Off-shoring - - What Does It Mean for Education, Training and Economic Development

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Graham Toft
Thomas P. Miller & Associates
And GrowthEconomics
gtoft@tpma-inc.com
graham@growththeconomics.com
317 894 5508
941 383 0316
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- Refresher: Growth Economics 501
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- Coping with Off-shoring: Guiding Principles
- What Can State Institutions of High Education Do?
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Clarification of Terms

- Manufacturing
  - Production manufacturing – what official statistics report and commentators, policy wonks and leaders talk about.
  - Total manufacturing = production manufacturing + the “augmented sector”, including lots of services

- Services
  - Derivative services - - meet the needs of the local economy.
  - Export services – sold elsewhere; with advanced telecommunications and computers, now more possible
Global Job Shift: Economic & Political Buzz

**Manufacturing Jobs**
- Steady worldwide decline in *production manufacturing* as % of employment, including in many developing countries such as China.
- But productivity increases ensure growth in output and family wages, including in the U.S.
- Changing from product focus to “total solutions”, which includes advanced services. (Duesterberg & Preeg “U.S. Manufacturing” 2003).
- “Total solutions” calls for innovative manufacturing practices: innovative management, innovative workers, advanced technologies, innovative organization of work, innovative supply chain management…

**Service Jobs**
- Services present 80% U.S. GDP
- White-collar jobs represented 87 % of U.S job growth in the 1990s
- Share of high-skill service jobs provided overseas or by third-parties is rising. Will mfg. R & D, design, engineering be next?
- Growth in non-production mfg. jobs –must look at total mfg.
Global Job Shift: Economic & Political Buzz

**Countries gaining**
- Significant wage and unit labor cost convergence, mainly among advanced countries
- Several East Asian nations show remarkable productivity improvements
- U.S. productivity growth remains robust. IT still continues to transform.

Five key U.S. productivity industries:
- Semiconductors & electronics manufacturing
- Post and telecommunications services
- Wholesale trade
- Retail trade
- Financial services

- Automation tends to keep total mfg in U.S. But, when will other countries catch up?
Global Job Shift: Economic & Political Buzz (cont.)

The Political Buzz

- **IUE-CWA**: “…what Brazilian workers do best is: get fired for organizing; what we do best in the U.S. is: get laid off. And what GE does best is: make $16 billion a year in profits!”

The Growth Strategies Buzz

<table>
<thead>
<tr>
<th>Policy Speak</th>
<th>Biz Speak</th>
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<tbody>
<tr>
<td>• Clusters</td>
<td>• Supply chain management</td>
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<tr>
<td>• Creative Class</td>
<td>• Skunk works</td>
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<td>• Innovation Development</td>
<td>• Cycle Time from discovery to market</td>
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<td>• Knowledge industries</td>
<td>• Proprietary Knowledge</td>
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<tr>
<td>• Services, not manufacturing</td>
<td>• Total solutions</td>
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Refresher: Growth Economics 101 (undergrad level)

**Import Substitution Theory: (In Sourcing)**
- Create it, here – make it here.
- Replace imports with locally competitive substitutes
- Self-sufficiency strategies, e.g. distributed power
- Requires large internal market and even then there are limits to efficiency improvements and therefore growth, without open markets.

**Export Base Theory: (Tradable goods and Services)**
- Sell competitive goods and services to the outside in exchange for $ to buy imports.
- The traded sector – now very competitive; costs and productivity matter.
- The derivative sector – lots of jobs here! But some being lost to offshore also, e.g. diagnostic services in health care.
Refresher: Growth Economics 501 (Graduate level)

**Talent Base Theory:**
- Not what you make or sell, but what brain and skill power you have.
- But if you train, educate and nurture creativity will they stay?
- Attracting and retaining the “creative sector” becomes critically important.
- Global supply chain management of talent as well as materials

<table>
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<th>U.S.</th>
<th>Asia</th>
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<tr>
<td>• U.S. grows by consuming stuff.</td>
<td>• China needs to grow fast by making things; for many Asian countries, exports are more than 50% of G.D.P (In U.S. 12%)</td>
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<td>• Macro policies support low net savings rate (0 – 3%).</td>
<td>• China policy supports high net savings rate (44%)</td>
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<td>• High personal / household debt; need to stretch purchasing power.</td>
<td>• Produces low cost goods of improving quality.</td>
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<td>• Current Account running at $1/2 trillion/yr.</td>
<td>• China / Asia buys U.S. treasuries (“Goods for bonds” at $25 billion / mo.); helps keep down U.S. interest rates.</td>
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<tr>
<td>• Capital inflows keep U.S. productivity up.</td>
<td>• Asian foreign direct investment in the U.S. -- e.g. Japanese auto transplants. When will China build in the U.S.?</td>
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<td>• Unsustainable trade &amp; public deficits, but no end in sight.</td>
<td>• Growth is unsustainable without high U.S. consumption and debt.</td>
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Graham’s Law

“For every giant sucking sound there is an equal and opposite giant sucking sound”

(Or more correctly: In the zero-sum of world trade, every deficit has its surplus)

In the case of the U.S.:

- High trade deficit = high foreign direct investment (approximately 75% of the rest of the world’s savings per year)
Graham’s Law (cont.)

- High capital investment leads to higher productivity and higher knowledge and skills expectations of workers, resulting in higher value added products and services.

How do you weigh up jobs moving off-shore while investments are coming onshore?

(“The conundrum of today’s unbalanced global economy”, Stephen Roach, Morgan Stanley)
A new Force: Creative Destruction (Schumpeter)

- “Innovation Economy” requires constant innovation and technological adaptation in products and services
- Changes in productivity or trade competition routinely upset traditional comparative advantage
- Human talent is displaced, then redirected at expanding and high-value economic needs – “skills and talent on the run” e.g. displaced defense and aerospace engineers & scientists from the 80’s ended up in the .com 90’s boom.
- New Policy Issue: Agglomeration vs. “Disagglomeration” (Clusters yes / no??)
- Very difficult for governments / communities to pick winners but they keep on trying!
“Slicing the Value Chain”

The Modern Supply Chain

Tier 2 Supplier

Tier 1 Supplier

Final Manufacturer

PRODUCT FLOW

Purchasing

Logistics

Marketing & Sales

Production

R&D

Finance

COLLABORATIVE R&D (i.e. inter-supplier research collaboration)

MARKET MEDIATION (i.e. customer relations, demand management, returns)

LOGISTICS MANAGEMENT (i.e. transportation, procurement, flow management)

CUSTOMER/END CONSUMER
“Slicing the Value Chain” (cont.)

- Logistics / distribution both part of “final manufacturing” and the “glue” of global supply chain management.
- R & D and Market Mediation also global in dimension.
- Is this inevitable? All depends on firm strategy in-sourcing / on-shoring can be done if you manage “total costs”.
- “Survey of Current Business”: Employment and Gross Product of U.S. affiliates abroad has not changed dramatically relative to the size of the economy.
- Reports on IT and financial industry outsourcing predict several million jobs shipped abroad in the next 5-10 years (McKinsey, Deloitte, Gartner, Forrester).
- Of $1 U.S. product going through China, only 20 cents are value-added there. Much value added in research and development, design, marketing, logistics, after market services remains on-shore.
Reason for Slicing and Splicing the Value Chain

- **Slicing: Why Out-sourcing / Off-shoring?**
  - Lower operating costs
  - Improved transportation lowers the cost of distance
  - Advanced telecommunications at low cost
  - Being close to growth market
  - Trade liberalization
  - Education and skills explosion globally

- **Splicing: Why In-sourcing / On-shoring**
  - Being close to fast moving domestic markets
  - Greater control over delivery time
  - Lower inventory costs, in transit
  - R & D growth in U.S. - - proximity / partnerships with universities / and industry e.g. SC: International Center for Automotive Research (significant BMW funding).
  - Better qualified mid-level professionals and managers

**Bottom Line:** Find the “sweet spots” in the value chain but be sure to keep core competences and intellectual property.
What Jobs Are On The Move and To Where

- **India**: but has to improve infrastructure and control wage costs; now already outsourcing its outsourcing sector to China
- **China**: but has to invest in infrastructure, language skills and cultural competencies
- **Latin America** – Free Trade of the Americas, the next frontier?
- **Ireland**: a remarkable turnaround in 2 decades - - aggressive growth policy plus well-educated workforce.
- Hungary, Czech Republic, Poland: on the cusp!
- Countries whose % of workforce with postsecondary education is above the U.S. average: Canada, Israel, Lithuania, Singapore.
- Overall, 70% of trade and investment is among advanced economies and their wages are equilibrating.
- Only 11% of jobs have been identified as at risk, mostly in computer, support and administrative services and only 2.5% of total U.S. employment is expected to leave by 2015. But this means a lot of dislocation at **all** knowledge & skill levels. Also having a significant psychological effect on career choice, expansion decisions, public policy debate.
Coping with Off-shoring: Some Guiding Principles for Education, Business and Elected Leaders

Principle 1 Don’t buck the global growth trend and U.S. policy direction. Current policies are tending to accentuate the off-shoring of low pay, low skill jobs. Freed up human capital must move to higher value.

Principle 2 Revamp economic adjustment policies, programs and practices. Find creative ways to help dislocated firms and workers adjust. Avoid restrictions or barriers that seek to “outlaw” off-shoring.

Principle 3 Productivity and innovation are your primary weapons.

Principle 4 Entrepreneurial economies have most chance of survival and growth.

Principle 5 Quality of life matters. Economic growth, quality of life and environment, and human capital development are inextricably linked.
Coping with Off-shoring: (cont.)

Key message to States:

If you are not already doing so, switch to America’s growth path: Innovation and Entrepreneurship (This applies to mainline as well as emerging industries, not just high tech; and applies equally to the government, education and non-profit sectors).

Balance “outside –in” economic development of the past with “inside-out”
What Can State Institutions of Higher Education Do?

1. Get very engaged in the design of efficient / effective workforce preparation of the “new working class” - - the mid level technicians, professionals, paraprofessionals, managers. Pursue integrated, seamless school – middle/community college – university, or 2 + 2 + 2! Must have education-government - business partnerships to do this.

2. Deliver low-priced, quality education to the incumbent worker: meet the adult learner on his / her turf - - convenient, modularized (bite-size), credential-directed, low-priced, self-directed. Again, must be designed and delivered through working relationships with specific firms, trade associations, chambers of commerce, etc.
What Can State Institutions of Higher Education Do?

3 Become very acquainted with how business trade alliances / industry cluster consortia and business civic organizations work. Identify current active and nascent groups that are shaping their competitive environment and act as a convening mechanism as appropriate.

4 Foster service learning by college faculty and students, especially nurture the formation and growth of community learning centers that serve as the intermediary / broker between community needs / local employer demands and education and training providers.

5 Support research into the organization and delivery of adult learning, including the merits of a “Technical and Further Education Agency/Corporation” that combines the resources and creatively delivers Workforce Investment Act training, adult education (ABE / GED) and post-secondary career technical education.
What Can State Institutions of Higher Education Do?

6. Help states craft economic adjustment strategies, policies and organization for a churning economy.
   - Provide accurate up-to-date, easily accessible labor market information (real time state / local LMI that requires business cooperation)
   - Enable WIA-funded “one stops” to become full service “success stories”.
   - Consider ways to coordinate/combine various federal economic adjustment programs (U.S. DOC Trade Adjustment Assistance, U.S. DOC – Economic Development Administration, U.S. Housing and Urban Development, Workforce Investment Act etc.)

7. Accelerate the creation of technology / competitiveness centers affiliated with regional campuses (of universities or community colleges), collaborating with local business alliances e.g. Advanced Technology Centers associated with Community Colleges. Their focus is on industry specific technology and training needs, testing and applied research, and new venture incubation.
What Can State Institutions of Higher Education Do?

8. Provide state specific monitoring and benchmarks of off-shoring - - on-shoring activities. Inform the higher education board of regents, legislature, and state administration on an annual / biennial basis.

9. Prepare students for entrepreneurial careers
   - Formal entrepreneurial education
   - Convene venture conferences
   - Student business plan and innovation competitions
   - Help set up entrepreneurial education in high schools.

10. Learn how to make community, metro and state-based internship placement programs work well and implement.

11. Foster faculty entrepreneurship through supportive personnel policies regarding ownership of intellectual property, set up of university research park and incubator space: create expectations.
What Can State Institutions of Higher Education Do?

12. Create a center / core competencies in the economics of growth, both theoretical and applied. Seek to undertake applied research in target states, regions / metro areas.

13. Create high international profile and explore ways to attract foreign direct investment.

14. Identify core competencies of institutions of higher learning that match the needs of specific U.S. or foreign corporations. e.g. university software development that has direct benefit to particular companies.

15. Help make college towns/cities great places to live. Great jobs grow in cool places.
Bottom Line:

⇒ Economic growth primarily depends on trade, technology and talent. You can’t just look at job shift, but must also take account of talent flows and investment flows. Overall, U.S. is still in good shape so long as productivity growth remains strong due to innovation and investment, both domestic and foreign.

⇒ China’s and India’s economic futures are still very unpredictable, but offer promise of a more prosperous, stable world. They should not be taken as a threat but an opportunity.
Bottom Line: (Cont.)

⇒ Outsourcing domestically or overseas is a necessary and profitable business strategy for certain production stages and products if carefully planned - - global business strategies are here to stay. However, in-sourcing / on-shoring remains a viable, even if over-looked, strategy

⇒ These trends are neither temporary nor avoidable; off-shoring is likely to continue as a political hot button, especially if the dollar does not devalue somewhat

⇒ Competitiveness of U.S. states depends on much tighter linkages between R & D, innovation and commercialization; between schooling and post-secondary education; between business / industry and academia.
American Outlook, April 2004: Nadine Jeserich and Graham Toft

“China and the New Geography of American Jobs”
www.americanoutlook.org