Tuesday, April 29, 2008
2:15 PM - 3:30 PM

Harnessing Growth to Break Poverty's Grip on the Developing World

Speakers:
Maria Eitel, President, Nike Foundation; Vice President, Nike Inc.
Ricardo Hausmann, Professor of the Practice of Economic Development and Director of the Center for International Development, Kennedy School of Government, Harvard University
Myron Scholes, Nobel Laureate, 1997; Chairman, Platinum Grove Asset Management

Moderator:
A. Michael Spence, Nobel Laureate, 2001; Philip H. Knight Professor, Emeritus, and former Dean of the Graduate School of Business, Stanford University
Harnessing Growth for Poverty Reduction in the Developing World

Milken Global Conference
Mike Spence
Introduction
April 29 2008
Commission on growth and development: Members

- **Mike Spence (USA)**, Stanford University, CA (Chair)
- **Danny Leipziger (USA)**, Vice president, World Bank, PREM Network (Vice Chair).
- **Montek Ahluwalia (India)**, Minister of Planning in India
- **Edmar Bacha (Brazil)**, former President of the National Bank for Economic and Social Development, now in Banco Itau.
- **Dr. Boediono (Indonesia)**, Minister for coordinating Economic Affairs
- **Lord John Browne (Great Britain)**, former CEO, British Petroleum, Managing Director, Carlyle Riverstone
- **Kemal Dervis (Turkey)**, former Minister of Finance; Head of the UNDP program.
- **Alejandro Foxley, (Chile)**, Minister of Foreign Affairs in Chile, former Finance Minister.
- **Duck Soo Han (Korea)**, Prime Minister, Former Minister of Finance and Deputy Prime Minister
- **Goh Chok Tong (Singapore)**, Senior Minister and Chairman of the Monetary Authority of Singapore.
- **Danuta Huebner (Poland)**, Member of the European Commission
- **Carin Jaemtin (Sweden)**, Parliamentarian, former Minister for International Development Cooperation
- **Pedro Pablo Kuczynski (Peru)**, former Prime Minister and former Minister of Finance
- **Trevor Manuel (South Africa)**, Minister of Finance
- **Mahmoud Mohieldin (Egypt)**, Minister of Investment
- **Ngozi N. Okonjo-Iweala (Nigeria)**, former Minister of Finance, Managing Director, World Bank
- **Robert Rubin (USA)**, Chairman Citigroup, former Secretary of the US Treasury
- **Robert Solow (USA)**, Professor Emeritus, MIT.
- **Sir K. Dwight Venner (Saint Kitts and Nevis)**, Governor of the Eastern Caribbean Bank (West Indies)
- **Ernesto Zedillo (Mexico)**, former President of Mexico, Director of the Yale Center Study of Globalization
- **Zhou Xiaochuan (China)**, Governor of the People’s Bank of China (Central Bank of China).

*Source: A. Michael Spence.*
Sustained high growth is very difficult to achieve

“Some of the literature gives the impression that it is after all pretty easy to increase the long-run growth rate. Just reduce a tax on capital here or eliminate an inefficient regulation there, and the reward is fabulous, a higher growth rate forever, which is surely more valuable than any lingering bleeding-heart reservations about the policy itself. But in real life it is very hard to move the permanent growth rate; and when it happens, as perhaps in the USA in the later 1990s, the source can be a bit mysterious even after the fact.”

*(Bob Solow, 2007, OREP)*

*Source: A. Michael Spence.*
Growth and poverty

- Sustained high growth is necessary in many parts of the world in order to reduce poverty
- In countries with per capita incomes below $750 per year, it is arithmetically impossible to reduce poverty by redistribution
- High growth is possible and the challenge is to extend it to as many countries and regions as possible
- Convergence of forces
  - Experience in the high growth cases
  - Research on successful strategy and policy formation
  - Micro initiatives improving health, education, inclusiveness and opportunity
  - More tools for risk management

Source: A. Michael Spence.
Growth dynamics

• 12 or 13 cases of sustained high growth (7% or more for 25 years of more)
• Botswana; China; China, Hong Kong, SAR; Indonesia; Japan; Korea; Malaysia; Malta; Oman; Singapore; Taiwan, China; and Thailand
• India and Vietnam are close because of growth accelerations in the past 10-15 years
• Brazil
• There may be others because of recent growth accelerations (in part due to upward shift in the relative price of energy, commodities and food).
  – The jury is out on whether these initial growth accelerations will be transformed into sustainable growth dynamics: rapid employment creation and structural diversification

Source: A. Michael Spence.
Common characteristics (I)

- Leveraging global economy: demand and knowledge
- Market incentives and decentralization
- High levels (and effectiveness) of savings and public and private investment
- Rapid diversification and incremental productive employment
- Structural transformation
- Resource mobility – especially labor – across sectors and
- Rapid urbanization

Source: A. Michael Spence.
Common Characteristics (2)

- Stable and functional investment environment
- Political leadership and effective, pragmatic and when needed activist government
- Multi decade process: strategies, priorities and role of government evolves
- Pragmatism and willingness to experiment
- A focus on inclusive growth: combined with persistence and determination
- Government that acts in the interests of all the citizens of the country – as opposed to itself or subgroups

Source: A. Michael Spence.
China: GDP per capita and poverty reduction

Source: A. Michael Spence.
Savings and investment in India and China

Source: A. Michael Spence.
Challenges

• Leadership and governance
• Managing natural resource wealth
• Delivering on inclusiveness in developing and advanced countries
• Rapidly shifting relative prices: food, commodities, energy
  – Double edged sword
  – Limits to global growth?
• Education deficit
• Global warming and climate change

Source: A. Michael Spence.
Other background slides
Distribution of global population
2007

Source: WEO April 2008.
GDP based on purchase power parity per capita 2007

Source: WEO April 2008.
Low- and middle- income countries are experiencing rapid growth

Real GDP growth, 2007

Source: WEO April 2008.
Developing economies are facing challenges from inflation. Estimates, 2008

Annual percent change of CPI

Source: International Monetary Fund.
Food was a major contributor to inflation worldwide in 2007.

Source: International Monetary Fund.
Soaring commodity prices
2002 - March 2008

Price index, December 2001 = 100

Sources: DataStream, Bloomberg.
Food riots

The Philippines, April 2008

Source: various news media.

Haiti, April 2008

Bangladesh, April 2008

Egypt, March 2008

GDP per capita (L): 15 cents a day in 2007

Source: Zimbabwe central statistical office.
Increasing price of staple foods

Source: Datastream.
Increasing price of staple foods

Source: Datastream.
Hunger density in Africa

2007

Source: CIESIN.
Hunger density in Africa
2007

Source: CIESIN.
High infant mortality rate in Africa

Source: CIESIN.
Myron Scholes slides
Risk management is comprehensive
All are interrelated

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Features</th>
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| Capital Allocation for Investments | - Stand on its own or within country  
                                    | - Typical or Contingent Capital                                           |
| Portfolio Optimization            | - Risk Management is not risk minimization  
                                    | - Three tools: Diversification, Reserves, Insurance                       |
| Risk Budgeting- Level of Risk     | - Portfolio Performance under Scenarios  
                                    | - Generalized and Specific Scenarios  
                                    | - Reactive or Proactive to Crisis                                        |
| Feedback Mechanisms               | - Risk Reporting and Decomposition  
                                    | - Learning from Experience  
                                    | - Adjusting: Missile v.s. Cannon Ball                                    |
| Professional Business             | Trust but Verify  
                                    | - Operational Controls in Place  
                                    | - Farm versus Hunter Organizations: Compensation  
                                    | - Brain power, memory, risk-sharing, perturbation                        |
| Investor Information              | - Investor Risk Disclosure: Integrity  
                                    | - Investor Information Process                                            |
| Capital Structure                 | - Investor Mix  
                                    | - Counterparty Relations  
                                    | - Cost of Adjustment                                                      |

Source: Myron Scholes.
Capital allocation model

- Portfolio theory (VaR) - Diversified country
  - Correlation structure changes with shocks ➔ one
- Changes in opportunity set
  - Discount rate is not constant
- Adjustment costs
  - Investments are not “putty;” they are “clay.”
- Each investment strategy must be allocated capital to withstand chaotic events. (Unless contingent capital).
  - Trading model – countries, VCs, Firms, Go to Daddy
  - Investor model – The value of Flexibility: Optionality
  - Hardware v.s. Software v.s. Mushware solutions – shocks time stops
- Negative Convexity
  - The value of flexibility – non-linear effects
  - Growth countries forced to add to capital, whipsawed if cut, restart

Source: Myron Scholes.
Optimization tools

- Optimization model is not consistent over time.
  - Diversification not possible for growth countries.
  - Reserves are expensive without contingent capital.
  - Insurance of tail risks possible.
- Risk management is not risk minimization.
- Level of risk is decided by entities - endogenous.
  - Depends on costs of adjustment and hedging of shocks.
  - Risk Budget constraints – Proactive.
  - Adjustment cost constraints.
  - Concentration constraints.
  - Liquidity cost constraints and balance sheet costs.

Source: Myron Scholes.
Plan for crisis, scenario analysis

- What happens in a global shock such as 2007-2008. Multiple shocks and increasing numbers.
- Tradeoff between balance, insurance and reduction of level of risk (reserves)
  - The three tools of flexibility
- Goldilocks and the three bears:
  - Heisenberg Uncertainty Principle of Finance
  - What to do in a shock: Time stops
  - Negative convexity
- Bayesian versus Information Theory

Source: Myron Scholes.
Feedback system

• Vertical and Horizontal Structures.
  – Trust but Verify
  – Controls behavior and allows for more risk taking

• Learning and reacting to measurement

• Calibrate models to build more and better information systems

• Lack of information in a chaotic environment

• Learn how money is being made.
  – What to do with measurement

• Data-mining revealed through results
  – Mimicking is dangerous

Source: Myron Scholes.
Reporting system for risks

• **Internal**
  – Relevant technology to summarize risks
  – Operational risks

• **Investors**
  – Transparency (full information of no value)
    • Government always wants more transparency
  – Monitoring is costly and valuable

*Source: Myron Scholes.*
Firm structure/compensation

- Moral hazard
  - Trader model
  - Investor model
- Hubris (master-of-universe)
- Agency problems
  - Banking profits
  - Reporting
  - Option to come back (Japan)
  - Model risk (Buffet/derivative failures)
- Structure of operating the firm.
  - Brain power; Memory; Risk-sharing; Perturbation

Source: Myron Scholes.
Capital structure issues

• Financing
  – Available in adverse conditions at what cost
  – Liquidity costs in adverse times if need to reduce investments
  – Lock in effects with risky debt – strip financing

• Investors
  – Permanent capital versus overnight capital
  – Contingent capital with dynamic opportunity set
  – Flexibility

Source: Myron Scholes.
New vistas on the development challenge

Ricardo Hausmann
Question: How many of the 24 developed countries had their highest GDP per capita before 2000
None

Source: Ricardo Hausmann.
Take the US as an example

Source: Ricardo Hausmann.
Out of 112 developing countries with data since 1980, how many had their maximum GDP per capita before 2000?
67 (58 percent) had their peak before 2000

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Source: Ricardo Hausmann.
Zambia GDP per capita

Source: Ricardo Hausmann.
Most growth collapses coincide with export collapses

Source: Ricardo Hausmann.
Collapses in exports were typically larger than those in output

Source: Ricardo Hausmann.
The growth collapse in Zambia

Log of real exports per capita

Log of real GDP per capita

Source: Ricardo Hausmann.
A different perspective on the development process
Rich countries produce rich country goods

Sophistication of exports is measured as the income per capita of countries with a comparative advantage in the country’s export basket.

- Rich countries do not just produce more of the same
  - They produce different goods
- To grow rich, countries need to change what they produce and export

Source: Ricardo Hausmann.
Sophistication today determines tomorrow’s growth: Countries become what they export.

Strong evidence that countries converge to the level of income of the countries they compete with.

Source: Ricardo Hausmann.
How to advance? Monkeys and trees

Our metaphor:
• Products are like trees
• Firms are like monkeys
• Structural transformation: process whereby monkeys move from the poor part to the rich part of the forest
• Easier for monkeys to jump short distance (i.e. to change to products that use similar capabilities)

Source: Ricardo Hausmann.
Moving to different products is more difficult

New products face a chicken and egg problem:
- Why create inputs for an industry that does not exist?
- How can the industry exist, if the inputs are not there?

In practice, new products use inputs that have been accumulated to serve other “nearby” products
- This creates very strong path dependence

Source: Ricardo Hausmann.
Step 1: Maximum spanning tree

**Our Approach:**
- Distance between trees depends on similarities of required capabilities
- Distance measured by probability that, if a country is good in one product, it’s also good in another product.
- What is the shape of a forest?
  - Homogenous or Heterogeneous?
- What does it look like?

*Source: Ricardo Hausmann.*
Step 2: Overlay strong links

Source: Ricardo Hausmann.
Step 3: Insert products

Nodes sized according to PRODY, darker links are stronger (red is strongest)

Source: Ricardo Hausmann.
Where are the monkeys?

Source: Ricardo Hausmann.
Where are the monkeys?

Source: Ricardo Hausmann.
Countries face different opportunities to jump to other trees

Source: Ricardo Hausmann.
Strategic approaches

- **Stairway to heaven**
  - Parsimonious industrial policy
  - Help jump short distances to other products

- **Let it be**
  - It ain’t broke
  - Ample space to move in all directions

- **Bridge over troubled waters**
  - Strategic bets
  - Little space to improve quality and few nearby trees

- **Hey Jude: make it better**
  - Competitiveness policy
  - Improve the quality of what already exists

Ease to jump to new products: Open forest

Space to grow in existing products

Source: Ricardo Hausmann.
Where are the countries?

Countries in the policy plane

Ease of Moving to New Products

Room to Upgrade Quality & Grow in Existing Products

Source: Ricardo Hausmann.
Some implications

• Why do many poor countries not catch up to rich countries?
  – Because there is no "stairway to heaven" or sequence of nearby trees that can get them to the denser parts of the product space

• What causes the "resource curse" (bad performance by resource rich countries)?
  – Poor connectedness of the resource intensive sectors

• Why do countries fall into protracted slumps?
  – Because their existing export products get into trouble when they are in a part of the forest where there are no nearby trees

Source: Ricardo Hausmann.
Maria Eitel slides
600 million girls

Source: Nike Foundation.
What a girl could do.

When a girl has 7 or more years of education, she will marry 4 years later, and have 2.2 fewer children.

The population’s overall HIV rate will go down.

Malnutrition will decrease by 43%.

When a girl earns income, she reinvests 90% of it back into her family, compared to 35% for a man.

When 10% more girls go to secondary school, the country’s economy grows by 3%.

She is the most inclusive, long-term, high-return investment in fighting poverty.

Source: Nike Foundation.
And why she can’t do it now.

What happens between the ages of 10 and 19, whether for good or for ill, shapes how girls live out their lives as women.

70% of 130 million out-of-school children are girls.

96 million girls in developing countries are illiterate.

75% of HIV + teenagers in sub-Saharan Africa are girls.

82 million girls have been married before 18. By 2016, this number will double.

Of sexual assaults worldwide, 50% are against girls younger than 15.

Pregnancy is the leading cause of death in girls ages 15-19.

Women do 66% of the work in the world, produce 50% of the food, but earn 5% of income and 1% of the property.

Source: Nike Foundation.
We call it the GIRL EFFECT

We chose an undervalued issue with massive upside potential

Source: Nike Foundation.
Not a gender issue, an economic issue

Source: Nike Foundation.
Who’s investing in her now?

No one
99.4% of international aid is not directed to her.

Her share of each dollar spent?

Less than half a penny.

Our economic empowerment model

Areas of investment:

- Economic empowerment models for girls
- Value chains for girls
- Mentorship for girls
- Savings products for girls

Source: Nike Foundation.
Unleash the potential of 600 million girls

The powerful ripple effect of empowered girls

Source: Nike Foundation.