

Faces in the Crowd

The Individual in a Quality Workforce

Eugene Wong
University of California at Berkeley

Introduction

- In the 21st Century
 - Human resource, not natural resource, is the true measure of national wealth
- It wasn't always so!
 - Workers added no net value (18th Century French)
 - Labor cost = subsistence wage (Adam Smith)
- Workers viewed en mass and in the abstract
 - Labor force, workforce, manpower, human resource
- It is time to focus on the individual

Talent Planning

(my assigned topic)

- Talent = scientists, engineers, and designers
 - Skills and creativity required
 - 20+% of the workforce in U.S.
 - Distinct from the owner/senior-manager class
 - Focus on technical workforce:
 - scientists and engineers
- Planning = ?

Forecast Driven Planning

- Forecast needs → resource allocation
 - Forecasting often based on *decision*, not projection, models
 - Large scale manpower planning →
 - Large scale mistakes →
 - Large scale cover-up →
 - Large scale waste
- (Mary Jean Bowman, 1964)
- Top down and centralized planning is high-risk

Planning from the Summit

- U.S. National Summit on Competitiveness
 - Washington, December 6, 2005
- Theme: investing in a technical workforce
- Findings:
 - Too few graduates in science and engineering
 - Poor math/science preparation is the main cause
- Recommendations:
 - Double the number of graduates in 10 years
 - Ease immigration laws (e.g., H1B visas)
 - **More government money!**
- Problem U.S. specific, for now, but may spread

Controversial Conclusions

- Questionable analysis on cause
 - Medicine, also science based, shows no decline
- How can number of graduates be doubled?
 - Fixing the schools is a perennial and universal problem (will not be solved in 10 years)
- Easing immigration laws:
 - Importing solution (historical in U.S.)
 - Pressure on existing workforce
 - Creates an exploitable class of workers
 - Economic solution with (often high) social cost
- Need better understanding of the problem
 - Careers in science and engineering
 - Appropriate public policy role

Careers in Science and Engineering

- Healthy at the top end
 - Research careers offer great satisfaction
 - Senior-managers/Entrepreneurs well rewarded
- Globalization of technical workforce
 - two sides of the coin: outsourcing & importing
- John Mayo's warning (circa 1988)
 - Retraining and life-long-learning a myth
- Careers under stress
 - Short working life (11 years for engineers)
 - Premature obsolescence
 - Financial stagnation

Some Implications

- Rapid erosion of the value of skills
 - 19th Century Parallel
 - Potential for social turmoil
- De-valuing human capital
 - Flow diminished
 - Loss of social return on investment in education
- Norman Bradburn's caution
 - Natural evolution in a free-market economy
 - Competition renders workforce adaptable
 - Government intervention can be costly
 - Don't exaggerate the problem!

A Proposed Policy Framework

- Manpower is a **demand**, not supply, problem!
 - Attract best people to the technical workforce
 - Make this workforce the engine of economic growth
 - Create rewarding and long-lasting careers
 - Ensure continuous improvement in skills
- Need economic objective, not merely social purpose, for government action
- Identify market failures
 - When free market fails **economically**
 - High social returns, but low private returns

Report Card

	U.S.	Taiwan
	B-	
Attracting Talent		A
	C+	
Preparation in School		B+
Undergraduate preparation	A	
for first job	B-	A
lifelong learning		B-
Graduate Education	B+	
M.S.	A	B
Ph.D.		B
On the job training	A	
early career	C	A
mid-career		??
	A	
Exit opportunity		A-

Enhancing Human Capital

- Where is the leverage?
 - Continuous improvement of individual skills
 - Make life long learning a reality
- Leverage existing programs and resources
 - Extension services
 - *Ubiquitous learning*
- Catalyze university-industry partnership in upgrading skills
- Training positions for mid-career employees
 - Internship
 - Industrial fellowships
- Need creative thinking and some planning

Summary

- Human resource = measure of national wealth
 - Engine of economic growth
- Strategy: support adaptation of workforce to free-market change
- Focus: Continuous skill enhancement
- Implementation
 - University-Industry partnerships
 - Creative new programs are needed
- Public policy role: catalyst
 - A deft touch