The Production and Placement of Political Science Ph.D.s, 1902-2000

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ABSTRACT

Building on the pioneering work of Somit and Tanenhaus (1963, 1964, 1967) that covers the first sixty years of the 20th century, we look at the growth and evolution of Ph.D. production in political science over the period 1902-2000, and at placement patterns in Ph.D. granting departments in the discipline in the decades between 1960 and 2000. Our main concern is with examining whether the consistent pattern found by these authors of segmentation in the placement market, with a small set of schools forming a relatively self-enclosed elite, but with a wide circulation of their Ph.D.s throughout the discipline, continued to hold during the last four decades of the 20th century. We find that it did. While we see an expansion over the course of the 20th century of Ph.D. production from a handful of schools to a set of 132 Ph.D. producing institutions, with a decreasing inequality in concentration of Ph.D. production as exhibited in Lorenz curves, an elite set of schools, drawing faculty mostly from themselves and each other, still play a unique role in shaping the teaching of Ph.D.s in the discipline.
This paper is the second of a three-part series dealing with quantitative indicators of impact and prominence in the political science discipline. In these essays we assess some of the changes in the discipline since the publication of the Somit and Tanehaus (1963, 1964, 1967) studies that cover the first sixty years of the 20th century. In the first paper of the series, published in the January 2007 issue of *PS*, we focused on individual visibility and impact of all regular faculty in Ph.D. granting departments by using SSCI-based cumulative citation counts to their lifetime work. In particular, we identified the 400 most cited faculty members in the discipline, and we found that citation counts are strongly influenced by factors such as date of Ph.D., subfield and gender. This, the second paper in the series, shifts to departmental-level data and details the historical changes in Ph.D. production and placement rates from 1902-2000. The last paper in the series, to be published in the July 2007 issue of *PS*, will then combine the individual level citation data presented in the first paper with the Ph.D. production and placement data in the second paper in order to look at the factors that affect reputational rankings of political science Ph.D. granting departments.

The remainder of the paper is organized into three sections. In the first, we provide an overview detailing the changes that have occurred in the discipline over the period 1902-2000. We do this by spelling out some general time trends in political science Ph.D. production and placement over the last century. We update data on various overall trends identified by Somit and Tanenhaus, and complement their analyses by providing a breakdown by region (Northeast, West, Midwest, South); by type of institution: public versus private; and by old producers (pre-1930 Ph.D. producing department) versus newer entrants. In the second section, we consider the direct consequences that result from these changing characteristics of the discipline, such as the likelihood that political science Ph.D.s will get jobs at Ph.D. granting institutions. In the third
section of the paper we look at department-specific production and placement patterns. We conclude with a discussion of our findings as they relate to the degree of elitism in production and placement of political science Ph.D.s in the last part of the twentieth century as compared to earlier in that century.

However, there is one major limitation to our analysis which we would like to make clear to the reader. We recognize that our portrait of the discipline is not comprehensive as we only consider Ph.D. granting departments in our analysis. Due to the fact that our primary units of analysis are Ph.D. production and placement rates, we excluded all schools that do not have a Ph.D. program from our dataset. This does not mean that non-Ph.D. granting schools fail to make a significant contribution to the discipline, rather it is that our measures do not allow us to include these schools.

I. General Time Trends and Patterns in the Production and Placement of Ph.D.s, 1902-2000

In looking at the number of U.S. political science Ph.D.s produced yearly over the course of the 20th century, Figure 1 shows us an almost uninterrupted explosive pattern of growth for most of the century. In particular, with the exception of limited growth in the 1940s (and an actual dip during WWII), Ph.D. production more than doubles between 1920 through 1930, and doubles again in the 1930-39 period, with the greatest increase of all in the 1950s, a near tripling, and then a further doubling of Ph.D. production in the 1960s, and then again in the 1970s. Although there is a brief period of mild decline in numbers of yearly Ph.D.s produced during part of the 1980s, by the late 1980s we see a return to increases in Ph.D. production, albeit at a much more modest rate -- with growth in the 1990s averaging a little under 3 percent annually.¹
The overall general pattern of greatly increasing numbers of political science Ph.D.s is paralleled by a concomitant increase in the number of Ph.D. granting institutions over the course of the 20th century. Only five institutions were producing political science Ph.D.s ca.1910, whereas by 1935 the number quadruples to 20, and by 1970 the number (more than) quadruples again, to 84. After that, growth has continued, but at a much slower rate. For example, in the 1990s 14 new Ph.D. granting departments were added. At the end of the 20th century, there were 132 departments that had produced at least one graduate Ph.D. during the previous decade.

As shown in Figure 2, in the early decades of the discipline, political science Ph.D. production was largely confined to institutions located in the Northeast and Midwest. Today, Northeastern and Midwestern schools total less than half of all Ph.D. producing programs in the U.S. and produce just barely above half of all Ph.D.s. In the South and West, we observed growth in both numbers of Ph.D. departments and share of Ph.D. production that paralleled population growth in these regions. For example, while the West’s population grew roughly thirteen fold, from about 4 million in 1900 to 52.7 million in 2000; the number of western Ph.D. granting universities has grown by a factor of twelve, from 2 to 24.

We also see a declining role of private institutions in Ph.D. production. For example, in the first decade of the 20th century, while only a third or so of the Ph.D. granting institutions were private, 85 percent of Ph.D.s were produced by private institutions; but by the last decade of the 20th century, we find near parity of production among public and private institutions. However, private schools continue to place more than their share of graduate students in Ph.D. granting institutions. In the period 1960-69, 42 percent of all placements at Ph.D. granting
institutions were graduates of private universities; in each of the succeeding three decades that percentage rises to 52 percent. Here, as seen in the early history of the discipline, private institutions are represented slightly out of proportion to their share of Ph.D. granting departments. But, it is important to note that the continued greater success of private institutions is largely due to the production numbers and placement success of a small number of elite institutions such as Harvard, Columbia, Yale, etc.

With the creation of new Ph.D. granting departments, Ph.D. production began to democratize; however, the production share of “old” (pre-1930 producing) departments, remained substantial despite the fact that these departments became an increasingly smaller percentage of all departments. In the 1970s, the proportion of all Ph.D.s produced by “new” departments, i.e., those that did not begin producing Ph.D.s until after 1930, was 61 percent; in the 1980s that proportion was 69 percent; and in the 1990s that proportion was still 69 percent even though “new” departments then made up almost 85 percent of all Ph.D. granting departments. The overrepresentation of “old” departments is much more apparent when we consider placement rates of Ph.D. granting institutions. When we look at Ph.D. placements at Ph.D. granting institutions over the entire 1960-2000 period, we see that 62 percent of all placements come from the 20 schools that were producing Ph.D.s as far back as the 1930s, while 38 percent of all placements come from the 112 departments which have much more recently jointed the ranks of political science Ph.D. producers. However, we also find the intriguing result that older departments are more likely to hire faculty from older departments than are newer departments, even though both hire a majority of their faculty from older institutions: 81 percent of the faculty at older departments come from older departments while only 56 percent of the faculty at newer departments come from older departments.
II. Two Direct Consequences of the Expansion of the Discipline

The dramatic growth pattern we see in Figure 1 in the latter part of the 20th century has created major changes in the age profile of the discipline. The rapid growth in the profession in the immediate post-WWII period led Somit and Tanenhaus (1963: 938 ) to emphasize the youthfulness of the discipline ca. 1961, with 71 percent of then living political scientists (and 79 percent of those employed at academic institutions) having received their Ph.D. degrees within the previous fifteen years. Similarly, in the very earliest days of the profession we would have seen a youthful profession – where age is judged by time from Ph.D. – since Ph.D.s were being created largely ex nihilo. Looking ca 2000, however, we see a much older profession. For example, only 32 percent of those employed at Ph.D. granting institutions received their degree in the previous 15 years, while 53 percent had received their Ph.D.s 25 or more years earlier.

Because the increase in the number of Ph.D. granting institutions has not been as steep as the increase in the number of Ph.D.s produced, perhaps the most important consequence of expansion of the discipline is that it has become increasingly inevitable that most Ph.D.s must take a job at something other than a Ph.D. producing department. It would take only 5 years of political science Ph.D. production at current rates (with an average yearly production rate between 1990-1999 of 846) to fill all the roughly 4000 positions in the 132 Ph.D. granting departments.

III. Differences across Individual Departments in Ph.D. Production and Placement, with a Focus on the Period from 1960 Through 2000

While the political science discipline has witnessed significant growth over the last century, it is still unclear how this growth has changed the culture of the discipline. Looking at data from 1961 and earlier, Albert Somit and Joseph Tanenhaus, the two leading scholars on the
history of the discipline, characterized political science as effectively bifurcated between top
Ph.D. granting departments and other Ph.D. granting departments, with Ph.D.s from lower
ranked institutions frozen out of careers at the elite departments:

> We have been accustomed to speaking of the Ph.D. as a ‘union card.’ … But we might be
closer to reality if we recognized the existence of two types of doctoral credentials. One
type does not insure appointment to the best departments, but at least makes it possible;
the other, with rare exceptions makes the bearer an academic untouchable in these
departments. (Somit and Tanenhaus, 1963: 938)

Thus, the culture of the discipline through the first half of the century was characterized by a
striking degree of elitism which established that not all departments were considered to be equal.
Our chief concern in this section of the paper is to examine the extent to which this portrait of
political science remains accurate today. Has the expansion of Ph.D. granting departments in the
discipline resulted in greater democratization of the Ph.D. placements? In seeking to address this
issue, we look at patterns of Ph.D. production\(^6\) and placement\(^7\) in the discipline in the latter part
of the twentieth century.

To begin, we compare changes in both Ph.D. production and placement rates over the last
four decades in order to identify any shifts in inequality since the Somit and Tanenhaus studies.
Using Lorenz curves, we find that the growth in the number of Ph.D. institutions has been
accompanied by a general pattern of decreasing inequalities in production. Still, for the four
decades in the 20\(^{th}\) century for which we have reported complete or near complete data, we can
also read from the family of Lorenz curves shown in Figure 3 that, departmental Ph.D.
production rates are far from uniform. In every decade, the 50 percent of the departments which
are below the median in number of Ph.D.s produced have produced no more than 20 percent of
the Ph.D.s, and usually much less. Thus, despite some increasing equality in Ph.D. production
patterns, great inequality across departments remains the norm.
Moreover, exactly as we would expect, certain departments have been much more effective at placing students at a Ph.D. granting department. We find that, unlike what we find for placement, high Ph.D. placement rates are concentrated among a limited number of departments. When we look by decade at Lorenz curves of Ph.D. placements by department in each of the four decades from 1960 to 2000 (see Figure 4), we find a much higher level of inequality than that for the corresponding decade of production data, with virtually no change over the forty year period. More specifically, each of the four Lorenz curves for Ph.D. placements in Figure 4 is located roughly between the 1901-1910 and the 1948-58 Lorenz curves for Ph.D. production shown in Figure 3.

Turning to data on individual department placement and production rates, we can identify the specific departments which have largely dominated the discipline in terms of Ph.D. production and placement rates. Table 1 presents a list of departments by number of Ph.D.s produced for the various decades in the 20th century for which we have data. While some schools remained high producers of Ph.D.s over the 20th century, e.g., Berkeley, Chicago, Columbia, Harvard, Johns Hopkins, Michigan; other schools, including large Midwestern schools such as Indiana, Iowa, the University of Illinois-Urbana-Champaign, and Wisconsin, saw their relative rates of Ph.D. production go down considerably; while schools such as Brandeis, Ohio State, University of Illinois-Chicago, and the University of Southern California considerably upped their Ph.D. production rank. If we look at the top ten producers of political science Ph.D.s for at least one of the decades in our data set, we find Columbia, Harvard and Chicago are the only three schools to be consistently among the top ten in all seven decades for
which we have data. UC Berkeley is next, in the top ten in five of the seven decades. Iowa, Johns Hopkins, Michigan, New York University, Pennsylvania, and the University of Southern California make it in three decades, while Brandeis, Claremont Graduate School, University of Illinois-Urbana-Champaign, Princeton, Wisconsin, and Yale each make the list of top ten Ph.D. producers twice, and American, University of Connecticut, Fordham University, Georgetown, Indiana, University of Illinois-Chicago, MIT, Minnesota, Ohio State and Pittsburgh are each on the list once.

<<Table 1 about here>>

There is even more consistency across the past four decades of the 20th century (ones for which we have data at the departmental level) in the set of departments which are successful in placing large numbers of their students in other Ph.D. granting department. Yet, if we compare Tables 1 and 2, we find that many of the departments which produce large numbers of Ph.D.s are not that successful in placing their graduates in Ph.D. granting institutions. There were 26 different departments which made the top ten in terms of production during at least one decade between 1902 and 2000. However, in terms of placing their students in Ph.D. granting institutions in the U.S (ca. 2000), only twelve of these 26 top Ph.D. producing departments made the top ten placement list in any of the four decades between 1960 and 2000 (see Table 1). Of these twelve, when we pool the data over the four decades shown in Table 1, we find eight departments emerging at the top. These eight (Berkeley, Chicago, Columbia, Harvard, Michigan, Princeton, Stanford, Yale) are shown bolded in Table 2.

<< Table 2 about here >>

From an historical perspective, particularly interesting omissions from Table 2 are departments such as Johns Hopkins, the University of Illinois-Urbana-Champaign, Iowa and Pennsylvania, which were among the most prestigious departments in the early days of the
discipline (See Somit and Tanenhaus, 1967: 105). Also, the changes downward in the period covered in Table 1 in the rankings of schools like Indiana, Northwestern and Syracuse, and the upward shifts for MIT and Ohio State, are perhaps as striking as the general stability in the rankings of the eight core departments.

The top eight producing departments that we have previously identified, which we will refer to as the “big eight,” exert powerful influence on the profession as a whole by directly or indirectly shaping the faculty who train the discipline as a whole. We say that a set of departments, $A$, **majority dominates** a department $j$, if a majority of the faculty teaching at $j$ received their Ph.D.s from any of the departments in the set $A$; while $A$ is said to **indirectly (at one remove) majority dominate** $j$ if $A$ does not majority dominate $j$, but a majority of the faculty at $j$ either were trained by $A$ or were trained at departments the majority of whose faculty came from $A$. We define **indirect majority dominance at the kth remove** in like manner. These eight departments may be said to self-dominate, in that a majority of the faculty in each of these departments comes from the set of eight. But, the graduates of these departments also constitute a majority of the faculty at 32 other departments. Thus, these eight departments produce a majority of faculty at 40 departments — a rather strong indicator of how pervasive their students are.

Moreover, these 40 departments include most of the departments which place high numbers of faculty at other Ph.D. granting departments (19 out of the top 30 in placements), and thus the big eight can be expected to indirectly shape additional departments in whose faculty their Ph.D.s do not comprise a majority but whose faculty come either from the big eight or from departments where big eight trained faculty constitute the majority. Indeed, when we look at this next tier of penetration, we find an additional 62 schools where a majority of faculty come
either from the big eight or from schools where big eight faculty make up a majority. Thus, 103 of the 132 departments in political science (78 percent) are either directly or at first remove, majority dominated by the big eight. Moreover, all of the major Ph.D. producing departments fall into this set of 103. And, finally, all departments in political science are either directly or at first or second remove majority dominated by the big eight.

However, there are some regional differences. While all but a handful of schools in the Northeast and the West are directly or indirectly dominated by the big eight, and an overwhelming majority of the schools in the Midwest are also directly or indirectly dominated by the big eight, only 59 percent of the Southern schools are directly or indirectly dominated by the big eight. The rest of the southern schools are majority dominated by the big eight only at second remove. Thus, to paraphrase V. O. Key, southern schools are different – they are more insular than the rest of the profession. But even they are only somewhat insulated from the powerful influence of the top-placing schools.

For the big eight departments we identified, the ratio of students placed in Ph.D. granting institutions to the total Ph.D.s produced for the period 1966-2000 was still only 0.32, i.e., we may estimate that something like 68 percent of the Ph.D.s produced by the big eight did not have jobs in Ph.D. granting departments ca. 2000—most likely a majority of Ph.D.s are placed at non-Ph.D. granting schools for which we do not have data, or in non-academic jobs. Thus, even for the most elite departments, most programs do not place students at a Ph.D. granting school. On the other hand, there were a handful of departments, mostly ones that offered one or more specialized programs which, while not producing that many students, nonetheless were effective (ca. 2000) at placing their graduates in jobs at U.S. Ph.D. granting departments. In particular, Cal Tech (an incredible 95 percent placement to production ratio over the period
1966-2000), UC San Diego (55 percent), Washington University-St. Louis (39 percent), SUNY Stony Brook (38 percent) and UC Irvine (34 percent), are some of the schools that fall into this category.\textsuperscript{10}

**IV. Discussion**

While for the period studied by Somit and Tanenhaus (1963, 1964, 1967), the top Ph.D. granting departments (as judged by prestige rankings) tended to be entirely self-enclosed, hiring from themselves and each other (or, in the very early days, from Europe), the pattern of elite dominance in placements has been somewhat mitigated so that there are now more U.S. institutions which are able to make some placements at the very top of the profession. For example, looking only at U.S. trained Ph.D.s, Somit and Tanenhaus (1964: 43) point out that, ca. 1961, “less than 5 percent of the faculty at the top 11 departments come from outside the top eleven,” and that “the exceptions occur almost entirely among the institutions in the lower half of the group.” In contrast, looking at the faculty composition of Ph.D. granting departments ca. 2000, while the big eight departments identified above tend to hire largely from each other, the mean proportion of hires from within the set is only 77 percent, ranging from 90 percent (Berkeley) to 61 percent (Stanford). Even if we go to the top eleven producers, ca. 2000, the mean proportion of hires within the set is only 79 percent, with a low of 63 percent (Minnesota) and the high remaining at 90 percent (Berkeley).

Still, even these numbers demonstrate a pattern of largely encapsulated hiring. Moreover, the big eight are also the eight schools with the highest number of placements at the big eight. And the schools which provide most of the relatively limited exceptions to the rule of self-enclosed hiring practices at the big eight are high prestige institutions themselves, like MIT,
Rochester, UCLA, Duke, Cornell, Northwestern, and UC San Diego. Indeed, data on prestige rankings of departments reported in Somit and Tanenhaus (1967: Table 2, p. 164) leads us to believe that, of the eight institutions we have labeled as core departments ca. 2000, all but Yale and Stanford were probably already among the top ten departments in ability to place students as far back as 1925. Of course, as noted earlier, our data here only speaks to Ph.D. production and placement and thus are restricted to Ph.D. granting institutions.

In sum, while there has been dramatic expansion of the number of Ph.D. granting institutions, and in the number (and proportion) of Ph.D.s produced by “newly arrived” departments. But, despite some changes from the early decades, the set of schools which dominate placements has been much less affected over the past forty years. This lack of change over four decades suggests that the inequalities in placements across Ph.D. granting departments found at the turn of the 21st century are ones that are likely to be with us for a while. The pervasiveness in the profession of Ph.D.s trained at elite departments occurs through the numbers of students trained at these institutions but also through the dispersion of their graduates so as majority dominate most of the top institutions directly and the remainder of the discipline indirectly. When we take departments as our units, what we find in political science is a pattern of democratic expansion in production coupled with a continued elite dominance in placements that is only somewhat diminished from what had been true in earlier times.
ENDNOTES

1 Figure omitted from space reasons. This and other omitted figures and tables are posted on our website: (IDENTIFYING REF REMOVED)

2 Note that we are taking as our set of Ph.D. granting departments, those which produce at least one Ph.D. in the time period in question. This omits departments which may have a Ph.D. program on the books, but whose Ph.D. production is dormant at the time.

3 Figure omitted for space reasons.

4 Departments that are classified as “old” departments are: University of California system (Berkeley and Los Angeles), University of Chicago, Columbia, Cornell, Harvard, University of Illinois-Urbana Champaign, Indiana University, University of Iowa, Johns Hopkins, University of Michigan, University of Minnesota, University of North Carolina-Chapel Hill, Ohio State, University of Pennsylvania, Princeton, Stanford, University of Texas-Austin, Washington University-St. Louis, University of Wisconsin and Yale. All other departments are classified as “new” departments.

5 Regional differences in placement also remain higher than the regional differences in production. In particular, the Northeast continues to train over one third of all the faculty employed in U.S. political science Ph.D. granting departments; while the South is dramatically underrepresented in placements (an 18 percent share) compared to production (a 33 percent share).

6 For Ph.D. production we have yearly data at the aggregate level from 1910 through 2000 (Department of Education 2005, Gaus 1964, National Academy of Sciences 1978, National Science Foundation 2005). For Ph.D. production at the departmental level, we integrate data reported by Somit and Tanenhaus (1964; 1967), and that in two early articles in the APSR (Gaus 1964, Munro 1930), for the period 1902-1933, with data for the periods 1948-1958 and 1966-2001 taken from statistics provided by the National Science Foundation, National Academy of Sciences and the Department of Education’s National Center for Education Statistics. This

For placements, because of data gathering constraints, we have confined ourselves to placements of U.S. Ph.D.s within U.S. Ph.D. granting departments, and to the period 1960-2000, combining the information provided in the APSA 2000 “Graduate Faculty and Programs in Political Science” with supplementary information on faculty taken as needed from the APSA 2002-2004 “Directory of Political Science Faculty.” These directories list all full-time and part-time faculty employed in political science departments in the U.S. providing us with a census of all employed faculty in Ph.D. granting departments. We look at data aggregated by decade from the most recent four decades of Ph.D. cohorts: 1961-1970, 1971-80, 1981-90, and 1991-2000. As of 2000, there were 4,103 regular faculty members in the 132 Ph.D. granting departments in political science in the U.S. For our analysis, we excluded the 168 (4 percent) faculty members who did not receive their Ph.D.s from one of these schools, and we also had to exclude 312 (8 percent) faculty members for whom we were unable to find information regarding their educational background. Thus, our dataset includes 3623 faculty members employed in 132 Ph.D. granting political science departments in the U.S. Of these, 275 (8 percent) are presently employed at the same institution from which they received a Ph.D.

The total Ph.D. production rates include Ph.D.s in political science, public administration and public policy. We derived our Ph.D. production data from reports provided by the National Science Foundation, National Academy of Sciences and the Department of Education’s National Center for Education Statistics which combine conferred Ph.D.s in all three fields and does not allow further disaggregation. Thus, the Ph.D. production rates for schools that have Ph.D. programs in public policy or public administration are systematically larger than the production rates of schools with only a political science graduate program. However, we feel that this is the most reliable data available which provides Ph.D. production rates across all schools.
The discussion in the paragraph immediately below is a much abbreviated synopsis of a paper by the present authors on vertical networks and direct and indirect majority dominance. Readers are referred to that essay (IDENTIFYING REFERENCE REMOVED) for more details.

Table omitted for space reasons.
REFERENCES

American Political Science Association. 2000. Graduate Faculty and Programs in Political Science: A Directory to the Faculty and Graduate Degree Programs of U.S. and Canadian Institutions. Washington D.C.


Figure 1

Number of Ph.D Granting Departments and Number of Ph.D.s Produced, 1920-2000

- **Total Ph.D.s Conferred**
- **Number of Departments**
Figure 2

Regional Distribution of Ph.D Institutions
1902-2000

Percent of All PhD Institutions

Northeast
Midwest
South
West

Figure 3

Four Decades of Lorenz Curves for Ph.D. Production

- 1902-1910
- 1948-1958
- 1971-1980
- 1991-2000
Figure 4

Four Decades of Lorenz Curves for Ph.D. Placements

% of Ph.D. Placements

% of Departments

1960-1969
1970-1979
1980-1989
1990-1999
Table 1
Departmental Rankings in Terms of Total Political Science Ph.D.s. Produced
(For Those Departments that Were in the Top Ten During at least One Decade):
By Decade

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Note: Prior to 1960, most of our sources appear to combine the Ph.D. production of UCLA with that of UC Berkeley.
Table 2

Departmental Rankings in Terms of Total Ph.D.s. Placed at U.S. Ph.D. Granting Institutions ca. 2000
By Decade of Ph.D. Completion
(For Those Departments that Were in the Top Ten During at least One Decade)

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