The Government's Role in Stimulating Clusters

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Workshop: Encouraging the Commercialization of Research Results and the Utilization of Cluster Mapping through EU-US Collaborations

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Cluster Policy in Context

- We're interested in clusters as means of promoting economic competitiveness
- Clusters are but one means to organizing for competitiveness
- There are many other institutional arrangements critical to competitiveness
- The government's role in supporting clusters needs to be considered in the context of its various efforts to promote competitiveness

Government's Role in Promoting Economic Competitiveness

- To promote competitiveness, government needs a multi-faceted economic strategy
- Assess
  - the competitiveness of traded sector industries
  - the adequacy of the resource systems that generally support traded industries, such as
    - education
    - workforce
    - financial capital
    - transportation and communications infrastructure

Government's Role in Promoting Economic Competitiveness

- Design and implement combination of "bottom-up" and "top-down" policies
  - Bottom-up – stimulates the competitive efforts of market actors through information, facilitation, regulation, money
  - Top-down – strategic investments in key industries
- Support for clusters should be an integral component of the whole

The United States Has No Economic Strategy

Federal macroeconomic policy seeks to manage economic cycle, not structure

- Employment Act of 1946—Keynesian, post-Depression and WWII
- "(I)t is the . . . responsibility of the Federal Government to use all practicable means ... to promote maximum employment, production, and purchasing power."
- Created Council of Economic Advisers, annual economic report, Joint Economic Committee
- Macroeconomic policies are aspatial

The United States Has No Economic Strategy

1940s-1970s

- Substantial national and household economic growth
- The nation's economic structure looked stable and not in need of central policy attention
  - largely manufacturing-based
  - dominated by a relative handful of major corporations
  - based in well-established regional clusters
  - not vulnerable to foreign competition
- Efforts to enhance economic structure were addressed outside of traditional economic policy – e.g., National Science Foundation, Federal Highway Administration, Small Business Administration

The United States Has No Economic Strategy

1980s-2010s

- Ongoing restructuring in the face of global competition and technological change
  - Of regional economies, industries, and labor markets
- Federal policy responses to competition are ad hoc, disparate, siloed, insufficient, underfunded
  - For example, Economic Development Administration, Technology Administration, Manufacturing Extension Partnership, Workforce Investment Act, America COMPETES
- There is no set of competitiveness policy institutions analogous to that for macroeconomic policy
  - Lack of emphasis on regional

Relevance of Clusters to Economic Competitiveness/Strategy

- Regional traded sectors are the building blocks of the national economy
- Clusters are the engines of regional traded sectors
- Most traded industries have a small number of dominant regional clusters

  → Centripetal force
- Geographic disaggregation of functions reshapes some clusters from industry- to function-focused
- In a world of perpetual economic transition and technological change, regional/cluster dominance cannot be taken for granted

Policy-relevant Characteristics of Clusters

- Each cluster is unique—in content, process, culture, and trajectory
- Critical factors of cluster success—relationships and collaboration, creativity and innovation, investments, core skills and abilities
- Importance of effective cluster initiatives—formally organized efforts to promote cluster competitiveness and growth

Collaborative Activities Facilitated by Cluster Initiatives

- Market development
- Education and training activities
- Research, development, and commercialization
- Innovation adoption
- Networking within cluster, within region, and with clusters in other locations
- New business development, firm, and worker attraction
- Representation of cluster interests before external organizations

Characteristics of Successful Cluster Initiatives

- Are industry-led
- Are inclusive
- Involve state and local government decision-makers
- Create consensus regarding vision and roadmap
- Encourage broad participation and collaboration in implementation
- Are well-funded initially and self-sustaining over the long-term
- Link with relevant external efforts

Implications for Competitiveness Policy

- In light of the importance of clusters to competitiveness, it's in the nation's interest to have effective cluster initiatives across traded industries
- However, while cluster initiatives often emerge as a natural, firm-led outgrowth of cluster development . . .

Barriers to the Creation of Cluster Initiatives

- Public good and free rider problems
- Mistrust among firms
- Lack of knowledge (“how-to”)
- Lack of relationships or standing with key organizations
- Lack of financial resources

Rationale for a Federal Support of Cluster Initiatives

- A robust set of cluster initiatives among key traded industries would be a valuable asset for competitiveness
- However, the nation's set of cluster initiatives is thin and uneven in terms of geographic and industry coverage, level of effort, and organizational capacity
- State- and region-led efforts to support cluster initiatives are insufficient—spotty, uncoordinated, lacking in knowledge and resources

Rationale for a Federal Support of Cluster Initiatives

For the purposes of national competitiveness, federal government involvement is needed to facilitate a robust set of cluster initiatives

- comprehensive regional and industry coverage
- efficiencies of providing data and information to cluster initiatives to support strategy
- development and dissemination of knowledge about effective cluster practices

Rationale for a Federal Support of Cluster Initiatives

- financial resources at a scale necessary to catalyze cluster initiatives
- cluster initiative access to an array of complementary national economic and workforce development program resources
- cluster initiatives that cross state boundaries enabled
- coordination with a national competitiveness strategy

Federal Role in Supporting Cluster Initiatives – Principles

1) The federal government's approach should be flexible, "bottom-up," and collaboration-oriented, rather than prescriptive, "top-down," or input-focused
2) The government should have a diverse tool kit, including information, knowledge, and grants
3) The federal effort should be funded at a level appropriate to the need

Federal Role in Supporting Cluster Initiatives – Principles

4) The federal effort should build and rely on the capacity of state and regional organizations to catalyze cluster competitiveness
   - Sub-national partners are adept at relational and technical assistance tasks
5) Federal policy should provide incentives to link, leverage and align existing federal programs that support regional economic development

Brookings Proposals – 2008

1) Create an information center to trace cluster activity and support cluster initiative efforts ($10 million)
   - Current, data-rich picture of the geography of cluster activity in the U.S. and world
   - Register of U.S. cluster initiatives
   - Knowledge collection and dissemination on cluster initiative impacts and best practices

Brookings Proposals – 2008

2) Establish a grants fund to support cluster initiative programs nationwide ($350 million)
   - Program feasibility study, planning, initiative start-up grants (<= $1 million)
   - State and regional cluster initiative operational grants ($1 million - $15 million)
   - Criteria to be met, 1:1 match

Federal Cluster Policy Efforts 2009-2011

- This Administration and Congress see clusters as an important component of competitiveness
- Regional Innovation Program, Section 603, America COMPETES (2010)
  - Authorizes $100M for EDA
    - Cluster Grants
    - Regional Innovation Research And Information Program

Federal Cluster Policy Efforts 2009-2011

- Taskforce for the Advancement of Regional Innovation Clusters (TARIC), promoting multi-agency cluster grants
  - Jobs and Innovation Accelerator Challenge (20 grantees, $37M)
  - Research-to-deployment
    - I6 (6 grantees, $12M)
    - I6 Green (6 grantees, $12M)
    - E-RIC (1 grantee, $130M) – Building Energy Efficiency

Federal Cluster Policy Efforts 2009-2011

- Economic Development Administration
  - Reorientation of investment priorities
    - #1 Collaborative Regional Innovation--Initiatives that support the development and growth of innovation clusters based on existing regional competitive strengths.
  - Manages i6 Challenge and Jobs and Accelerator Challenge
  - Clusters Mapping Project ($1M)
  - Regional Innovation Acceleration Network

Federal Cluster Policy Efforts 2009-2011

- Small Business Administration
  - Innovative Economy Clusters grants (10 grantees, September 2010)
  - Partner in Jobs and Innovation Accelerator Challenge

Federal Cluster Policy Challenges

- Develop a competitiveness strategy for U.S. traded sectors and define a clear, substantial role for clusters policy within that
- Articulate and implement a clusters strategy that seeks to improve the capacity of all clusters to be more competitive, through various means:
  - Data and information
  - Knowledge development and sharing
  - Strategic use of scarce federal funds from multiple sources
  - Increase funding for cluster grant efforts

Way in the Past

- The Federal government understood the importance of mapping the geography of clusters

CENSUS REPORTS

VOLUME VII

TWELFTH CENSUS OF THE UNITED STATES,
TAKEN IN THE YEAR 1900

WILLIAM R. MERRIAM, DIRECTOR

MANUFACTURES

PART I

UNITED STATES BY INDUSTRIES

PREPARED UNDER THE SUPERVISION OF S. N. D. NORTH,
CHIEF STATISTICIAN FOR MANUFACTURES

WASHINGTON
UNITED STATES CENSUS OFFICE
1902

TABLE LXXXII.—*Boots and shoes: Localization by cities, 1890 and 1900.*

[Cities of 20,000 population and over.]

CITIES.	VALUE OF PRODUCTS.		PER CENT OF TOTAL.	
	1900	1890	1900	1890
United States	$261,028,580	$220,640,358	100.0	100.0
Brockton, Mass	19,844,897	16,171,624	7.6	7.3
Lynn, Mass	16,830,733	20,190,695	6.4	9.2
Haverhill, Mass	15,231,440	16,137,352	5.8	7.3
Cincinnati, Ohio	8,786,424	6,024,454	3.4	2.7
St. Louis, Mo	8,280,156	4,250,960	3.2	1.9
Rochester, N. Y	6,933,111	6,489,382	2.6	3.0
Philadelphia, Pa	5,931,045	6,851,834	2.3	3.1
Brooklyn borough, N. Y	5,733,432	2,489,885	2.2	1.1
Chicago, Ill	5,723,126	7,257,034	2.2	3.3
Manchester, N. H	4,092,204	(1)	1.6	.....
Boston, Mass	3,882,655	1,506,697	1.5	0.7
Columbus, Ohio	3,505,126	359,000	1.4	0.2
Manhattan and Bronx boroughs, N. Y	3,391,063	5,206,411	1.3	2.4
Salem, Mass	2,974,631	1,178,724	1.1	0.5
North Adams, Mass	2,881,474	(2)	1.1	.....
All other cities and outside of cities	147,089,563	125,433,306	56.3	57.3

[1] Not reported separately.
[2] Under 20,000 population in 1890.

TABLE XC.—*Cotton goods: Localization by cities, 1890 and 1900.*

[Cities of 20,000 population or over.]

CITIES.	VALUE OF PRODUCTS.		PER CENT OF TOTAL.	
	1900	1890	1900	1890
United States	$339,200,320	$267,981,724	100.0	100.0
Fall River, Mass	29,286,526	24,925,764	8.6	9.3
Philadelphia, Pa	17,620,298	11,514,601	5.2	4.3
Lowell, Mass	17,046,070	19,789,111	5.0	7.4
New Bedford, Mass	16,748,783	8,185,286	4.9	3.1
Manchester, N. H	11,723,508	10,957,219	3.4	4.1
Lawrence, Mass	8,151,194	6,046,914	2.4	2.3
Pawtucket, R. I	5,635,455	3,954,960	1.7	1.5
Lewiston, Me	4,638,115	5,013,337	1.4	1.9
Taunton, Mass	4,593,466	2,747,816	1.4	1.0
Warwick, R. I[1]	4,413,357	(2)	1.3	.....
Holyoke, Mass	3,764,848	4,392,722	1.1	1.6
Augusta, Ga	3,429,348	3,979,042	1.0	1.4
All other cities and outside of cities	212,149,352	166,474,952	62.6	62.1

[1] Under 20,000 population.
[2] Not reported separately.

TABLE CXXXVIII. *Localization of specified industries, by cities: Summary, 1900.*

[Cities of 20,000 population or over.]

INDUSTRIES.	Value of products in the United States.	Cities.	Value of products in the city named.	Per cent of the United States in the city named.
Collars and cuffs	$15,769,132	Troy, N. Y.	$13,460,196	85.3
Oysters, canning and preserving	3,670,134	Baltimore, Md	2,364,968	64.4
Coke	35,585,445	Connellsville, Pa.[1]	17,128,112	48.1
Brassware	17,140,075	Waterbury, Conn.	8,188,492	47.8
Carpets and rugs, other than rag	48,192,351	Philadelphia, Pa.	21,986,062	45.6
Gloves	16,721,234	Gloversville, N. Y.[2]	6,487,227	38.8
	16,721,234	Johnstown, N. Y.[2]	2,576,048	15.4
	16,721,234	Chicago, Ill	2,209,529	13.2
Silverware	10,569,121	Providence, R. I.	3,834,408	36.3
	10,569,121	Manhattan and Bronx boroughs, N. Y.	2,741,994	25.9
Slaughtering and meat packing, wholesale	698,206,548	Chicago, Ill	248,811,907	35.6
	698,206,548	Kansas City, Kans.	73,205,027	10.5
Plated and britannia ware	12,603,770	Meriden, Conn	4,129,896	32.8
Jewelry	46,501,181	Providence, R. I.	12,719,124	27.4
	46,501,181	Manhattan and Bronx boroughs, N. Y.	9,172,849	19.7
	46,501,181	Newark, N. J	7,364,247	15.8
	46,501,181	Attleboro, Mass.[2]	5,701,802	12.3
Agricultural implements	101,207,428	Chicago, Ill	24,848,649	24.5
Silk and silk goods	107,256,268	Paterson, N. J	26,006,156	24.2
Tobacco, chewing, smoking, and snuff	103,754,362	St. Louis, Mo	24,411,307	22.7
Corsets	14,878,116	Bridgeport, Conn.	3,224,198	21.7
	14,878,116	New Haven, Conn	1,893,956	12.7
Worsted goods	120,314,344	Lawrence, Mass.	24,678,138	20.5
	120,314,344	Providence, R. I.	16,603,252	13.8
	120,314,344	Philadelphia, Pa.	16,242,250	13.5
Fur hats	27,811,187	Danbury, Conn.[2]	5,007,095	18.0
	27,811,187	Newark, N. J	3,463,619	12.4
	27,811,187	Philadelphia, Pa.	3,075,470	11.1
Brass castings and brass	30,348,044	Waterbury, Conn	5,060,589	16.6

TABLE CXXXIX.—*Specialization of cities, by specified industries: Summary, 1900.*

[Cities of 20,000 population or over.]

SPECIFIED INDUSTRIES.[1]	SPECIALIZED CENTERS.	AVERAGE NUMBER OF WAGE-EARNERS IN SPECIALIZED CENTERS.		
		All industries.	Specified industry.	Per cent of specialization.
Slaughtering and meat packing, wholesale	South Omaha, Nebr.	6,606	5,938	89.9
	Kansas City, Kans.	10,544	7,664	72.7
Iron and steel	McKeesport, Pa	7,605	6,753	88.8
	Youngstown, Ohio	9,150	6,644	72.6
	Newcastle, Pa	4,992	3,320	66.5
	Johnstown, Pa	6,116	3,871	63.3
Pottery, terra cotta, and fire-clay products	East Liverpool, Ohio[2]	4,473	3,908	87.4
Fur hats	Bethel, Conn.[2]	780	671	86.0
	Danbury, Conn.[2]	4,206	3,113	72.5
	Orange, N. J	2,712	1,497	55.2
Glass	Tarentum, Pa.[2]	1,420	1,152	81.1
	Charleroi, Pa.[2]	1,270	983	79.1
	Millville, N. J.[2]	2,290	1,463	63.9
	Gas City, Ind.[2]	1,427	800	62.4
	Alexandria, Ind.[2]	1,903	985	51.8
Cotton goods	Fall River, Mass.	32,780	26,371	80.4
	Warwick, R. I.[2]	5,544	4,361	78.7
	New Bedford, Mass.	16,409	12,256	74.9
	Lewiston, Me.	7,159	4,604	64.3
	Manchester, N. H	19,032	10,616	55.8
Boots and shoes	Brockton, Mass.	10,986	8,498	77.4
	Haverhill, Mass	10,600	7,376	69.6
Silk and silk goods	West Hoboken, N. J	3,028	2,366	78.2
	Paterson, N. J	30,190	15,948	52.8
Gloves, leather	Gloversville, N. Y.[2]	8,111	6,075	74.9
	Johnstown, N. Y.[2]	3,884	2,316	59.6
Jewelry	North Attleboro, Mass.[2]	2,162	1,550	71.7
	Attleboro, Mass.[2]	5,106	2,880	56.5
Collars and cuffs	Troy, N. Y.	21,564	14,822	68.7
Worsted goods	Lawrence, Mass.	22,358	10,998	49.2
Hosiery and knit goods				

18. *The Universal Character of the Localization of Industries.*—The tables presented in this chapter indicate statistically the localization of the industries selected. In some of these cases the causes are apparent, while in others there is a variety and complexity of causes which makes an explanation of the phenomenon a very difficult matter. Most of these causes are not local or even national in their character, for they operate in all industrial nations to bring about the same results. Nearly all of the industries shown above have a localization in England which is quite as marked as that in this country. In Russia there are over 500 villages devoted to the various branches of wood work, in one village practically nothing being made except spokes for the wheels of vehicles, in another nothing but the bodies, etc. Moreover the phenomenon is not a modern one, for it has appeared in every manufacturing country as soon as local communities have developed trade with each other. A lawyer's handy book written about 1250, and quoted by J. E. Thorold Rogers in his "Six Centuries of Work and Wages," tells of the localization of scarlet cloth in Lincoln, burnet at Beverly, russet at Colchester, needles at Wilton, razors at Leicester, etc.

20. *The Causes of Localization.*—Seven of the various advantages which give rise to the localization of industries may be stated as follows: 1, nearness to materials; 2, nearness to markets; 3, waterpower; 4, a favorable climate; 5, a supply of labor; 6, capital available for investment in manufactures; 7, the momentum of an early start.

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