	133.913	-0.362	133.489
RN annual wages	-10.609*	5.499	-7.331	6.592	11.817	11.338
State population <5	0.563	0.485	1.475	1.350	-2.509	1.917
State population 5-17	-0.034	0.386	-1.791**	0.851	0.364	0.744
State population 18-24	-1.639***	0.629	0.367	0.886	-1.370	2.104
State population 25-44	-0.087	0.227	-0.101	0.314	0.519	0.685
State population under 45-64	0.406*	0.210	0.410	0.338	0.108	0.911
State population >64	2.296***	0.456	0.207	0.727	1.181	1.571
Poverty rate	1.020	3.985	3.636	4.736	10.877	8.860
Unemployment rate	-3.334	7.798	-3.262	9.116	11.286	16.047
Democratic % of lower house	-0.082	1.512	-1.469	2.026	0.306	2.257
Democratic % of upper house	-1.566	1.340	2.217	1.456	-0.340	3.189

Note: *** p<0.01, ** p<0.05, * p<0.1. All models include state and year fixed effects, with standard errors clustered by state; n=686. Analyses do not include Nebraska.