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# **MEDIATED INCENTIVES:**

Making North Carolina's Economic Development Incentive Programs Work Better through Strategic Investments

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### **EXECUTIVE SUMMARY**

- North Carolina's incentive programs can be made more effective—and increase the level of job creation resulting from these programs—by harnessing these subsidies to strategic public investments in targeted, growing sectors of the state's economy. This process is called "mediation."
- Mediation dramatically improves the ability of the state's incentives to generate meaningful job creation. For retention projects, firms in mediated industries that received incentives created almost 30 percent greater employment growth than similar non-incentivized firms in the same industries from 1996-2008, while incentive-backed recruitment projects in mediated industries created an average of 27 more jobs per firm than were created in non-incentivized firms in the same industries.
- In non-mediated sectors, North Carolina's discretionary incentive programs demonstrably generate meaningful employment growth in both retention and recruitment projects. In terms of industry retention, firms receiving an incentive from one of the state's discretionary programs (OneNC and JDIG) generated 15 percent more overall employment growth than those firms that did not receive a subsidy from 1996-2008. Incentive deals geared toward attracting new industry to the state generated an average of 11.5 more jobs per firm over the same period than were created by similar firms that did not receive.
- Incentives are just one part of North Carolina's broader economic development strategy, which focuses on promoting job creation in high-wage, high-growth industries.

# Introduction

the current era of persistently high unemployment and the most sluggish economic recovery in 70 years,<sup>1</sup> policymakers face the critical challenge of promoting economic growth and job creation amidst a budget crisis largely driven by collapsing revenues.<sup>2</sup> As a result, the state General Assembly is scrutinizing existing strategies in terms of their ability to yield a positive "bang for the buck," i.e., their effectiveness in spurring employment growth at the lowest possible cost to the state's taxpayers. And perhaps no policy has received greater attention than the state's economic development incentive programs, which offer cash assistance or tax credits to individual firms to induce investment and job creation in North Carolina.

These incentives have come under significant criticism in recent years from both inside and outside the legislature. Some critics believe government should not pick winners and losers by

Given the continuing prevalence of taxpayersubsidized subsidies, the policy challenge is not just to ensure these programs deliver in the short-term, but to find ways to make these economic development incentives more effective at generating job creation over the long run. offering subsidies to some firms and not others,<sup>3</sup> and others say there is a relative lack of evidence that incentives are actually effective in generating job creation, promoting economic growth, and reducing inter-regional economic disparities.<sup>4</sup> In fact, many policymakers and scholars of economic development are concerned that offering incentives simply reinforces the ability of firms to maximize rent extraction—to hold communities hostage by threatening to locate their facilities elsewhere if they do not receive significant tax breaks or cash grants.<sup>5</sup>

Despite these criticisms, incentives are still a common tool used for promoting economic development at the state and local levels in North Carolina. For example, a recent survey of local economic development professionals by Jonathan Morgan at the University of North Carolina School of Government reported that at least 50 counties in the state make use of business incentives for industrial recruitment and retention.<sup>6</sup> In North Carolina, the state's four major incentive programs have accounted for \$2.4 billion in direct spending in the years between 1996—when North Carolina fully entered the "game"—and 2008, the first full year of the Great Recession.

Given the continuing prevalence of these taxpayer-subsidized inducements in the face of criticism, the policy challenge facing the N.C. Department of Commerce

and the General Assembly is not just to ensure these programs deliver on their promise of good, quality jobs in the short term, but to find ways to make these economic development incentives more effective at generating long-term job creation over the long run. This paper argues that North Carolina can improve the effectiveness of its incentive programs—and increase the level of job creation resulting from these programs—by harnessing these subsidies to strategic public investments in targeted, growing sectors of the state's economy. Specifically, this paper finds that the state's incentive programs—both those designed to recruit new firms to North Carolina and those designed to retain existing firms within the state—produce meaningful employment growth within those industry sectors directly or indirectly connected to sector-specific, targeted, strategic planning efforts through a process called "mediation." Mediation is defined as leveraging strategic public investments in targeted, growing sectors of the state's economy-investments which include sectorspecific strategic planning organizations, community college and workforce training programs, and governance and coordinating institutions like the N.C. Biotech Center—to promote more effective industry retention and recruitment efforts. An example of mediation is North Carolina's development of its life sciences industry.

Policy Context	As with any policy analysis, this look at improving the effectiveness of the state's incentive policies through mediation is grounded in North Carolina's existing policy environment.
BACKGROUND	Unlike virtually all of the states across the southeastern United States, North Carolina avoided the use of publicly funded cash assistance or tax incentives geared toward promoting industrial recruitment and economic development throughout the postwar era and well into the 1990s. This changed after several high-profile industrial recruitment failures (most notably, the loss of a prospective Mercedes manufacturing plant to Alabama) and a state Supreme Court case striking down long-standing constitutional prohibitions on the use of non-tax economic development subsidies (tax abatements and other tax incentives are still unconstitutional). North Carolina hesitantly entered the incentive "game" in 1993, with an initial small-scale experiment in a low-budget incentive program named the Governor's Industrial Recruitment Competitiveness Fund (later expanded and renamed the OneNC Fund). North Carolina fully embraced a state-level statutory incentive program in 1996 with the passage of the William S. Lee Act, along with several special incentive deals for specific firms enacted by the Legislature. The Lee Act was repealed in 2005, after which the state focused most of its efforts on a series of discretionary incentives targeted towards specific firms selected by the N.C. Department of Commerce and, in more rare cases, the General Assembly.
NORTH CAROLINA'S DISCRETIONARY INCENTIVE PROGRAMS	The state offers <i>discretionary</i> incentives through four major channels, including the OneNC Fund (converted into its current form in 1996), the Jobs Development Investment Grant program (or JDIG, created in 2002), the Jobs Maintenance and Capital Development Fund (or JMAC, created 2006), and the special deals passed by the General Assembly outside of the existing statutory programs, a fixture of the state's incentive practices since 1996.
	In its current form, the OneNC Fund provides matching grants to local governments so they can offer larger incentives for retention, expansion, and recruitment deals. Although any unit of government across the state may apply for OneNC funds, the program's matching

In its current form, the OneNC Fund provides matching grants to local governments so they can offer larger incentives for retention, expansion, and recruitment deals. Although any unit of government across the state may apply for OneNC funds, the program's matching structure is intended specifically to benefit the most distressed counties, which would otherwise have less fiscal capacity to offer competitive incentives. Unless paired with a JDIG

Four discretionary incentive programs have accounted for \$2.4 billion in direct spending on economic development incentives in the years between 1996 and 2008.

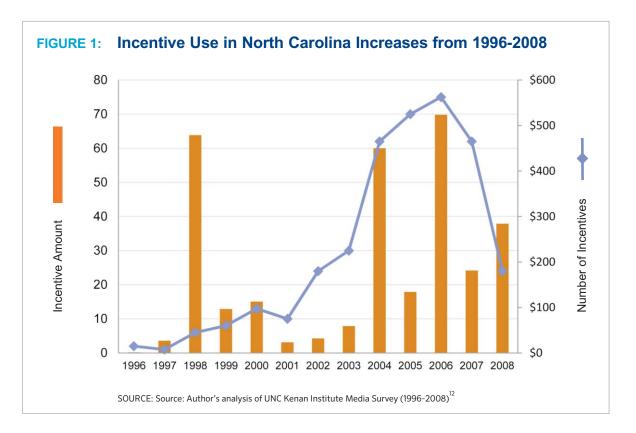
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grant, OneNC funds are normally disbursed in four equal tranches over a three-year period, and they are always subject to strict jobcreation accountability provisions.<sup>7</sup>

JDIG, the state's flagship program, is a performance-based incentive program that provides annual grant distributions to a maximum of 25 qualifying firms per year for a period of up to 12 years for the purposes of supporting retention, expansion, and recruitment. Unlike the OneNC Fund, JDIG provides cash grants directly to the recipient firms based on a percentage of the

withholding taxes paid by new employees during each calendar year. In effect, the program avoids the constitutional limitations on tax incentives by providing cash assistance equal to the value of the taxes paid by employees, thus tying the grant obligation to the firm's performance in job creation. JDIG grants possess strong wage requirements, performance criteria, and clawback mechanisms, which the state has not hesitated to employ in the 14 cases (as of 2012) in which a firm failed to meet to its job-creation targets. Given the 12-year disbursement period, none of the grants have been fully disbursed to recipient firms, so total job creation and investment totals are currently incomplete.<sup>8</sup>

Along with these two major discretionary programs, the state also provides incentives through special deals passed by the General Assembly outside the existing statutory programs<sup>9</sup>—deals like those signed with Dell, Google, and others—and the JMAC program,



established to ensure retention of large-scale employers (with a minimum of 2,000 employees) in the state's most distressed counties. Since the program's inception, only two grants have been awarded. Aside from these four channels, the state offers incentives through a variety of smaller-budget programs not discussed here.<sup>10</sup>

Taken together, these four discretionary incentive programs have accounted for \$2.4 billion in direct spending on economic development incentives in the years between 1996—when North Carolina fully entered the "game"—and 2008, the first full year of the Great Recession.<sup>11</sup> As indicated in **Figure 1**, spending on these discretionary incentive programs largely trended upward over those 12 years, from \$10 million in 1997 to almost \$200 million in 2008. The number of deals (e.g., granting an incentive to a specific firm in exchange for promises of capital investment and job creation) also increased over the same period, with large spikes in 1998, 2004, and 2006, all of which are related to special deals passed by the legislature. Note that these figures only pertain to the state's four discretionary programs and do not include any tax credits or policies related to the Lee Act.

During this period, North Carolina signed 387 separate deals, of which almost 45 percent went to retention projects—incentives offered to firms already in North Carolina in exchange for promises to maintain or expand existing operations—and 55 percent went to recruitment projects—subsidies offered to new firms in exchange for promises to locate in North Carolina. Although the state funded a greater number of recruitment projects, as seen in **Figure 2**. This emphasis on retention runs contrary to the stereotype often promoted in the newspapers and the scholarly literature that incentives are predominantly focused on luring new industrial facilities to the state. Most importantly, this emphasis on existing industry creates the opportunity for comparing the effectiveness of using incentives to spur job creation through industry retention to the effectiveness of industrial recruitment efforts.

Characteristics	<b>Retention Deals</b>	<b>Recruitment Deals</b>	All Deals
Number of Deals	173	214	387
Percentage of Total Deals	44.7%	55.3%	-
Total Incentive Amount Offered	\$1,797M	\$608M	\$ 2,405M
Total Jobs Expected	46,489	29,645	76,134
Average Incentive Amt. Per Job	\$22,910	\$25,035	\$23,849

# FIGURE 2: North Carolina's Incentive Deals, By the Numbers, 1996-2008

SOURCE: Source: Author's analysis of UNC Kenan Institute Media Survey (1996-2008)<sup>12</sup>

# Strategic Incentives: Targeting and Mediation

**G**iven this policy environment, how can policymakers improve the effectiveness of these discretionary incentive programs at generating meaningful job creation for North Carolina's workers? Along with continuing the state's widely acclaimed accountability measures that require firms to live up to their promises of job creation in exchange for receiving incentives,<sup>12</sup> one of the best mechanisms for improving the effectiveness of these programs involves making incentives more strategic by explicitly connecting them to industry targeting and—perhaps most importantly—to sectoral mediation strategies.

#### STRATEGIC INCENTIVES AND INDUSTRY TARGETING

The first strategic mechanism that can improve incentive effectiveness is *industry targeting*, or concentrating economic development efforts in industries that demonstrate high growth potential for the region. This process is information-intensive, reflecting the use of analytical tools and techniques by local and regional economic development practitioners and analysts in an effort to better guide and evaluate incentive-granting processes. In North Carolina, as elsewhere, industrial or sector targets are typically generated through rigorous statistical analyses, which take into account the industrial

One of the best mechanisms for improving the effectiveness of these programs involves making incentives more strategic by explicitly connecting them to industry targeting and sectoral mediation strategies. legacies and characteristics of the regional economy.<sup>13</sup> This can include the use of growth models that factor in existing supply chains, workforce skill specializations, and export performance; in some cases, analyses also include inventories of regional support institutions designed to nurture and support targeted

industry.<sup>14</sup> And of course, targeting is most commonly associated with industrial recruitment and retention and, by default, the application of incentives.<sup>15</sup>

In the North Carolina context, industry targeting has been especially visible at the regional level. Although the N.C. Department of Commerce has identified a number of target industries for the entire state, the tendency has been to decentralize explicit targeting efforts to the seven Regional Economic Development Partnerships, given North Carolina's diverse industrial landscape and regionally varied economic strengths. At the same time, however, Commerce continues to actively support regional targeting efforts. As one illustration, Commerce provided each of the state's seven regional partnerships with funding to conduct in-depth economic analyses of their regions in 2001 in an effort to identify existing and emergent industrial strengths. The goal of this exercise was to encourage regions to channel state and local resources to activities that support targeted industry development and revitalization, including, but not limited to, firm recruitment and retention.

#### MEDIATED INCENTIVES AND THE IMPORTANCE OF PUBLIC INVESTMENT

If targeting represents one key strategic approach to upgrading the effectiveness of the state's incentives policies, the second mechanism moves beyond merely *identifying* the best industries to incentivize to *supporting* these industries with strategic sector-specific public investments, a process that improves the effectiveness of the incentives granted to firms in these industries. This process involves *institutional mediation*, the active involvement by sector-oriented institutions in mediating and governing incentive-backed recruitment and retention activities. Specifically, mediation is defined as leveraging strategic public investments in targeted, growing sectors of the state's economy— investments which include sector-specific strategic planning organizations, community college and workforce training programs, and governance and coordinating institutions like the N.C. Biotech Center—to promote more strategic industry retention and recruitment efforts. As this implies, mediation efforts are closely linked to targeting strategies, insofar as the mediating institutions also have a sector or industry focus.

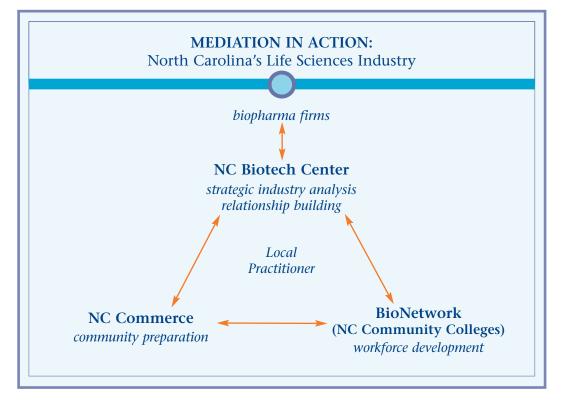
But institutional mediation goes beyond efforts to simply inventory or catalog industrysupport institutions. Rather, mediation implies active engagement by those same institutions in planning processes designed to guide and moderate sector-specific recruitment and retention efforts. This includes playing an active role in establishing and maintaining strong

Mediation is defined as leveraging strategic public investments in targeted, growing sectors of the economy to promote more effective industry retention and recruitment efforts. relationships with firms before, during, and after the recruitment or retention deal-making period. In the case of firm recruitment, institutional engagement also means developing relationships with industrial prospects well before there is a need for a new facility and structuring those early conversations in ways that shape later perception of or interest in North Carolina.

Other mediation activities include tracking and responding to on-going and emergent sector challenges and constraints—an information-gathering and assessment task that is dependent on the maintenance of close relationships with networks of firms within the sector. Additionally, institutional mediation entails coordination of economic development planning across multiple levels of decision-making and across distinct areas of development strategy. That is, mediating institutions ensure that recruitment and retention activities are not performed in isolation but rather are shepherded in a way that ratchets

up standards for how incentive-backed deals get made, regardless of whether the locus of deal-making is at the local, regional, or state level. This helps to limit the size of the incentive offer by ensuring economic development practitioners are marketing the state's other assets. Perhaps most critically, mediated institutional support entails stitching together and aligning recruitment, retention, and workforce development efforts into a cohesive policy portfolio of mutually reinforcing economic development strategies capable of generating meaningful employment growth.

Mediated Incentives in Action: Public Investments and North Carolina's Life Science Industry **N**orth Carolina has already embraced institutional mediation and has experienced success, as illustrated by growth in the state's life sciences and biomanufacturing sector.<sup>16</sup> Recent research points to a central mediating role of North Carolina's Biotechnology Center (Biotech Center), a critical public investment long associated with the state's strategic planning efforts. Since its creation in 1981, the Biotech Center has supported research and development activities through a variety of grant, loan and industry-networking initiatives. Over the decades, the Biotech Center has also assisted in the recruitment of preeminent scholars in an effort to further enhance university research—an early example being Professor Oliver Smithies, who moved to the state and later won a Nobel Prize in physiology in 2007. In addition to these successes, the Biotech Center has a leading institution for strategy development. Furthermore, the center approaches this task in partnership with the Department of Commerce and the North Carolina Community



# FIGURE 3: Mediation in Action in North Carolina

College System, with each entity playing a unique but complementary role in strategy development and implementation.

By mediating recruitment and retention efforts, the Biotech Center, with help from these core institutional partners, has been able to better anticipate and thus prepare for recruitment opportunities. In addition, it is in a position to identify and resolve emergent industry challenges that have the potential to affect firm retention over time. In considering both recruitment opportunities and retention challenges, the Biotech Center has concentrated on improving industry support institutions, especially in the area of technical training and education. In a partnership with the community college system called the BioNetwork—a partnershisp designed to provide tailored workforce development services to life science firms—the Biotech Center has enhanced the quality of manufacturing establishments recruited to the state and motivated firms that locate in North Carolina to experiment with innovations in life science manufacturing. By working closing with the Department of Commerce, the Biotech Center also ensures strong coordination between state and local economic development planning efforts; this includes empowering local practitioners to uphold industry recruitment standards based on job-quality concerns and evidence of a strong fit between an industrial prospect and their community (see Figure 3).

This partnership has also helped to provide an institutional check to excessive incentive offers by helping local practitioners recognize there is real value for companies, beyond the incentive offers, to locate in their communities. For example, the Town of Holly Springs, NC was selected by Novartis for a large-scale vaccine manufacturing facility despite the fact that the state of Georgia offered a significantly larger incentive package. Novartis based this locational choice primarily on the quality of the regional workforce in North Carolina, an attribute that state and local practitioners actively promoted.<sup>17</sup> Ultimately, the mediated approach taken by the Biotech Center and its partners encourages sustained manufacturing job growth and promotes regional advantages that ultimately reinforce industry stickiness and staying power.

Drawing inspiration from biomanufacturing, experiments in institutional intermediation are underway in other sectors and industries in North Carolina, most notably in advanced textiles, including non-wovens, and, more recently, aerospace.

# Findings: The Effect of Targeting and Mediation on Incentive Effectiveness

**G**iven these examples of industry targeting and mediation, it is important to systematically assess the concrete ways in which these practices improve the effectiveness of incentives in generating meaningful job creation. Using the analytical approach described below, we found that those firms receiving incentives in both retention deals and recruitment deals produced meaningful employment growth when compared to a control group of similar firms that did not receive incentives during the period 1996-2008. Perhaps more importantly, incentives produced even better comparative job creation results in those industries selected as targets by the Regional Economic Development Partnerships and—to an even greater degree—in those sectors supported by state-level strategic mediating institutions, including life sciences and advanced textiles.

#### FRAMEWORK FOR ANALYSIS

This study asked two key research questions. First, do incentivized establishments grow faster or slower than similar establishments across North Carolina (e.g., do incentives actually work?). Second, is employment growth higher at incentivized firms in mediated

Do incentivized firms grow faster or slower than similar establishments? Is employment growth higher at incentivized firms in mediated sectors? sectors (e.g., does mediation make incentives work better)? To answer these questions, we used an existing media study of 387 unique incentive deals involving state funds from 1996 to 2008 compiled by the Center for Competitive Economies at the University of North Carolina's Kenan Institute of Private Enterprise and confirmed with N.C. Department of Commerce reports. These deals were then matched to the National Establishment Time Series (NETS) dataset for 1990-2009, a process which yielded 260 valid matches. Combining

these two sources produced a panel dataset that included each firm's<sup>18</sup> employment for each year and detailed establishment characteristics and move history. Firms were classified as being in "mediated" industries if they were part of the life sciences and advanced textiles industries, and were classified being in "targeted" industries if those industries were considered targets by their respective Regional Economic Development

Partnerships.

Retention Deals		<b>Recruitment Deals</b>	
Yes	No	Yes	No
68	319	180	207
\$16,608	\$25,416	\$32,228	\$16,685
156.2	207.8	210	189.2
	Yes 68 \$16,608	Yes No   68 319   \$16,608 \$25,416	Yes No Yes   68 319 180   \$16,608 \$25,416 \$32,228

After constructing this dataset, standard statistical techniques were used to assess the effect of incentives on firm-level employment for those firms that received incentives compared to a control group of those firms that did not receive incentives

but were virtually identical to recipient firms according to several key characteristics, including size, age, and being in the same industry. We conducted this comparison separately for both recruitment deals and retention deals across all industries, targeted industries, non-targeted industries, and mediated industries. Specifically, for retention deals, we compared the percentage change in employment from 1996 to 2008 for

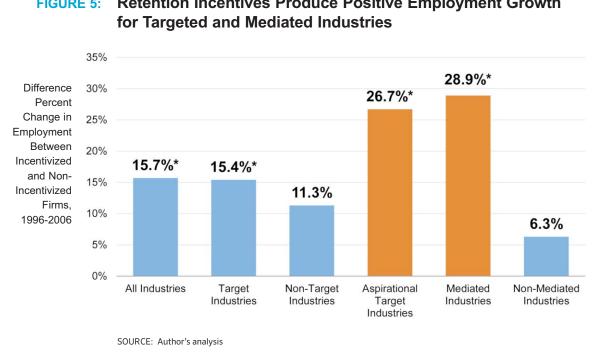
# FIGURE 4: North Carolina's Discretionary Deals, 1996-2008

incentivized firms to the change in non-incentivized firms over the same period. The results showed that incentives produced a greater percentage change in employment over time than experienced by non-incentivized firms. Analyzing recruitment deals, however, required a different approach, given that these firms were new to the state and lacked employment prior to the incentive, negating the possibility of a before-and-after comparison. Instead, we compared the absolute job growth in incentivized firms from their first year in the state through 2008 to the job growth in non-incentivized firms that also started in the same year as the new incentivized firm. These results showed that incentives generated a greater number of jobs than those produced by firms that did not receive incentives.

In each case, these comparisons were made between firms in the same industries—i.e., incentivized firms in a mediated industry were compared to non-incentivized firms in that same industry, and incentivized firms in a target industry were compared to nonincentivized firms in that same industry. This allowed us to make clean comparisons between incentivized firms and non-incentivized firms that differed only on the basis of whether the firm received an incentive—and as a result, assess the extent to which strategic incentive-granting based on targeting and mediation actually produces better job creation than non-strategic incentive-granting.<sup>19</sup>

#### **OVERVIEW OF INCENTIVE-GRANTING** IN NORTH CAROLINA

**Figure 4** provides the details of the state's strategic incentive-granting process. Perhaps most notably, the figure makes clear that far more incentive deals were offered to firms in non-mediated and non-targeted sectors, suggesting that the state and regional economic development partnerships have not fully aligned their incentive strategies with their strategic planning investments. In effect, North Carolina is spending most of its incentive dollars in the industries least likely to perform. This point is reinforced particularly by the cost-per-job of incentives in mediated industries, which is almost \$10,000 cheaper per job than those in non-mediated industries. This reinforces the conclusion of the Novartis case that firms in mediated industries value the strategic investments in mediating institutions



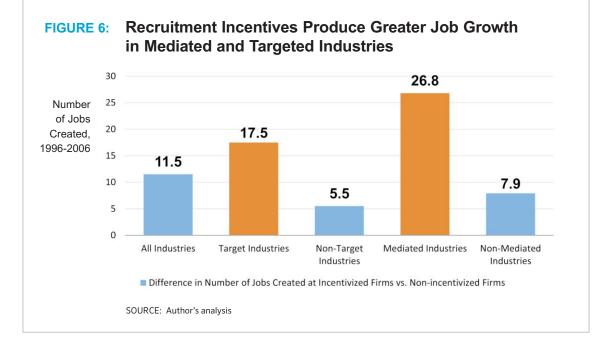
**Retention Incentives Produce Positive Employment Growth** FIGURE 5:

more highly than a large incentive amount and are thus willing to accept a smaller offer.<sup>20</sup> Incentives for regional targets, on the other hand, cost almost twice as much as incentives for non-targets for every job promised, reflecting the extent to which intense competition for firms in the state's most desired industries can actually serve to bid up the amount of the incentive in the absence of strong mediating institutions that give these firms other assets they value more highly than a cash grant.

#### **RETENTION DEALS**

As seen in Figure 5, incentives produce a meaningful (i.e., statistically significant) increase in firm-level employment for recipient firms when compared to those firms that did not receive incentives—an effect that is magnified by the strategic public investments related to mediation. Specifically, the figure measures the percentage difference between the employment growth generated by incentivized firms and the employment growth generated by non-incentivized firms in the same set of industries, so in terms of incentive deals with firms among All Industries (i.e., the entire universe of industries in North Carolina), we can say that incentivized firms produced a statistically significant 15.7 percent more jobs than the non-incentivized firms in the industries. While retention-based incentives for all Industry Targets performed about the same as they did for all industries (15.4 percent more jobs per firm than similar non-recipient firms in the same set of industries), the effect of strategic targeting increases dramatically when incentives go to firms in those target industries that are "aspirational targets"—e.g., those that have significant growth potential in the state. Incentivized firms in these aspirational target industries produced 27 percent more jobs per firm than similar non-recipient firms in the same industries.

Most importantly, however, this effect of incentives on employment growth increases even more in mediated industries, which see almost 30 percent more job creation than similar non-recipient firms in the same industry (an amount that is statistically significant), suggesting that mediation plays a key role in improving the total effectiveness of North Carolina's incentive programs.



#### **RECRUITMENT DEALS**

As with the retention deals, mediation in recruitment deals provides a meaningful approach to improving the ability of incentives to generate employment growth. Figure 6 compares the number of jobs created by incentivized firms in recruitment deals over the life of the firm to those created by non-incentivized firms that started in the same year. have similar characteristics, and are in the same industry as the incentivized firm. The results show that incentives have a modest impact on job creation among all industries, generating almost 12 more jobs per firm than non-incentivized firms in the same industries, while strategic investments in targeting and mediation produce even greater effects. Specifically, incentivized firms in "aspirational target" industries produced 17 more jobs per firm than non-incentivized firms, and incentivized firms in mediated industries produced even more, generating almost 27 more jobs per firm than similar nonincentivized firms in the same industry.. All three of these effects are statistically significant in varying degrees. In contrast, incentive deals outside of these industries produced virtually no significant job growth when compared to non-incentivized firms, with deals in Non-Target Industries generating 5.5 more jobs per firm than non-recipient firms in the same set of industries, and deals in Non-Mediated firms generating similarly insignificant comparative job growth.

From these results, it remains clear that public investments in strategic mediation institutions and processes like those associated with the Biotech Center and the life sciences industry significantly improve the ability of incentives to fulfill their statutory purpose and promote sustainable job creation.

# **Policy Conclusions**

These results indicate that what drives the positive incentive impacts in North Carolina overall is not simply the amount of the subsidy offered, but the fact that incentives are integrated with public investments like community colleges and the NC Biotech Center into a broader institutional support system in a process called mediation. It is these public investments that make North Carolina's incentive programs work better.

Given the importance of mediation for improving the effectiveness of incentive-backed retention efforts, our results have several important implications for policymakers and future research. First, these findings highlight that industrial recruitment and retention

What drives the positive incentive impacts in North Carolina overall is not simply the amount of the subsidy offered, but the fact that incentives are integrated with public investments like community colleges and the NC Biotech Center. are not *synonymous* with the use of incentives. Rather, incentives are simply one policy tool that communities can deploy in support of broader recruitment and retention strategies, in the same way that these two strategies are supported by targeting and mediation. Ultimately, mediation, targeting, and incentives are all designed to improve the effectiveness of the state's recruitment and retention strategies, and indeed, as the example of North Carolina's Biotech Center

and the biomanufacturing industry demonstrates, these tools can be *combined* in mutually reinforcing ways that improve the job-creation performance of North Carolina's retention and recruitment efforts.

Secondly, in the type of portfolio approach used in this state, mediated firms choose to locate or remain in a community in large part due to strategic public investments like highly customized workforce development services , such as those delivered through community colleges and those coordinated by the Biotech Center. By providing skilled labor and technical assistance, these industry-specific mediating institutions create locational advantages for North Carolina, giving firms cost-saving opportunities not available in other states and reducing their incentives to locate or move elsewhere. As a

result, these public investments in industry-specific mediating institutions diminish the relative importance of the incentive itself, instead prioritizing the value added by the mediating institutions and reducing the incentive to a deal-sweetener or deal-closer, rather than the entire focus of the state's retention effort. Indeed, our findings suggest that—as in the case of Novartis—biomanufacturing firms choose to locate in North Carolina over other states with larger incentive packages precisely *because* of the common pool investments in that industry.

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- 18. Technically, the dataset consists of "establishments" rather than "firms." The U.S. Bureau of Labor Statistics defines an establishment as "an economic unit that produces goods or services, usually at a single physical location, and engaged in one or predominantly one activity." According to this definition, firms can have one or more establishments. In this study, establishments are used as the unit of analysis, but since these distinctions are not commonly used by non-technical audiences, we simply define firms to be establishments and refer to firms throughout the body of the text.
- For a more exhaustive discussion of the methods used in this study, see Lester, TW, Lowe, NJ, and Freyer, AM. (2012). Mediating Incentive Use: A Time-Series Assessment of Economic Development Deals in North Carolina. Upjohn Institute Working Papers, The Upjohn Institute. Available online at http://research.upjohn.org/up\_workingapers/184/.
- 20. Lowe, N. J. (Forthcoming). Beyond the Deal: Using Industrial Recruitment as a Strategic Tool for Manufacturing Development. Economic Development Quarterly.

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