Masahiko Aoki
Memorial Conference and
Celebration of Life

December 4-5, 2015

Bechtel Conference Center
Encina Hall
616 Serra Street
Stanford University
Dear friends and colleagues of Masahiko Aoki:

Thank you for joining us in celebrating Masa's life today.

April 27, 2015 -- the day after Masa was admitted to the hospital -- was our 40th wedding anniversary. Masa traveled a lot during our 40 years together, and after our daughters left for college I was able to join him on many of his travels. We visited many countries together and I got a chance to get to know his friends and colleagues, many of you who have traveled from all over the world to be with us today. Masa loved interesting conversation, drinking good wine, and eating delicious meals with good company. I will cherish these memories with you as a gift from Masa. I hope to continue the friendship that each of you had offered to us over the years.

Thank you again,

Reiko Aoki
Masahiko Aoki Memorial Conference on Economics
December 4, 2015

Conference Program: Morning Sessions

8:30am - 8:50am          Breakfast & Registration

8:50am - 9:00am          Welcome Remarks
                          Takeo Hoshi (Stanford University)

9:00am - 9:30am          Kenneth Arrow (Stanford University), “Role of
                          Organizational Structure in the Economy”

9:30am - 10:00am         Paul Milgrom (Stanford University),
                          “Designing the US Incentive Auction”

10:00am - 10:30am        Break

10:30am - 11:00am        Koichi Hamada (Yale University), “Masahiko
                          Aoki: A Social Scientist”

11:00am - 11:30am        Kotaro Suzumura (Hitotsubashi University)
                          “Masahiko Aoki (1938-2015): Recollections of
                          his Pilgrimage and Legacy in Japan”

11:30am - 12:00pm        Yingyi Qian (Tsinghua University), “Masahiko
                          Aoki and China”

12:00pm - 1:15pm         Lunch
Masahiko Aoki Memorial Conference on Economics  
December 4, 2015

Conference Program: Afternoon Sessions

1:15pm - 1:45pm  Jiahua Che (Chinese University of Hong Kong)  presenting Masahiko Aoki’s “Three-person game of institutional resilience vs transition: A model and China-Japan comparative history”

1:45pm - 2:15pm  Miguel Angel Garcia Cestona (Universitat Autònoma de Barcelona), “Corporate Governance and Employee Participation: some lessons from Mondragon”

2:15pm - 2:45pm  Herbert Gintis (Santa Fe Institute), “General Social Equilibrium and its Dynamics”

2:45pm - 3:15pm  Break

3:15pm - 3:45pm  Dale Jorgenson (Harvard University), “A Half Century of Trans-Pacific Competition”

3:45pm - 4:15pm  Avner Greif (Stanford University), “Comparative Institutional Analysis: China and Europe Compared”

4:15pm - 4:45pm  Francis Fukuyama (Stanford University), “Asian Kinship, Industrial Structure, and Trust in Government”

4:45pm-5:00pm  Closing Remarks
  Takeo Hoshi (Stanford University)

5:00pm - 6:00pm  Cocktail Reception
Masahiko Aoki Celebration of Life
December 5, 2015

Masahiko Aoki
April 1, 1938 - July 15, 2015

Memorial Program

10:30am  Registration

11:00am  Welcome Remarks
         Takeo Hoshi (Stanford University)

11:03 am  Eulogy
           Kyoko and Maki Aoki

11:10am  Tributes from family, friends, and colleagues

11:45am  Memorial Video

11:50 am  Closing Remarks
          Andrew Simmons

11:55 pm  Lunch Reception
This year marks the seventieth anniversary of the end of the Second World War. Those who lived through the “success” of the post-war period often consider the past 25 years of sluggish economic growth as the “Lost Decades”, while younger generations who did not experience the rapid growth era do not share this notion.

What is the historic task that Japan now faces? Is it bringing about economic revival by the Abe administration’s “three arrows”? Is it the liquidation of the post-war governmental regime and the expression of Japan’s geopolitical presence? Or is it creating new institutions through the active participation of the new generation?

As we stand at a historic turning point, we cannot just focus on the fluctuations of short-term economic variables. Professor Oded Galor of Brown University and his collaborators suggest a “unified growth theory” approach that combines economic variables, a variety of population-related variables and institutional variables, in order to understand this new transitory phase towards economic growth we are currently in.

Simon Kuznets, winner of the third Nobel Prize for Economics, tried to explain the transition of employment from agriculture to the manufacturing and service industries as the “quantitative aspect of economic growth” by analyzing European economic data spanning the 19th and the 20th centuries. Let us call this the “Kuznets effect” of growth.

Over the past 70 years in East Asia, there have been a succession of rapid growth periods in the per capita gross domestic product: first in Japan (from the 50s and 60s), next in South Korea (from the 70s to
the 80s), and then in China (from the 80s to the present). In each of these periods, there have been disparities in the labor productivity per capita between the agricultural and manufacturing industries. Japan and China showed a five-fold disparity, while Korea was slightly more than three-fold. This rapid growth across all three nations is not surprising given this rapid shift in labor over such a short time period.

The second cause of this rapid economic growth, which occurred in combination with the Kuznets process, was the wave of “baby boomers” born after World War II in Japan, after the armistice that ended the Korean War in South Korea, and in China after the chaos and mass starvation produced by Mao Zedong’s “Great Leap Forward” campaign. These baby boomers engaged in productive activity, resulting in an increase in per capita GDP. This is known as the “demographic dividend.”

However, both of these factors are irreversible processes. Both in Japan and Korea, the Kuznets effect disappeared once the proportion of the population employed in the agricultural sector dropped to less than 20 percent, bringing the phase of rapid growth to an end. China’s coastal provinces have now reached this 20% threshold.

Following the end of the Kuznets process, increases in per capita GDP rely on a rise in per capita labor productivity in secondary and tertiary industries. There are two primary factors that enable this. First is an increase in capital equipment per worker (known by economists as a capital labor ratio), and second is institutional innovation in economic organizations and the accumulation of human capital (known as total factor productivity, or TFP).

China’s official statistics do not accurately reflect the numbers of “migrant” workers from rural areas working in cities, and a certain amount of the recent rise in productivity is most likely due to a hidden Kuznets effect. At the same time, TFP contributions in the 2000s are considered low.

Without complementation by human capital and institutional factors, the contributions of mere expansion of physical capital to productivity decrease
(the law of diminishing marginal products of capital). The gradual but steady rise in labor productivity in Japan in the 70s and 80s relied greatly on those innovative factors.

However, at this phase, two challenges arise. First, human capital investment becomes costly to parents in terms of effort and time of childrearing, and cost of education. As a result, the birth rate for women falls in this internal phase of economic growth. In the unified approach to growth, this is known as “demographic transition.”

Demographic transition, when combined with the retirement of baby boomers from the workforce, leads to a reduction in the relative share of the working population (a negative demographic bonus), and inevitably to an aging population in a “post-demographic transition” phase. Distinctively Japanese factors also had an effect. The institutional innovations in the 70s and 80s included sharing of tacit knowledge through long-term interpersonal relationships of mutual trust within the framework of lifetime employment and corporate grouping, which constituted a factor of Japan’s comparative advantage. The information technology revolution that swept the world in the 80s, however, led to the advent of algorithms that could analyze big data efficiently, which is the opposite of shared tacit knowledge.

We can deduce a number of points from this historical overview. The first is that an increase in labor participation rate is necessary for sustained growth of per capita GDP. The potential gains from greater participation of women in high productivity fields and the postponement of retirement among the elderly is already widely known. Additionally, though it is cause for some debate, the increased acceptance of foreigners into the workforce may also contribute to a rise in productivity — a kind of “reserve army” for the working population. Universities, which face falling enrolment due to the fall in birth rates, can also proactively recruit students, primarily from other Asian countries, with the aim of developing human capital that understands the Japanese
language, customs, and culture. Although xenophobia and vocal hate speech are seen in Japan, Yoshida Shoin himself (a distinguished Japanese intellectual from the mid-1800s) stated that the introduction of foreigners to the country would lead to acquisition of knowledge and population growth, “killing two birds with one stone.” We must reflect on how Japanese culture developed historically through these very processes. More importantly, the productivity per worker must be increased. However, just increasing measured productivity by reducing employment and cutting wages will only exacerbate falling labor participation rates on a macro scale.

Rigid management based on seniority that rests on their laurels will lose its competitive edge in the post-demographic transition period. The key is to build team capabilities that can cross generational boundaries, and can integrate organizational and technological innovations based on investments in human capital, and innovations with IT. Reforming the education system to form diverse human capital is also necessary.

Post-demographic transition is also reflected in the concentration of populations in urban areas. Combining urban new generations that have innovative capacities of market creation and execution, with local older generations that possess traditional know-hows, rural regeneration that fits the new phase of economic growth can prosper tourism, organic farming, and new decentralized businesses that rely on information and transportation infrastructures.

Finally, for Japan — now on the frontiers of post-demographic transition — the most pressing, now-or-never policy need is the creation of sustainable social security system that can be agreed upon by all generations.

In “Capital in the Twenty-First Century,” Professor Thomas Piketty of the Paris School of Economics argues that when rate of return on capital (r) surpasses rate of economic growth (g), the disparity in the distribution of wealth between owners of financial capital and the rest of society increases. However, if earners are able to participate
in the distribution of financial returns through efficiently managed pension funds and social security funds, then, the unchecked and unethical growth of disparity can be curtailed. On the other hand, abolition of public pension provisions to pensioners who are able to adequately support themselves is also worthy of consideration.

What is needed now is a discussion that includes young and old generations about the institutional design in the post-demographic transition phase.

Masahiko Aoki, born 1938 — Senior Fellow at Stanford University and Senior Visiting Researcher at NIRA

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**Long-run Economic Growth of Japan, China, and Korea According to “Unified Growth Theory”**

- Kuznets Effect
- Contribution of Industrial Labor Productivity
- Contribution of Labor Participation Rate
- Demographic Bonus
- Per Capita Growth Rate

Note: For the post-war periods, author’s calculation based on official statistics. For the pre-war growth rates, see Introduction to Masahiko Aoki’s Economics (Book in Japanese).
There is no end to the game of life as long as you live, and there is no victory or defeat. Or should I say victory and defeat alternate “like the strands of a rope.” If it is settled either way, there will be no point of living. This is where I find the fun and gravity in the game of life.

(From Watashi no Rirekisho: Jinsei Ek-kyo Game (My Memoir: Transboundary Game of Life), p.250)