

Annual Review 2020

Can We Turn Despair into Hope with the Pandemic?

14 articles have been selected for the Annual Review 2020 from the six issues of the past year.

- #231 May/June 2020 Issue
- #232 July/August 2020 Issue
- #233 September/October 2020 Issue
- #234 November/December 2020 Issue
- #235 January/February 2021 Issue
- #236 March/April 2021 Issue



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(Listed in alphabetical order by surname as of April 2021)

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Introduction

By Naoyuki Haraoka

FY 2020 was the year of the pandemic. Throughout the whole year, uncertainty, anxiety and despair have been dominant in the world due to the ceaseless expansion of Covid-19. Social distancing to decrease direct human contact as much as possible is at this moment the only solution for reducing infections from the virus. Teleworking increased significantly and face-to-face human contact drastically declined. It was an opportunity to take full advantage of the IT revolution, but at the same time contradictory to the human instinct for socializing. Parties and social gatherings have been significantly restricted since the outbreak of the pandemic. There seems, at first glance, to be much less close human contact and even relations among friends seem to have been damaged.

With the number of daily infections and deaths, people are scared and anxious about the future. On Feb. 1, 2021, as I write this, vaccines are the only hope to reduce casualties. The pandemic's impact on the economy is also horrifying. Global GDP growth in 2020 was -4.4%, according to the IMF estimate in October 2020, and with the exception of China all major nations recorded negative growth. With this deep negative impact on jobs and business activities, in Japan suicides increased in 2020. In particular, restaurants, pubs and coffee shops suffered from a deep fall in profits due to restrictions on their business hours as they were considered prime venues of infection. Tourism was also considered another source of the spread of infection and tourism businesses, hotels and inns also suffered declines due to restrictions on travel. Such developments and continuing uncertainty over the future have turned anxiety to despair for many people.

This is not the way to go in difficult situations. We must keep calm during crises and think about what to do. It is important to keep working and bravely and steadily carry out what each of us may think of as our mission. This is the only way to beat the pandemic. *Japan SPOTLIGHT* continues to work on its mission without being disturbed by scary statistics or uncertainty.

We have selected the following articles from the six issues of the past year as examples of the main pillars of our work in FY 2020, examining the reality of the various impacts of the pandemic, such as on the economy and geopolitics. For FY 2021, we will change our focus to the future rather than the present and examine the pandemic's likely consequences ahead. This will include positive thoughts for the future, as we believe human beings can transform despair into hope in the post Covid-19 era. We hope we will see from the next annual review for FY 2021 that the pandemic was a terrible disaster but proved to be an opportunity for the world and Japan to achieve bold reforms and step into a new stage of civilization.

In the following, readers may find the seeds of hope in this annual review of 2020.

1. Issues on the Global Economy

- 1) Implications of the Pandemic for Capitalism, By Sir Paul Collier (March/April 2021 Issue #236, Cover Story 2)
- 2) Expansion of PCR Testing Is the Key to an Exit Strategy, But Which Is More Important – Sensitivity

or Frequency of Tests? By Kazumasa Oguro (Nov./Dec. 2020 Issue #234, Cover Story 4)

- 3) Interview with Dr. Yasuyuki Sawada, Chief Economist of the Asian Development Bank, Asia to Lead a Global Economic Recovery in 2021 After the Pandemic Recession, By *Japan SPOTLIGHT* (Jan./Feb. 2021 Issue #235, Cover Story 2)
- 4) What the Covid-19 Crisis Means for the WTO Trading System, By Kiichiro Fukasaku (July/Aug. 2020 Issue #232, Cover Story 9)
- 5) Global Collective Action – the Case for Minimalist Strategies, By Jean Pisani-Ferry (July/Aug. 2020 Issue #232 Issue, Cover Story 6)

2. Issues on the Global Geopolitics

- 1) Global Risks & Opportunities Under the “With-Corona” Global Order, JEF-KRA the Fourth Global Risk Symposium Online – an Introduction of Key Geopolitical Developments with COVID-19, By Komatsu Research & Advisory (March/April 2021 Issue #236, Cover Story 1)
- 2) Interview with Matthew P. Goodman, Senior Vice President for Economics, Center for Strategic & International Studies, The Biden Administration’s New Foreign Policy a Key Geopolitical Question in the Pandemic, By *Japan SPOTLIGHT* (March/April 2021 Issue #236, Cover Story 4)

3. Issues on Digital Technology

- 1) Interview with Dr. Kei Sakaguchi, Professor at Tokyo Institute of Technology, 5G – a Technology to Realize a “Super Smart Society”, By *Japan SPOTLIGHT* (May/June 2020 Issue #231, Cover Story 1)
- 2) Interview with Taro Shimada, Corporate Senior Vice President & Chief Digital Officer of Toshiba Corporation, President & CEO of Toshiba Digital Solutions Corporation, CEO & Representative Director of Toshiba Data Corporation, Board Chairman of ifLink Open Community, CPS Technology Creates a Society Sharing the Benefits of Big Data, By *Japan SPOTLIGHT* (May/June 2020 Issue #231, Cover Story 2)
- 3) Role of Digital Education to Help Long-Term Growth Recover Under Covid-19, By Naoyuki Yoshino & Masaki Nakahigashi (Jan./Feb. 2021 Issue #235, Economists’ Views on the Global Economy)

4. Issues on Business Management

- 1) Interview with Dr. Gary Hamel, Co-author of the book *Humanocracy*, How Can We Revive Organizations as Innovative as the People Inside Them? By *Japan SPOTLIGHT* (Nov./Dec. 2020 Issue #234, Cover Story 6)
- 2) The Development of “Job Crafting” & Its Implications in the Workplace in Japan, By Nobutaka Ishiyama (Sept./Oct. 2020 Issue #233, Recent Socioeconomic Issues 2)

5. Issues on Society

- 1) Redistributing Happiness: How Social Policies Shape Life Satisfaction (Part 1), By Hiroshi Ono & Kristen Schultz Lee (July/Aug. 2020 Issue #232, Special Article 3)
- 2) Redistributing Happiness: How Social Policies Shape Life Satisfaction (Part 2), By Kristen Schultz Lee & Hiroshi Ono (Sept./Oct. 2020 Issue #233, Recent Socioeconomic Issues 1)

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Implications of the Pandemic for Capitalism

By Sir Paul Collier



Author Sir Paul Collier

Faced with the Covid-19 pandemic, neither Chinese autocracy nor most of the Western democracies are emerging with much credit. To understand why both systems have revealed severe inadequacies, and what accounts for the exceptions, I draw on recent research that is starting to reveal the characteristics that a successful society needs. They are cohesion, a capacity for wisdom and learning, and trusted modest leadership. Covid has revealed why each of these mattered, and in doing so showed why they matter more generally.

Social Cohesion

The first characteristic is a degree of social cohesion within a community. By social cohesion I mean a ready ability of the people living together in a place to forge shared purposes, shared understanding about how things work and don't work, and shared obligations among citizens. So defined, social cohesion is enormously important in building willing compliance at many different levels. Most obviously, it is valuable at the political level: for democracy to work, its citizens need to be able to come together around some common purpose, such as containing Covid, reach some common understanding of how this is best achieved, such as "we all need to get vaccinated", and then accept the implications at the level of each individual: "I have a duty to get vaccinated."

But it is also valuable at a smaller scale. A successful firm works not as a nexus of contracts between individuals, but as a community. The workforce rallies around some common purpose set by good leadership – this is what Toyota managed to create when it developed "quality circles" to produce fault-free cars. The common purpose was linked to a common understanding of the problem – faults had to be spotted at the point on the production line where they first occurred. This translated into individual actions – "faults are treasures" to be spotted and reported instantly. Hence, they implied an obligation on each worker to stay vigilant, but not to abuse their new power to stop the production line. Most obviously, a successful family is a community in which those of its members in the prime of life accept obligations to the young and the elderly.

Fortunately, humans naturally form communities: evolution has equipped humans to be far more pro-social than any other mammal. We are hard-wired to belong to communities because they are more effective at achieving human goals than individuals in isolation. Rousseau was the first philosopher to see the advantage of co-operating at scale in a community: hunting solo we could only

catch rabbits, whereas hunting together we can catch stags. Within them, we want to gain the good opinion of the other members through some attribute. That attribute can be thought of as being "a good person". What it means to be a good person will vary between communities. In some, the characteristics which make being so judged can be ranked.

For example, in a Viking community a good person was brave, strong, and brutal against the enemies of the group. In a modern meritocracy such as a university department, a good person may mean one who has high cognitive abilities and publishes a lot of influential papers. In both of these superficially very different communities, members were ranked: some people had higher status than others. But in other communities, people are not ranked but judged according to whether they meet a threshold, such as respectability, kindness, or loyalty, which can be met by all its members. Successful societies abound in such criteria, so that everyone can potentially gain respect. That desire for the good opinion of others is fundamental: by harnessing it to a common purpose, the group can create willing compliance with actions that are individually costly but collectively beneficial. This was needed during Covid. The common purpose of containment required everyone to avoid infecting their neighbors. Denmark could rapidly reopen schools because everyone accepted that children must be kept clear of older people. In contrast, in the United States the immediate response to Covid was queues outside gun-shops: shoot your neighbor was not a viable strategy.

A community forges common purposes through dialogue. Dialogue engages everyone: all members of the community can participate and co-own the outcome. It flows back and forth between equals who aim to understand each other, in contrast to instructions flowing down a hierarchy. An analogy is the game of ping-pong: participation implies mutual acceptance of its rules. The rules of dialogue preclude abuse, and presume a mutual willingness to search for common ground. Even when it cannot be found, people come to understand the validity of the other perspective, reflecting their different life experiences. Dialogue usually takes the form of narrative: it is the style that all of us have evolved to master. It is inclusive, in contrast to deductive analytics and quantification, both of which privilege skilled participants who may be drawn from a distinctive part of the population with its own priorities.

Dialogues not only build common purposes. To achieve those common purposes through coordinated action they need to build a

common understanding of a situation, so that the community can forge a common strategy for action. They are necessary for coordinated action, but not sufficient in themselves. The final step is a sense of common obligation. The rules for bestowing good opinion are linked to the action required of each member. The key concept here is “contributive justice” proposed by the celebrated Harvard moral philosopher Michael Sandel (*The Tyranny of Merit*, 2020). By this he means that fairness hinges on mutuality: everyone must contribute what they can, and through this we gain the respect of others and self-respect. For people to be able to contribute, they need *agency*. They may contribute in multiple ways: through participation in the dialogue that builds the purpose, through bestowing good opinion, and most especially through actions that conform with the strategy.

In the Western democracies, this need for social cohesion has recently been questioned. Diversity has become highly valued, and most especially the assertion and celebration of distinct minority identities, and this is sometimes regarded as incompatible with social cohesion. That same fear of incompatibility is manifest in China and India, where the solution has been to suppress minority identities so as to strengthen cohesion. But I think that both these responses misunderstand the relationship between social cohesion and diversity: properly understood, there need be no tension between them. People can hold multiple identities. A society can be a mosaic of many groups, each with its own distinct identity, as long as all its members share some common overarching sense of a shared identity. Thus, at the level of a polity, people can have strong regional and class identities as long as these do not conflict with a common sense of belonging to the whole. Diversity is even compatible with such sub-national identities being mildly oppositional: “I am a Scot and we have long fought the English”; “I am a Yorkshireman and we have long struggled against the Lancastrians.” They only become damaging if defined in opposition to the whole: “I am a Scot and therefore not British.” But who should be included in the whole?

The answer was provided by Nobel Laureate Eleanor Ostrom (*Governing the Commons*, 1990). The first of her principles by which a community is able to overcome the tragedy of the commons is clarity of boundedness. Everyone in the community must know and accept that they themselves are a member, and know the criteria by which all others are included: the rules of membership must be common knowledge. As with common purpose, common

understanding and common obligations, this common knowledge of the rules of membership can be built through dialogue. For practical purposes, the most realistic rules of membership for a society are those of citizenship.

Some societies were able to conduct a dialogue about Covid. In others Covid was instantly contaminated by prior political divisions and debate was abusive and polarizing, unable to build common purpose.

Wisdom & Learning

In addition to social cohesion, a successful society needs wisdom. Dialogue is an unguided missile that can lead a community into folly or trap a community in dysfunction. Plato thought that wisdom was incompatible with democratic inclusion: decisions must be entrusted to “guardian philosophers”. But this proposition is a dangerous *cul-de-sac*. In denying the agency of dialogue to most people, it divides the community into “insiders” who set purposes and strategy, and “outsiders” who are expected to perform obligations to which they have not agreed. This, I think, is a fundamental breach of contributive justice. Worse, the role of being a Platonic Guardian attracts people who are over-confident of their abilities and a rationale for why their own values differ from those of the majority: they are wiser than others.

So, if everyone must participate in dialogue, but wisdom is an acquired rather than an innate attribute, what can be done? We know that knowledge comes in two forms: expert knowledge is what academics acquire through research, and share through teaching; *tacit* knowledge is acquired through “learning by doing” in a context. We have confused wisdom with expertise: wise decisions need to combine these different types of knowledge, held by different types of people. Wisdom evidently matters most when decisions are difficult, which arises from complexity. But the more complex is the issue, the higher is the ratio of tacit knowledge to expert knowledge involved in it (Paul Nightingale, “Tacit Knowledge and Engineering Design”, in Anthonie Meijers (ed.) *Handbook of the Philosophy of Science: Philosophy of Technology and Engineering Sciences*, North-Holland, 2009). Hence, drawing on tacit knowledge is the critical step in wise decision-taking. On complex matters, expert knowledge without tacit knowledge is dangerous: the confidence of experts becomes a menace. Fortunately, expert knowledge is designed to be shared – it can be taught. In contrast, tacit knowledge is very hard to

share – you learn it by doing it, and it is very particular to context. So, the synthesis on which wise decisions depend is more easily achieved by sharing pertinent expert knowledge with practitioners, than providing experts with the vast mass of context-specific knowledge of experience. Hence the people who need agency for complex decisions are expert-informed practitioners, not experts.

The knowledge that matters changes in response to problems: we repeatedly need to adapt to new situations that we do not fully understand. And so a successful community is one that is continuously adapting, experimenting and learning from trial-and-error. By devolving agency around a new common purpose, many experiments can be conducted in parallel. Within a well-functioning community, once an experiment works it spreads fast: people learn from each other because they trust each other.

Covid was a new problem. Some societies learnt from the first societies to be infected, as did New Zealand, or experimented with different approaches by devolving agency to local communities, as did Denmark. In others, exemplified by Britain, experts pretended that they knew what to do based purely on their own modelling, and so decision-taking was highly centralized. In contrast to Denmark and New Zealand, Britain ended up with appallingly high excess mortality.

Leadership in a Hierarchy

Although both wisdom and adaptability are fostered by devolving agency across the population, there is still an important role for hierarchy and leadership. Many purposes depend upon coordination at scale and although small communities happen naturally, large ones have to be built by leadership. Hierarchy is necessary but dangerous: it tempts leaders to use their power for their own individual purposes. Bad intentions, arrogance, and charismatic grandiosity all need to be prevented from usurping community before hierarchy can safely be allowed into a group. Among all other mammals the only form of leadership is dominance. Both democracies and autocracies can stumble into such leaders: Donald Trump in the US, Xi Jinping in China. They centralize decisions rather than devolve them, undermining both wisdom and adaptability. Faced with such leaders, the advantage of democracy over autocracy is that the agency conferred by the vote tends to remove them, as has happened in the US.

But humans have evolved a second type of leader who wins the

respect of the group through sacrificing self-interest for the common good. Joseph Henrich (*The Secret of Our Success*, 2016) notes that in contrast to dominant leaders pro-social ones commonly use self-deprecating humor. Such leaders win trust and so can be communicators-in-chief. With this power they can swiftly reset common purposes, strategies, and obligations.

Such leaders are able to reset not only purposes and strategy but the very architecture of the decision process so as to suit the situation. At times of uncertainty, the key priority is that experiments should proliferate through devolved agency. But at times when the situation requires a solution that is evident but demands substantial self-sacrifice by everyone, trusted leadership can itself take the decision. For example, in response to Covid a retail business may need to reduce its number of branches and expand its online service. Decisions as to which branch to close cannot be devolved to branches, but the leader may be trusted to take fair decisions on behalf of everyone.

This is why Covid has produced such dramatic differences between societies. In the US, Trump centralized decisions in the presidency; in Britain, the civil service centralized decisions in Whitehall; in China, local officials in Wuhan were so scared of Xi that they suppressed information about Covid until it was out of control. Dominance belatedly enabled containment, but too late to prevent a global pandemic. In contrast, the leaders of Singapore, Denmark and New Zealand had all built widespread trust among their citizens. In Singapore this was used for swift and decisive leadership without arousing dissent; in Denmark and New Zealand, leaders did not claim expertise, but placed responsibility on everyone – “a team of five million” was the slogan of New Zealand’s prime minister.

Conclusion

The implication of Covid is that capitalism can work well, but only in a certain type of society. It is one in which agency has been devolved across the population; in which despite differences, the society is cohesive because people accept a shared identity; in which decision-taking is designed for wisdom and adaptability; and in which leadership is modest and widely trusted. And so the lessons of Covid indeed have implications for both the conduct of businesses and the design of political systems.

The genius of capitalism comes not from harnessing the primitive instinct of greed that we share with all other mammals, but from our

unique human evolved characteristics of being able to bond into a community, to innovate, and to learn from each other. A successful and enduring firm is a purposive community – a network of relationships within and between teams that cooperate to achieve its purposes. It is not merely a nexus of incentivized contracts between individuals. A successful leader of a firm builds trust with employees, suppliers and customers and through these, also with banks, bondholders and shareholders. These relationships become the key assets of the firm, encapsulated by all the connotations of its brand. Being trusted, a leader can rapidly get a workforce and partner companies to coordinate around new purposes, and new problems, as has proved to be crucial during Covid.

Some firms have taken the short-term option of sacrificing their workforce and their suppliers, to maximize profits for shareholders. Others have recognized that this moment of supreme stress is an opportunity to demonstrate loyalties and thereby to invest in them. Such a network of enduring relationships is the fundamental asset of a successful company, since it cannot readily be threatened by competitors. It therefore makes the firm resilient to whatever shocks might occur, and this is itself a source of financial confidence.

A successful and enduring economy harnesses this potential of individual firms on a larger scale. Through competing in a market, firms are constantly subject to checks and balances that impose a degree of discipline and pragmatism. Despite this discipline, the considerable differences in productivity between firms are remarkably persistent. Hence, whatever is explaining them cannot be easily imitated. Evidently, it cannot simply be a matter of hiring a smart CEO, or getting the latest technology. The persistent difference between good performance and poor performance is that asset of trusting relationships which cannot be transferred. Indeed, successful firms do not just compete with others, they cooperate with them in enduring relationships, as exemplified by the value-chains and business clusters which dominate world trade. A good current example within Europe is Airbus, which is an enduring relationship between a group of European firms that challenged Boeing, in much the same way that a generation ago enabled Toyota to challenge General Motors. Disastrously, Boeing took the short-term opportunistic route to profits, undermining the regulation of safety through effective lobbying. Once its new planes started to crash, its own employees blew the whistle on its reckless strategy. It now faces a devastating loss of consumer confidence, being forced into distressed sales of its planes to bottom-of-the-market airlines.

A successful society applies these same principles at a yet larger scale, integrating economic relationships into larger social purposes. At any one time, around half the population is economically inactive – children and students, the retired, the sick, and the unemployed. Most of us move through a life-cycle of all these phases, and so the economy has to meet these wider needs. This is the foremost task of public policy. But the levels of public policy are so powerful that they carry dangers of abuse if captured either by leaders or sub-groups of citizens. At its best, democracy within the context of checks and balances implied by the rule of law is superior to autocracy because it guards against these abuses. Autocracies can sometimes work well for a while, but being prone to abuses they suffer much wider variations in performance than democracies. At some stage they implode into dysfunction. Indeed, there is no successful example in human history of an autocracy that has sustained a good standard of living for its citizens. But democracy itself only works if it is built on social cohesion, the integration of practical and expert knowledge that enables wisdom, the devolved agency that permits innovation and learning, and the self-sacrificing leadership that enables common purposes to evolve. In some societies, capitalism has derailed because these deeper conditions for a healthy society have derailed.

Nor are the goals of a society reducible merely to economic wants and needs. A society has a culture, and many sub-cultures, which are vehicles through which its citizens find meaning in their lives. Again, the advantage of the devolved agency which is the core strength of democracy is that through freedom of association it enables the dynamism and vitality without which a society ossifies. The supreme autocracy of Louis XIV of France devised a routine so enjoyable that it was designated “The Perfect Day”. That routine was repeated daily for 150 years. Increasingly detached from the lives of ordinary citizens, this proved to be the prelude to a violent and cataclysmic revolution. **JS**

Sir Paul Collier is the author of *The Future of Capitalism* (2018), and *Greed is Dead* (with John Kay, 2020)

Expansion of PCR Testing Is the Key to an Exit Strategy, But Which Is More Important – Sensitivity or Frequency of Tests?

By Kazumasa Oguro



Author Kazumasa Oguro

Awareness of the Issue

The spread of Covid-19 is having a grave impact on our society. For example, in the Cabinet Office's "Quarterly Estimates of Jan.-March 2020 GDP (Second Preliminary)" the real GDP growth rate for the period was an annual negative 2.2% (year-on-year), but the average forecast of 12 private think-tanks puts the estimated growth rate for the April-June period at an annual negative 27% (year-on-year), and the Japanese economy looks set to sink to its worst level since the end of World War II.

On May 25, 2020, the Japanese government lifted the State of Emergency Declaration on the spread of Covid-19 across Japan, but with the reopening of social activities and economic activities, infections are once again spreading, especially around Tokyo.

Depending on the spread of infections, the government may once again issue restrictions on going out, or ask for voluntary restraint on business activities, but in this instance the economic loss will be immeasurable and the number of small and medium enterprises (SMEs) going bankrupt will likely rise sharply. In fact, the 2020 version of the White Paper on Small and Medium Enterprises (approved by the Cabinet on April 20, 2020) points to the "likelihood of concerns over financing difficulties in the accommodation and food service industry deepening for the next six months." According to the Financial Statements Statistics of Corporations by Industry (Ministry of Finance) for Fiscal 2018, cash deposits held by SMEs with capital of 10 million yen to 50 million yen only amount to around three months' worth of operating costs.

Is there a way to continue near-normal social and economic activities by utilizing the knowledge of economics? Addressing this issue requires collecting and putting together various kinds of expertise, but the most important requirement looks to be resolving "information asymmetry".

Currently, the number of confirmed cases in Japan is 42,098 people (as of Aug. 5, 2020), and this means that to begin with there are more people who are not infected. Yet why are the vast majority of people restricted from going out or asked to refrain from social and economic activities? This is because there is an "information asymmetry". For our part also, there are many cases where we ourselves cannot determine whether we have been infected or not. This is why we aim to lower the number of times we interact with other people by restricting ourselves or refraining from going out. Japan has thus far been successful in placing the so-called cluster control as its main

strategy, but because the focus was on targeting the test subjects and tracing their contacts, the number of tests has been extremely low compared to other countries. But when normal economic activities re-open, if we are able to determine ourselves whether we have been infected or not by utilizing technology, the situation will change drastically.

This is why Professor Paul Romer of New York University, who is a Nobel Prize winner in Economics and a heavyweight of the American Economic Association, is recommending 20 million tests be conducted a day (<https://roadmap.paulromer.net/>). An infectious disease team in the United Kingdom is also recommending 10 million tests a day (<https://epfhg-covid-19.org/>), while the Rockefeller Foundation proposes 30 million a day (<https://bit.ly/2wWlxTC>) and the Center for Ethics of Harvard University 50 million a day (<https://ethics.harvard.edu/Covid-Roadmap>). Quite coincidentally, from very early on (May 9, 2020), I and others constructed an online "Emergency Recommendation: Covid-19 V-shaped Recovery Project", and in the "Exit strategy" addressing expansion of Covid-19 we released an emergency recommendation to conduct 10 million tests a day.

The main message of the emergency recommendation is that "the most important aspect of balancing containment of the expansion of infections with social and economic activities is for all citizens to be able to regularly (around once every two weeks) find out, if so they desire, whether they have been infected with coronavirus, thereby creating a system, within six months at the latest, where people who continuously test negative feel safe to resume going out and work, and this is most crucial in going forward to the next step." Later, the Canon Institute for Global Studies and others released similar recommendations on expanding the testing system.

Is False Positive Really an Issue?

But expansion of the testing system in Japan is slow to move. One of the obstacles is the domestic debate on the "false positive issue". False positive refers to "testing positive when in fact the patient is not infected with novel coronavirus" and an index called "specificity" exists as a concept that demonstrates its accuracy ([Table 1](#)).

Specificity refers to "the percentage of accurately testing negative when not infected with the novel coronavirus", and the relationship "specificity = 1 – the percentage of false positive" generally holds. If specificity is close to 100%, false positive is generally zero. If specificity is 99.99%, false positive is a mere 0.01%. But when

TABLE 1

False positive, false negative & the concept of sensitivity & specificity

	Confirmed cases (A+B)	Non-confirmed cases (C+D)
Positive	A	C False positive
Negative	B False negative	D
	Sensitivity = A/(A+B)	Specificity = D/(C+D)

Source: Compiled by the author

specificity is 99%, it causes major issues.

For example, when specificity of PCR tests is 99%, false positive exists by 1%, and if 14 million people (equivalent to the population size of Tokyo) are tested, even if the number of those infected is in fact zero, 140,000 people (= 1% of 14 million people) will test positive in the form of false positive cases. Even if they are false positive, if 140,000 cases are confirmed, it will exceed the medical capacities such as hospital beds and medical doctors who can treat the patients, and thereby will be highly likely to cause a collapse in the health system.

Therefore, in Japan, there are still voices that oppose the expansion of PCR tests citing the “false positive issue” as one of the reasons, but unless there are human errors such as sample contaminations, the specificity of PCR tests will never be 99% (false positive at 1%), and it is basically 100% (false positive at basically zero). PCR tests are outside the author’s expertise, but this is a fact that came out of a series of study groups that were held with experts.

Several case studies that justify this will be introduced briefly. First is the case of Wuhan city in China. Infections in Wuhan had been contained for a while, but because newly infected patients were discovered between May 9 and May 10, 2020, after about five weeks of no new cases, all citizens in each of the districts of Wuhan were tested over the course of 10 days. Of roughly 9.9 million people, those infected with symptoms were zero, and 300 were asymptomatic. “Specificity = 1 – percentage of false positive”, and it shows that even if all of the asymptomatic patients are false positive, the percentage of those that are false positive is less than 0.0031%, and therefore the specificity of PCR tests turned out to be more than 99.9969%.

Chart 1 lists the rates of positivity in regions with low numbers of cumulative deaths (as of July 1, 2020), but false positives are part of the confirmed cases and therefore “percentage of false positive ≤ rate of positivity” holds (※1). As previously stated, “specificity = 1 – percentage of false positive” (※2), and for example, the rate of positivity in Australia is 0.3%, and therefore from ※1 and ※2 the specificity of PCR tests can be shown to be more than 99.7%. But included in the 0.3% rate of positivity must be those that are truly positive, and hence the specificity of PCR tests may be higher.

For example, let us look at a scenario where 20,000 tests are conducted twice a day, and suppose that there were 116 infected patients for the first test during a period when infections were spreading, and four infected patients for the second test when infections are being contained. The average rate of positivity is 0.3% (= 120 ÷ 40,000), but the rate of positivity for the first test is 0.58% (= 116 ÷ 20,000), and the rate of positivity for the second test is 0.02% (= 4 ÷ 20,000), and if specificity is to be estimated, including for those tests during periods when infections were spreading, true infected patients will also be counted and there is a possibility of mistaking specificity or judging false positive. In fact, it is desirable to estimate specificity from data when infections are being contained, and that can be read from data in *Chart 2*.

This chart shows the trends in the positivity rate of PCR testing in Australia for a given period (May 23 to June 18), and even when 20,000 tests, give or take, were conducted every day, there were many days when the number of confirmed cases was in single digits. If false positive exists around 1%, it means that it would not have been surprising to see around 200 false positive patients alone every day, but that was not the case. On the other hand, if the positivity rate was to be calculated using data in *Chart 2*, it is around 0.03%, and from ※1 and ※2 the specificity of PCR tests is generally around more than 99.97%.

Thus, “unless there are human errors such as sample contamination, the specificity of PCR tests is generally 100% (false positive is generally zero)” is the real truth, and politically opposing the expansion of the testing system based on the “false positive issue” basically does not hold.

CHART 1

Positive rate for low cumulative confirmed deaths by region (as of July 1, 2020)

	Cumulative confirmed cases (①)	Cumulative deaths (②)	Cumulative PCR tests (③)	Positive rate (=①÷③)
Uganda	889	0	170412	0.5%
Fiji	18	0	5105	0.4%
Rwanda	1025	2	147904	0.7%
Myanmar	299	6	79072	0.4%
Taiwan	447	7	77025	0.6%
Malta	670	9	99198	0.7%
New Zealand	1178	22	405329	0.3%
Slovakia	1667	28	211813	0.8%
Latvia	1118	30	152778	0.7%
Lithuania	1817	78	428238	0.4%
Australia	7834	104	2505923	0.3%
South Korea	12850	282	1264422	1.0%
Japan	18723	974	467444	4.0%

Source: Compiled by the author based on “Coronavirus Pandemic (Covid-19) – the data” in *Our World in Data*

CHART 2

Positive rate of PCR tests in Australia

Date	Confirmed cases (①)	Number of tests (②)	Positive rate (=①÷②)	Confirmed cases (7-day rolling average, ③)	Number of tests (7-day rolling average, ④)	Positive rate (=③÷④)
2020-05-23	14	21580	0.06%	11	25230	0.04%
2020-05-24	11	32533	0.03%	10	26096	0.04%
2020-05-25	3	19405	0.02%	9	26024	0.04%
2020-05-26	9	44023	0.02%	8	28908	0.03%
2020-05-27	15	50098	0.03%	9	32393	0.03%
2020-05-28	6	29123	0.02%	9	32823	0.03%
2020-05-29	11	30178	0.04%	10	32420	0.03%
2020-05-30	23	30916	0.07%	11	33754	0.03%
2020-05-31	12	26030	0.05%	11	32825	0.03%
2020-06-01	10	17652	0.06%	12	32574	0.04%
2020-06-02	9	18167	0.05%	12	28881	0.04%
2020-06-03	17	22313	0.08%	13	24911	0.05%
2020-06-04	8	33629	0.02%	13	25555	0.05%
2020-06-05	11	32863	0.03%	13	25939	0.05%
2020-06-06	11	11396	0.10%	11	23150	0.05%
2020-06-07	4	26874	0.01%	10	23271	0.04%
2020-06-08	5	16053	0.03%	9	23042	0.04%
2020-06-09	5	17169	0.03%	9	22900	0.04%
2020-06-10	2	29270	0.01%	7	23893	0.03%
2020-06-11	9	31269	0.03%	7	23556	0.03%
2020-06-12	9	34327	0.03%	6	23765	0.03%
2020-06-13	5	37101	0.01%	6	27438	0.02%
2020-06-14	12	29702	0.04%	7	27842	0.02%
2020-06-15	18	15796	0.11%	9	27805	0.03%
2020-06-16	15	20198	0.07%	10	28238	0.04%
2020-06-17	12	27770	0.04%	11	28023	0.04%
2020-06-18	23	51380	0.04%	13	30896	0.04%

Source: Compiled by the author based on "Coronavirus Pandemic (Covid-19) – the data" in *Our World in Data*

Sensitivity or Frequency of Tests?

If false positive is not a major issue, the next issue that comes is "false negative". False negative refers to "testing negative when in fact the patient is infected with the novel coronavirus", and an index called "sensitivity" exists as a concept to demonstrate its accuracy.

Sensitivity refers to "the percentage of accurately testing positive when a patient is infected with the novel coronavirus", and generally "sensitivity = 1 – percentage of false negative" holds. If sensitivity is generally 70%, false negative is generally 30%, but if sensitivity is 40%, false negative becomes 60%.

Let us suppose there is a region with a population of 10 million and an initial infectious rate of 0.1%, how different will the trends be in the number of confirmed cases when tests are expanded for PCR tests with sensitivity of 70% and when tests are expanded for PCR tests

with sensitivity of 40%? *Chart 3* shows the results of a simplified simulation analysis using the SIR model, assuming a basic reproduction number R_0 of 2.5, infectious period of 14 days, and specificity of 100%. The horizontal axis shows "the number of days since the initial condition" and the vertical axis shows "cumulative number of confirmed community transmissions".

The chart also compares four scenarios: "Basic scenario", "Test expansion 1", "Test expansion 2", and "Test expansion 3". "Basic scenario" sees infections expanding with no tests being conducted, while "Test expansion 1" shows a scenario where PCR tests with 70% sensitivity are conducted for a population of 10 million in 10-day intervals. Testing 10 million residents at 10-day intervals indicates building a testing system for 1 million tests per day.

"Test expansion 2" shows a scenario where PCR tests with 70% sensitivity are conducted for 10 million residents at five-day intervals, and "Test expansion 3" shows a scenario where PCR tests with 40% sensitivity are conducted at five-day intervals. Testing residents of 10 million at five-day intervals indicates building a testing system of 2 million tests per day.

Simulation analysis has been done based on these scenarios, and the overview is as follows. First, since the initial infectious rate is 0.1% and the population is 10 million, the number of confirmed cases in the initial stage is 10,000 people (= 10 million people × 0.1%), and the non-infected are 9.99 million people (= 10 million – 10,000

people). From the initial stage to day one, infected patients at the initial stage randomly transmit the virus at a basic reproduction number of $R_0=2.5$ to non-infected people assuming a certain level of group immunity functionality. In this case, when infected patients are confirmed through regular PCR tests (sensitivity = 70% or 40%, specificity = 100%) conducted for the residents in the region via an expansion of testing, these confirmed patients are assumed to be quickly quarantined. Similarly, the number of confirmed cases on day two and forward is estimated based on data such as the number of confirmed cases on day one.

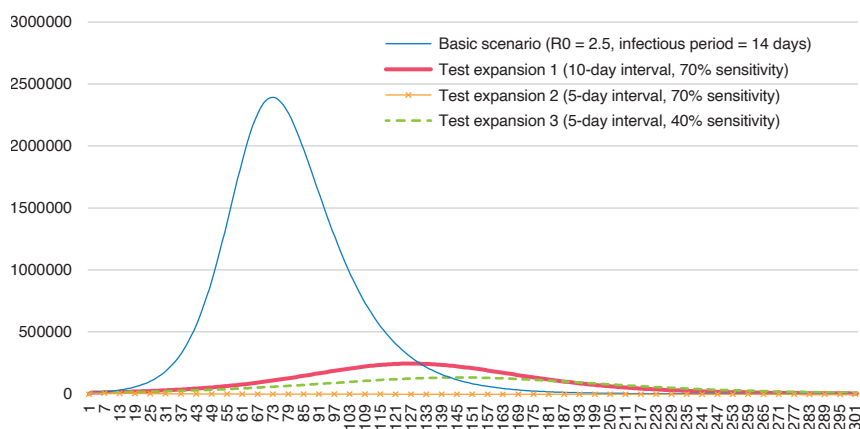
The results of this simulation analysis are shown in *Chart 3*. What we can learn from the results is that as trends in the number of confirmed cases show for "Test expansion 1", "Test expansion 2", and "Test expansion 3", the higher the "sensitivity" and "frequency" of testing, the lower the number of long-term cumulative confirmed

CHART 3

Simplified simulation analysis (population of 10 million, initial infectious rate 0.1%)

(Vertical axis unit: number of people)

(Horizontal axis unit: day)



Source: Compiled by the author

cases. On the other hand, cumulative confirmed cases showed progressive increase for the “basic scenario” where no tests were conducted. This indicates the importance of the “sensitivity” and “frequency” of the tests.

Which, then, is more important, the “sensitivity” (70% or 40%) or the “frequency” (10-day interval or five-day interval)? This can also be read from [Chart 3](#). The chart shows that the number of confirmed cases during each peak at “Basic scenario” > “Test expansion 1” > “Test expansion 3” > “Test expansion 2”, but the relationship “Test expansion 1” > “Test expansion 3” is particularly important.

“Sensitivity” for “Test expansion 1” is 70% and “sensitivity” for “Test expansion 3” is 40%, and while the sensitivity of PCR tests for “Test expansion 3” is inferior to “Test expansion 1”, by increasing the test “frequency” from the 10-day interval to five-day interval, the number of confirmed cases on the 50th day for “Test expansion 3” is at a lower level compared to “Test expansion 1”. This indicates the possibility that “frequency” of PCR tests is more important than “sensitivity”.

In preparing a mass PCR testing implementation system, the drive-through method of South Korea, the “regional PCR centers” of the Tokyo Medical Association, utilizing laboratories of dental doctors and medical doctors, and permission for pharmacies to do PCR testing as adopted in New York may all be utilized, but organizing PCR testing for voters at polling stations in the event of a House of Representative General Election may also be useful. In addition, in order to conduct mass testing, there is naturally a need to secure a great number of human resources and materials.

For human resources, medical experts such as doctors and nurses alone are insufficient in numbers to serve as testing personnel, and therefore there will be a need to allow testing to be conducted by non-medically licensed personnel also, who have gone through proper training, under the supervision of doctors or others. In this instance, the recommendation is to treat expansion of testing as part of public works, thereby prioritizing employing those who have lost jobs and

income due to the current Covid-19 pandemic, and secure the necessary human resources to expand testing. In addition, in order to resolve the bottlenecks that prevent securing necessary materials, a “Network for Emergency Measures for Covid-19 Testing” should be built with relevant ministries, prefectures, and collaborative organizations coming together around the Prime Minister’s Office. It will also be worth considering whether this body can come together and have the functionality of resource procurement, implementation, and aggregation and analysis of test results.

To date, many research institutions and pharmaceutical companies have been working to develop vaccines, but no matter how enormous the capital investment, successful vaccine development in 10 years is not guaranteed. Of course, it is important that the world work together and invest in vaccine

development, perhaps more than it has up to now, and aim for urgent and speedy vaccine development, and such efforts should continue, but coming up with an “exit strategy” that relies solely on a successful outcome comes with huge risks. Thus, developing “treatment”, not just new vaccines, is vital.

In other words, once infected with the novel coronavirus, if proper treatment can be developed at various stages of its symptoms through usage of effective existing medication or a combination of medications and prescribed quantities or frequency, and if the mortality rate can be brought down to a level equivalent or less than regular influenza, the issue of a trade-off between life and economy can be resolved and normal economic activities can be restored.

Regardless, what is important in addressing the expansion of Covid-19 is the final goal and a flexible strategy. To begin with, it is not appropriate to aim for 100% containment of the virus in a short period of time; rather, it is impossible. To uphold the mechanism of democracy and universal values such as freedom and basic human rights, and to gradually restore economic activities, it will be appropriate to aim for a 90% to 95% containment of Covid-19 by gathering public and private knowledge and expertise, and utilizing science and the latest technology led by the private sector.

As [Chart 3](#) shows, the key to an exit strategy lies with “expansion of PCR tests”. An incomplete strategy indeed is the worst, and it is important to be fully aware that aiming for a balance under such an incomplete strategy will, in the end, cause great harm to both. **JS**

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Interview with Dr. Yasuyuki Sawada, Chief Economist of the Asian Development Bank

Asia to Lead a Global Economic Recovery in 2021 After the Pandemic Recession

By Japan SPOTLIGHT

The Asian Development Bank (ADB) released its latest economic forecast for the Asian region on Dec. 10, 2020, as shown in “GDP growth rate and inflation, % per year” (Page 7 of Asian Development Outlook Supplement, December 2020, <https://www.adb.org/sites/default/files/publication/658721/ado-supplement-december-2020.pdf>). Japan SPOTLIGHT interviewed Dr. Yasuyuki Sawada, the ADB’s chief economist on this outlook, as the Asian economy is now considered the main engine of the global economy, in particular during the pandemic crisis.

(Dec. 10, 2020)

Key Features of the Outlook

JS: How do you think growth rates in developing Asia will affect its presence in the global economy?

Sawada: If we decompose global growth rates into regional contributions – Asia, Latin America, etc. – we can see that developing Asia’s contribution has been more than half of global growth over the last decade. The continued growth of Asia is critical as it will be the main driver of global growth. According to 2021 global growth forecasts, more than half of global growth will be supported again by developing Asia and the Pacific region. In this respect, Asia has been and will be a core global driver of the world economy.

JS: There has been a diversity of economic performance among the nations in Asia during the pandemic. What do you think has made this difference? Do you think the public health policy measures to contain the virus or macroeconomic policy measures have made the difference?

Sawada: We are now seeing divergent paths of recovery within the region, with different sub-regions showing different speeds of recovery. Both public health measures to contain the pandemic and macroeconomic policy can explain this diversity, i.e., public health containment policies and the adoption of fiscal policy to support households as well as especially micro and small-scale enterprises. Health and the economy are interrelated but I think the former, health containment, is more critical. Those countries that successfully controlled the pandemic can reopen their economies, leading to better economic prospects. So, I think health containment is a decisive



Dr. Yasuyuki Sawada

element.

Basically, divergent paths can be explained by how successful each country or sub-region is in containing health risks. East Asia is doing well and recovering faster than expected in the health arena; China is leading this. South Asia is expected to contract significantly this year. In the last quarter, India was seriously affected but recently we see strong recovery. Accordingly, we have upgraded our growth forecast for India this year. In contrast, we have revised down our growth forecast for Southeast Asia, from a 3.8% contraction in our September forecast to a 4.4% contraction this time, mainly because these economies in Southeast Asia are still hampered

by the Covid-19 pandemic.

Expected Structural Reforms

JS: Do you think structural economic reforms to raise productivity would also be useful in getting their economies back to normal?

Sawada: In the medium term, I think structural economic reforms are necessary to help economies rebound. The pandemic will have long-lasting impacts on the growth potential of countries, and physical capital is affected because investment has been decreased. Investor sentiment has been adversely influenced and has gone down. Also, some capital became obsolete because firms closed, or business models changed under the sharp digitalization of the economy during lockdown. Human capital is also affected, on health, education and unemployment. Productivity growth may slow as innovation activity is also hampered. Therefore, structural economic reforms are essential to support the recovery and sustain long-lasting growth.

For example, competition policies will be needed to guard against

increasing risks of protectionism.

In order to maximize the benefits of digitalization or the evolution of digital economic transactions, I think lowering the entry barrier in digital platforms will be very important particularly for small and micro enterprises. Overall, competition policies to promote fair competition are critical in this regard. Labor markets should be made more flexible to facilitate adjustments in employment with proper safeguards. Also, regulatory frameworks should be flexible enough to allow firms to adapt to rapidly changing business environments, including digitalization. Public investments in physical infrastructure will be indispensable to facilitate these structural reforms, digitalization, and support robust recovery. These would be sensible policies in normal times, but their urgency is amplified by the current situation.

JS: Inflation would seem to be moderate in general. Are there any concerns about inflation rising in the future?

Sawada: According to our forecasts, inflation is not necessarily a major concern. Depressed demand due to Covid-19 and low oil prices are likely to dampen inflation pressures. So our forecast for inflation for developing Asia was revised slightly down to 2.8% from 2.9% in September. The impact from falling demand and lower oil prices will continue next year, so this could go down to 1.9% for next year's forecast. African swine flu was a problem in China last year, pushing up pork and meat as well as food prices overall. However, this impact has more or less disappeared. So, lower demand and lower oil prices seem to have offset this potential food price hike due to African swine flu. Supply-side disruptions may increase inflation but, overall, the inflationary effect seem to be dominated by falling demand and lower oil prices, hence the 2.8% forecast this year and 1.9% for next year for inflation.

What Happens to Global Supply Chains?

JS: Turning to global supply chains, Chinese people in particular are concerned over disruptions to global supply chains; some economists indicate that this should not be a major concern and that supply chains have been preserved in spite of the pandemic.

Sawada: After all, there are no big concerns about the pandemic's impact on global supply chains.

Even before the pandemic, supply chains were changing and some manufacturing industries in China were moving out of the country. One element is labor costs: China has been the base for low-cost labor-intensive manufacturing since it joined the World Trade Organization (WTO) in the early 2000s. As a result of successful growth, however, wages have gone up and, accordingly, labor-intensive industries have started relocating to other countries. This process of supply chain change seems to be accelerated when the US-China trade conflict intensified in 2018-2019. This promoted the process of firms shifting from China to other Asian countries, especially in the labor-intensive industries. Examples include the electronics industry moving

from China to Vietnam as well as the labor-intensive apparel industry moving to Bangladesh.

Policies should not aim to restore or stop this transformation in production and trade but rather facilitate it in a good direction because overall Asia seems to be gaining from these changes in supply chains. China in the last decade has transformed from an export-driven economy into a more domestic demand-driven economy. So-called "rebalancing" has been ongoing which is not necessarily bad news for China because it is an indication of welfare improvements among Chinese people. Policy should not aim to stop these natural, productive changes based on an exogenous, global environment but should rather facilitate and promote healthy business investment and trade by relaxing investment restrictions and removing red tape. Indeed, this would be another important role playing out in structural reform. The pandemic, of course, has disrupted global value chains at least temporarily, but in the second half of 2020, we observed a rebound in trade and supply chains, especially with Chinese exports of personal protective equipment (PPE), leading to a strong rebound of China's production and exports. Also, electronics products have been showing a strong rebound in East Asian countries due to increasing demand from people working at home.

JS: The digital economy is now expanding. Some economists are saying that we have a global service chain and not a global manufacturing value chain. In that sense, India might be in a better position for growth in the medium term rather than China.

Sawada: If we use exports of commercial services as one measure, in the last 10-12 years, Asia's exports of commercial services have increased sharply – more than doubling from \$500 billion in 2005 to \$1.33 trillion in 2017 (latest figures). This indicates a deepening of global service chains in Asia, as well as connections to the global economy. At the same time, we should note that global service chains and global manufacturing value chains are interrelated and, actually, there is a synergy between the two chains. That is very important. We see the emergence of a global value chain fueling trade in services and the deepening of the global service chain, which further induces a deeper global manufacturing value chain. I think that is very important in particular for Asia, and regional integration has combined advanced technology like 5G with an expansion in trade in services. Your question about India's position in the mid-term is an interesting one, but I am not sure about India being in a better position in the medium term because China's leading role in innovations will also be strengthened due to the synergy of manufacturing and services. We will see five to 10 years from now whether India dominates, but I think both countries will continue to gain from the synergies between the two chains of global manufacturing and services.

Main Risk to Predicted Recovery

JS: What is the main risk which could derail recovery in this region?

Sawada: A prolonged pandemic is probably the largest source of risk, and recurrent waves such as the third wave happening in the United States, and there is another wave in Japan too. These are the most prominent risks, but at the same time we see developments with vaccines that temper this risk. Three vaccines have announced positive results from large scale trials, and this enhances hopes for rolling out in 2021. For developing Asia, not only vaccine development but also safe and effective delivery is important. The largest risk, then, is whether we can secure safe and timely delivery of vaccines. There are also geopolitical tensions between the US and China over trade as well as technology. That is another big risk. The recent US election outcome may result in more predictability. Tension between these two largest economies in the world had generated uncertainty with which private sector entrepreneurs might have taken a wait-and-see strategy which undermines business investments. But I think that the US election result will decrease uncertainty, enhance private investment and increase overall productivity. Also, we can expect a more multilateral approach in resolving bilateral trade conflicts. Having said this, it is unlikely to fully resolve the tension between US and China instantaneously. I think that will take some time to see major progress.

Impact of Asia's Regional FTAs on Global Economy

JS: Regional trade agreements will be very important when the WTO does not work so well. The Regional Comprehensive Economic Partnership (RCEP) was recently concluded. China seems to be interested in joining the CPTPP, and the US may come back to the TPP under a new administration. In that sense, this region's international cooperation efforts, mainly in the area of regional FTAs, will be key to achieving stability in global growth. Would you agree with this?

Sawada: I agree. Regional cooperation initiatives are critical to support Asian growth, which will then support the global economy because Asia is a key driver of the global economy as I mentioned before. The RCEP is the largest FTA in the world, and participating countries in the RCEP agreement account for about 30% of global GDP and 30% of the world's population. So this is a major achievement and will also be a building block towards a more open global economic system that facilitates multilateralism. The RCEP does not include the European Union or the US, but this doesn't mean they will not gain from it. There was one study by Peter Petri of Brandeis University (now with the Brookings Institution) and Michael Plummer of Johns Hopkins University, and according to their simulation analysis both the EU and the US stand to gain from the RCEP. This will be a push towards a more global open economy. In the short term, the RCEP contribution to Asian trade and income may be rather modest. This is because the RCEP is confined to tariff measures and these tariff cuts will take some time to come into effect, and tariffs overall in Asia are not so high. After all, there is not much more room for cutting them further. So the effect will be positive but limited in the short term, but it is a stepping stone towards a broader, more open economic system which is critical

for Asia's role in supporting global growth in the post-pandemic economy.

Wellness as a Key Factor for Sustainable Recovery

JS: What motivated you to highlight the role of wellness in development in the September 2020 outlook and retain it in your new outlook?

Sawada: We prepared this wellness report before the pandemic, considering wellness to be a key to achieving robust development and also achieving Sustainable Development Goal No. 3, so we made it a core concept. Wellness is the pursuit of activity, choices, and lifestyles that leads to stable holistic health. We look from the physical and mental dimensions as the key aspects, but it also includes emotional and social dimensions.

We have seen lots of reports stating that during the pandemic, people stayed at home and thus their physical and mental health was negatively affected. So in this respect I think recovering wellness, especially physical and mental health, is critical. On the economic importance, we computed wellness, industry size and growth, finding that it is a large and growing part of the economy. Before the pandemic, 11% of regional GDP was accounted for by wellness or wellness-related activities (2017) and the wellness economy was growing more than 10% annually. So it is a large and growing part of the regional economy and will be vital as a core element for supporting the post-pandemic recovery in the Asia and Pacific region.

Concerns About Japanese Economy in 2021

JS: According to your estimates, the Japanese economy will not be in such a good state in 2021 ("Gross domestic product growth in the major advanced economies (%)", Page 3, <https://www.adb.org/sites/default/files/publication/658721/ado-supplement-december-2020.pdf>). The growth rate for 2021 looks lower than in European countries, but how can this be given that the spread of infection in Japan is relatively small?

Sawada: In terms of statistics, for 2020, the extent of the drop for the eurozone economy is deeper – our revised estimate is -7.4%, so a deeper GDP decline and then recovery. Because of this contraction, we will see a higher growth rate next year. Japan had a milder drop compared to the eurozone economy and that is why the growth rate for 2021 looks smaller. We envision robust recovery for Japan next year, but the slope will be flatter because Japan has been relatively successful in containing the epidemic and the Japanese government has committed to large-scale financial stimulus to support the economy, such as households and businesses. **JS**

Written with the cooperation of Joel Challender who is a translator, interpreter, researcher and writer specializing in Japanese disaster preparedness.

Global Collective Action – the Case for Minimalist Strategies

By Jean Pisani-Ferry



Author Jean Pisani-Ferry

The range of problems whose solutions require international collective action and the acuteness of these problems are unprecedented. Yet as dreadfully illustrated by the Coronavirus crisis, the willingness of nation-states to cooperate to address these problems is lower than it has been for three quarters of a century.

This tension is here to stay. How it will be solved – or not – will have a fundamental bearing on our ability to tackle rising challenges. This calls for a minimalist but effective strategy that builds on existing institutional arrangements and draws on solutions at work in various sectors to develop adequate incentive schemes that help address collective action problems, while limiting constraints to independent decision-making at national level.

These are the ideas developed in this article. Section 1 revisits the case for global collective action; Section 2 explains why the mismatch between the demand for global collective action and the supply of cooperation is structural; and Section 3 argues that although they fall short of the ambitions for a “new world order”, arrangements at work in a series of fields provide the basis for defining a minimalist agenda for collective action.

Global Challenges: Reality or Artifice?

“A global crisis requires global solutions”: ever since the G20 Summit in London in 2009, there has been a tendency to assume that pressing current challenges call for closer coordination, tighter global rules and stronger international institutions, in short for more global governance. It has been Dani Rodrik’s merit to question it. In a recent paper (“Putting Global Governance in its Place”, World Bank ABCDE Conference, June 2019), he claims that the case for global governance has been overstated. His point is that the relevance of the rationale it rests on, global public goods (which must be managed at the global level), is much narrower than assumed by conventional wisdom (Rodrik makes a similar point about beggar-thy-neighbor policies. I concentrate here on global public goods). According to him, “The world economy is not a global commons, and virtually no economic policy has the nature of a global public good (or bad).”

Rodrik is undoubtedly right that, as is often the case in policy discussions, precisely defined economic paradigms have been taken out of context and applied much beyond the range of cases where they have relevance. Especially, the global public goods concept has been used metaphorically as a justification for a large set of

concerted action issues, many of which do not exhibit the features of a true public good.

Significant positive spillover effects from national policy decisions are not sufficient to characterize a global public good. Development, for example, is not really a public good (though it does have positive spillover effects) and as I will develop, even public health or financial stability do have the required characteristics. The metaphorical use of economic concepts is tempting, but it often leads to wrong policy prescriptions.

Rodrik’s point is valid. But it does not follow from it that the need for international collective action can be overlooked and that each country should only care about its own priorities. To start with, managing the *true* global public goods has become a much more pressing and challenging issue than at any time before in world history. A preserved climate, biodiversity, ocean life, a global Internet, a reasonably well-managed outer space are true global public goods. These – especially the prevention of climate change – are furthermore first-order challenges whose implications may dwarf the costs and benefits of standard economic and trade cooperation. The relevance of the global public goods concept may have been overstated, but this is no reason to disregard its increased and pressing relevance in major fields.

Moreover, the fact that some channels of interdependence do not result in the existence of a true global public good does not eliminate the need for structured international cooperation. It only means that collective action does not face the same challenges and does not need to rest on the same type of international arrangements. This point can be illustrated by comparing climate change mitigation and the preservation of financial stability. A preserved climate is a true global public good, because every emission of greenhouse gas has the same consequences, wherever it takes place. Formally, each country’s utility has the form:

$$U_i = U\left(f_i(E_i), \sum_1^N E_j\right) = V\left(g_i(E_i), \sum_{j \neq i}^N E_j\right)$$

where E_k is the emission reduction effort of country k and $f_k(E_k)$ measures the corresponding disutility in terms of equivalent outcome (which depends on a country-specific abatement curve). Except perhaps for very large countries dU/dE_i is negative (the direct benefits from a country’s own climate preservation efforts are lower than the welfare costs of emission abatement), whereas dU/dE_j is positive for $j \neq i$ (the other countries’ efforts are good for me). As

each country benefits equally from the emission cuts of all its partners and absent an international coercion mechanism, each has an incentive to free-ride on the common effort. Hence, the need – in a first-best world – for coercive global governance mechanisms that tackle the free-rider curse.

Because of the frequently transnational character of financial crises, it is tempting to regard financial stability also as a public good. Actually, it has often been dubbed one (“International Financial Stability as a Public Good”, speech by Masaaki Shirakawa at BOJ-IMF Conference, Oct. 14, 2012). Whereas no country is totally immune from spillover effects from financial crises in partner countries, however, stability depends first and foremost on domestic efforts and secondarily on those of financial partners. Formally,

$$U_i = V \left(h_i(E_i), \sum_{j \neq i}^N \lambda_{ij} E_j \right)$$

where λ_{ij} is a measure of bilateral financial linkages. In most cases $\frac{dU}{dE_i} > \frac{dU}{dE_{j \neq i}} > 0$, meaning that whereas the partners’ efforts matter, domestic efforts matter more and some at least are worth being undertaken in isolation. In such cases there is no incentive to free-ride on the partner’s efforts, but each national regulator may fail to do enough as it overlooks the positive spillover effects of its action. The same applies in public health: each government cares about preserving domestic residents, but in so doing it also reduces contagion to other countries.

What each regulator wants is to ensure that its counterparts act sufficiently strongly *in their own interest*. There is still a need for *some form* of global governance, the goal of which is to agree on standards, to ensure transparency and to create trust, so that each regulator adequately contributes to the common effort. Whereas tackling climate change requires coercion, such interdependence requires information and nudge.

The observation that there are fewer public goods than often assumed does not therefore weaken the case for international collective action, as Rodrik suggests. It merely calls for differentiated governance models, whose principles and binding features should depend on the strength of the corresponding interdependence and the nature of the underlying game.

Indeed, the design of appropriate global governance regimes can be regarded as a matching exercise whereby cooperation schemes of varying scope and exigency meet interdependence channels of varying nature and strength.

The Nature of Obstacles

If the demand for global collective action is strong, is the problem on the supply side? Appetite for common solutions has undoubtedly diminished as a consequence of the worldwide rise of economic nationalism. Furthermore, the insistent assertiveness of the Chinese leadership under President Xi Jinping and the aggressively unilateral stance of the US administration of President Donald Trump both undermine existing institutions and mechanisms.

Governments that still believe in collective action claim their intent to keep multilateralism alive until the Trumpian parenthesis closes, China reconsiders its attempt to build a world order of its own, and the nationalist wave recedes. Hope, indeed, is a tempting strategy. But obstacles to collective action are in fact of a more fundamental nature.

To start with the United States, reluctance over multilateral entanglements has a long history. It has manifested itself on several occasions, from the rejection of the Havana Charter in 1948 to the refusal of the International Criminal Court in 1998 and to recurring difficulties in Congress with trade agreements or the ratification of increases in IMF resources. But something new is happening: the growing perception in policy circles is that the US has accepted too many constraints on its own behavior for the sake of building a multilateral regime that does not put enough constraints on the other players’ behavior.

China is evidently at the core of US grievances, but the issue is in fact broader. When former deputy USTR chief Stephen Vaughn says that the WTO’s Appellate Body instituted on the occasion of the creation of the organization has “become its own sort of rule-making body” that tries to “answer questions that the members left open during the negotiations” and that “American policymakers of both parties have been warning the rest of the world that [...] the United States never agreed to this sort of a process” (*Trade Talk with Chad Bown and Soumaya Keynes*, Episode 111, Peterson Institute for International Economics, Nov. 25, 2019) he is expressing widely shared concerns amongst US lawmakers, some of which were already spelled out by officials in the administration of Barack Obama (“After Doha: Why the Negotiations Are Doomed and What We Should Do About It” by Susan Schwab, *Foreign Affairs* 90(3), 2011).

Overall, however, there is evidence of growing US doubts over the benefits of being bound by international disciplines which limit the scope of (US) policy choices but are not regarded as putting effective enough constraints on the behavior of other players in the global game. For this reason, even if the US eventually abandons the “America First” doctrine, reluctance to engage in binding

international arrangements is likely to persist. As Vaughn puts it, “If you’re really just talking about getting other countries to do what you want the other country to do, I think most of the time, the best way to do that is going to be to use the direct leverage of the United States in terms of its market.” Vaughn, who confesses no sympathy for protectionism, considers that trade policy and international economic policy more broadly should be the result of a domestic political process rather than from an external process and procedural commitments.

What is being suggested is that the US could be freer of international entanglements, but behave as a liberal hegemon that offers global leadership and provides adequate resistance to destabilising shocks. But this is precisely what it was unable to do in the interwar period, at a time when there was hardly a global governance system to speak of. Adam Tooze notes that “the British couldn’t and the United States wouldn’t [...] assume responsibility for [...] (a) maintaining a relatively open market for distressed goods; (b) providing counter-cyclical long-term lending; and (c) discounting in crisis” (*The Deluge: The Great War and the Remaking of Global Order 1916-1931*, Penguin, 2014). In contrast, the US assumed this responsibility in the postwar era through the development of a web of global rules and the creation of dedicated global institutions, but also through a proactive policy attitude, for example through crisis management initiatives such as the provision of swap lines to partner central banks.

This is where China and the increasingly multipolar character of the world economy factor in. The world is not that of the 1960s or even the 1990s anymore. Even if the US “would”, it might not “could”. It is not the dominant trade power anymore, and even if it were willing to “maintain an open market for distressed goods”, it could not lastingly play the role of importer of last resort. As long as the US was an unrivalled global economic and geopolitical power, leaders in the White House could trade off short-term domestic economic or financial interests for the wider development of the liberal international order they regarded as being ultimately in their national interest. But the growing rivalry with China and more generally the advent of a more multipolar world where a series of commensurate powers coexist is likely to result in a retreat from liberal hegemony (*The Great Delusion: Liberal Dreams and International Realities* by John Mearnsheimer, Yale University Press, 2018). In a more economically and geopolitically balanced world, it is more difficult for the US – or any other would-be hegemon – to internalize the costs of systemic stability, especially if other players are not bound by rules.

Whether and where the US, China or the European Union “could”

and “would” nevertheless assume the corresponding responsibility is the defining question for global collective action in the coming decades. Even leaving aside the sheer geopolitical rivalry between the incumbent and the rising power and the risks of falling into the “Thucydides trap” emphasized by Graham Allison (*Destined for War: Can America and China Avoid Thucydide’s Trap?*, Scribe, 2017), it will prove challenging to avoid what Fred C. Bergsten calls the “Kindelberger trap” (*The United States vs. China*, Unpublished MS, 2020) and to share responsibility for leadership.

Scholars of collective action have long pointed out that group size is a key variable to monitor when analyzing impediments to collective action (*The Logic of Collective Action: Public Goods and the Theory of Groups* by Mancur Olson, Harvard University Press, 1965). Todd Sandler regards the difficulty of forming large effective coalitions as the first of Olson’s seven rules of thumb (*Global Collective Action*, Cambridge University Press, 2004). This can be illustrated by the fact that one of the main reasons behind the success of the 1987 Montreal Protocol on eliminating ozone-depleting gases was that only a few countries were significant producers: the US, the EU and Japan accounted for 80% of total production and developing countries for 5% only. But when the same approach was applied to greenhouse gas emissions, it resulted in the failure of the Kyoto Protocol of 1997. There were simply too many major emitters in the developing world for the joint commitment of the advanced countries to be viable and effective.

A Minimalist Agenda

What is commonly called the rules-based multilateral system (or order) covers in fact a fraction of the web of international interdependence: essentially international trade and macro-financial interactions. In the first of these fields, global governance relies on a core set of hard principles backed by a relatively weak institution, the World Trade Organization, but effective dispute settlement mechanisms (until the US challenged them). In the second, governance relies on a strong, adaptable institution, the International Monetary Fund, underpinned by fairly general principles. In both fields, however, global governance is on the retreat and a process of fragmentation is at work.

Outside this core domain, a series of soft arrangements have filled gaps in the incomplete global architecture. In some cases they have failed to produce meaningful results; in some others they have delivered a real modicum of collective action without encroaching on national sovereignty in a major way. Two interesting models in this respect are, first, cooperation between independent institutions

endowed with similar mandates (such as central banks, regulatory agencies and competition authorities) and operating at a distance from political government; and, second, pledge-and-review mechanisms based on shared standards, such as those at work for banking regulation and to some extent climate change.

Hard international law is in some cases indispensable to effectiveness. But depending on the nature of the underlying game, it may not be needed. In fact, the range of solutions accessible without resorting to binding constraints is significant. What is needed is a minimalist strategy that ensures the best use of necessarily limited legal, institutional and financial resources, in a way that matches the nature of the collective action problem that is to be tackled.

This minimalist approach can rest on seven essentials.

1. *A common knowledge base.* Shared knowledge is essential to identify issues and overcome obstacles to cooperation arising from divergent representations of the same problem. Common assessments of upcoming challenges help shape policies even in the absence of any binding arrangement. Climate change mitigation, macro-financial coordination and financial stability initiatives heavily rely on shared knowledge assembled by epistemic communities. Public opinion can pressure governments to act.
2. *Shared principles.* Fundamental principles that command universal support, like national treatment for trade or the no-beggar-thy-neighbour principle in international finance do not eliminate divergence but limit the scope for it. They also serve as an informal coordination mechanism between variable-geometry initiatives. These principles are few, which implies that it is important to preserve them.
3. *Nimble institutions.* Institutions were once considered the masters of sectoral fiefdoms within the multilateral system. But nowadays the fiefdoms hardly cover globalization's territory. With the principles, procedures and governance they are equipped with, institutions should be regarded as wells of social and informational capital that international collective action can draw from. They can provide support much beyond the confines of their initial mandate.
4. *Transparency.* Reliable assessments and independent evaluations of policy actions provide an indispensable basis for cooperation. Transparency does not compel a government to act in a certain direction, but it helps sort out effective from ineffective policies.
5. *Incentives.* Global collective action increasingly relies on pledge-and-review mechanisms that do not compel participants to achieve specified targets but set standards. Such incentive

mechanisms, often buttressed by markets or public opinion, are at work in climate action and financial stability. They can help considerably in fields where the nature of the underlying game does not require collective action to rely on coercion, but where national or regional initiatives need to be coordinated.

6. *Clubs.* Absent universally enforceable rules, sectoral or regional clubs can serve as a substitute. This is most evident in the climate field: should a group of countries decide to implement significant carbon taxes while their trade partners would abstain from introducing them, a border adjustment mechanism would serve both as a way to limit the risks of endogenous breakdown of the climate coalition, and as a way to avoid its members losing out in international trade because they would be the only ones to internalize climate externalities. But the potential role of clubs as a substitute to a truly enforceable international order has more general value. For them not to result in incoherent arrangements, they should be rooted in common principles and could be served by common institutions.
7. *Leadership.* By itself, a scattered landscape of partial and rather soft arrangements is unlikely to provide a response that is commensurate to the magnitude of today's collective action problems. Leadership is indispensable to set priorities, mobilize the institutions, arbitrate between divergent interests, and put pressure on free-riders and rogue players. As things stand, no single country or entity can anymore provide this leadership across the range of fields that must be covered. At the end of the day what matters most is whether or not the major players, starting with the US, China, the EU and other key regional players, will be able to provide the minimum modicum of leadership that will help trigger collective action.

Note: This paper builds on a lecture delivered at RIETI Tokyo on Jan. 10, 2020. It draws on joint research conducted at the EUI in cooperation with George Papaconstantinou. See below.

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What the Covid-19 Crisis Means for the WTO Trading System

By Kiichiro Fukasaku



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Concerns Over the Functioning of the WTO Trading System

A yellow flag was raised to the World Trade Organization (WTO) on March 12, 2020, one day after Covid-19 was declared as a pandemic. Director-General Roberto Azevêdo announced that it would be no longer feasible to organize the 12th Ministerial Conference (MC12) – the organization’s highest decision-making body – scheduled for June 8-11 in Nur-Sultan, the capital of Kazakhstan. Then the WTO decided to suspend all meetings until the end of April, disrupting the critical phase of trade negotiations in the run-up to MC12. This was followed by Azevêdo’s sudden announcement on May 14 that he will step down on Aug. 31.

Coronavirus has no respect for borders. Sooner or later, all infected countries have had to grapple with acute shortages of essential supplies and protective gear for health professionals working on the front lines, let alone life-saving ventilators for hospitalized patients requiring intensive care. They have enforced social distancing, lockdowns, and widespread closures to avoid viral transmission and safeguard healthcare systems. The social and economic damage entailed will be unprecedented, as we must likely wait for a vaccine or cure for the next 12 to 18 months. The burdens fall heavily on those least able to carry them. As soon as the spread of coronavirus is brought under control, they begin to phase out containment measures and reopen their shattered economies. According to the IMF’s latest *World Economic Outlook* published in April, the global economy is projected to contract by 3% in 2020, before growing by 5.8% in 2021 in its baseline scenario in which the pandemic fades in the second half of 2020 and economic activities are back to normal with strong government support measures.

But as the report acknowledges, it is extremely uncertain whether post-pandemic global recoveries will be swift and strong. Much depends on epidemiological pathways and human responses to economic reopening in the coming months. We should prepare for a worse scenario that global recoveries might be staggered and unbalanced, as some countries would be struggling more than others, due to a recurrence of an epidemic not seen since the great influenza pandemic of 1918-20. Economic nationalism has been flaring up around the globe during public health crises, despite an appeal for global solidarity made by the director-general of the World Health Organization (WHO) at the G20 Extraordinary Leaders’ Summit in late March. What concerns us today in such a global

environment is the functioning of the WTO trading system tomorrow.

World Merchandise Trade During Public Health Crises

The novel coronavirus, which originated in Wuhan in November-December 2019, had spread very quickly both within and outside China and exploded into a pandemic by March 2020. (The origin of the SARS-CoV-2 virus that caused the Covid-19 pandemic has been disputed, but we take note of the experts’ view as seen on <https://nextstrain.org>.) The pandemic has exposed all infected countries to public health crises, and then supply and demand shocks, driving their economies into freefall.

Global Supply Chains Get Clogged

Since late March, the WTO has regularly updated a list of trade measures implemented by members in the context of the Covid-19 crisis. This list points to two determining features of world trade today. First, the number of temporary export restrictions on certain medicines and medical devices is substantial and increasing. A proliferation of export restrictions and a drastic fall in international transport services have combined to get global supply chains clogged for medical products. A Global Trade Alert report concludes that “[t]he incoherence between national trade policies and medical response threatens the lives of people at home and abroad, including those of front-line health professionals” (<https://www.globaltradealert.org/reports>).

Import Tariffs on Medical Supplies and Protective Gear Remain High

Second, the number of temporary eliminations or exemptions of import duties on medicines, medical supplies, and ventilators is on the rise – a welcome development. Imports of medicines are already duty-free or subject to low rates in many countries. WTO data show the average most-favored-nation (MFN) applied tariff on medicines is 2.1%, with 72 members maintaining duty-free access (https://www.wto.org/english/news_e/news20_e/rese_03apr20_e.pdf). This is partly thanks to the WTO Pharmaceutical Agreement, a reciprocal tariff elimination agreement (so-called “zero-for-zero initiative”) concluded by major producing countries during the Uruguay Round negotiations. The current participants in the Agreement are Canada, the European Union, Japan, Macao, Norway, Switzerland, and the

United States. Among other categories of medical products, trade in medical equipment enjoys relatively low duty rates (3.4% on average), as a substantial part of technology-intensive medical equipment has been covered by the expansion of the Information Technology Agreement (ITA) in December 2015. On the other hand, the average MFN applied tariff rate remains relatively high for medical supplies (6.2%) and personal protective equipment (11.5%).

Table 1 shows the world tariff profiles of three specific products – diagnostic reagents (HS 382200), medical ventilators (HS 901920), and hand sanitizer (HS 380894) – based on the WHO classification reference for Covid-19 medical supplies at the six-digit level of the Harmonized System. As for the first two products, many countries, rich and poor, maintain similar tariff profiles with duty-free imports adopted by 81 out of 134 WTO members included in *Table 1* for diagnostic reagents and by 67 members for medical ventilators. On the other hand, the world tariff profile for hand sanitizer is different: only 36 members allow duty-free imports, while 16 members – mostly African countries – maintain high duties of more than 15%. These developing members may wish to ramp up domestic production under high import protection, but it raises the question of whether such trade protection lives up to their objectives.

TABLE 1

World tariff profiles for 3 specific medical products

HS 6 Digit Code	382200	901920	380894
Tariff Range	Diagnostic Reagents	Medical Ventilators	Hand Sanitizer
Number of WTO Members per Average MFN Applied Tariff Band			
15 < t	2	1	16
10 < t <= 15	1	3	22
5 < t <= 10	18	18	17
0 < t <= 5	32	45	43
t = 0	81	67	36
Simple Average of MFN Applied Duties	2.7	3.3	7.0
Standard Deviation of MFN Applied Tariffs	4.2	4.3	6.7
Maximum Tariff Rate	26.0	26.0	26.0

Source: Compiled by the author from WTO, Integrated Database (IDB) notifications (accessed on April 3, 2020)

Trade Locomotives Are Broken

According to the WTO report published in April, world trade volume is likely to fall between 13% and 32% in 2020, depending on two distinct scenarios, optimistic and pessimistic (https://www.wto.org/english/news_e/pres20_e/pr855_e.htm). What trajectories world trade will take during the second half of 2020 and beyond is anybody's guess. Nonetheless, the WTO's scenario analysis leads us to anticipate that world trade after the pandemic is unlikely to return to its previous trend, as in the case of the global financial crisis of 2008-2009. This time, world merchandise trade is likely to be much less responsive to world GDP growth, due to disruptions in global supply chains and a drastic fall in traded services, except for information technology services. To this should be added that world merchandise trade was already slowing or even falling *before* the pandemic hit major trading nations (*Table 2*). For example, world import volume was showing negative trends in advanced economies since November 2019. Similarly, the monthly growth of China's import volume was decelerating to register a negative growth of 7.3% in January 2020. Also notable is that the pandemic struck China's export juggernaut, pulling it down to a decline of 11.6% in the same month. The export shock hit all emerging economies, with a fall of 4.3%. For both Latin America and Africa and the Middle East, the trade impact of Covid-19 has been relatively mild so far, but it is expected to show a bigger negative impact as the viral infection continues. Therefore, trade locomotives are all broken this time.

Nonetheless, according to the latest data, China, and other Asian economies were showing some early signs of recovery from the worst trade slump, which may reflect their different responses to the public health crisis. It remains to be seen whether such trade recovery will continue and spread to other regions.

7 Questions on the Future of the WTO Trading System

WTO members are confronted with a broad set of questions, many of which have been discussed over the past two years, such as at the G7 Leaders' Summit at Charlevoix on June 8-9, 2018. The Covid-19 pandemic has added a sense of urgency, as well as some emerging challenges. I will focus on seven questions to see whether the WTO trading system can function as effectively as it should in this extraordinary time.

Decision-Making and Procedural Guidelines

Decision-making by consensus is the *modus operandi* of the WTO and its predecessor, the General Agreement on Tariffs and Trade (GATT). Members are obliged to meet through teleconferences during the pandemic. Although the latest technologies enable them to do so, they also present many hurdles to be overcome for

TABLE 2

Trends in world merchandise trade (volumes, seasonally adjusted)

Regions/Countries*	percentage changes, month on month					
	2019m10	2019m11	2019m12	2020m01	2020m02	2020m03
World trade	0.4	-0.8	0.4	-1.6	-0.7	-1.4
World imports	0.1	-0.8	-0.2	-1.0	-1.7	-0.9
Advanced economies	-0.6	-1.7	-0.2	-0.1	-1.0	-3.1
US	-1.8	-1.4	2.8	-2.1	-1.9	0.3
Japan	-2.0	-1.6	1.1	-2.3	-8.7	13.5
Euro Area	-0.6	-0.6	-1.9	0.9	0.6	-7.6
Other advanced economies	0.7	-3.7	-0.7	0.8	-0.8	-3.4
Emerging economies	1.1	0.6	-0.1	-2.4	-2.6	2.3
China	2.6	2.0	0.1	-7.3	-3.2	6.2
Emerging Asia (excluding China)	0.6	0.8	-0.3	-0.6	-3.5	3.2
Eastern Europe/CIS	0.3	0.6	3.2	-3.6	0.0	-2.1
Latin America	0.8	-2.3	-1.0	1.1	-1.5	-2.5
Africa and Middle East	0.2	0.1	-0.5	-0.2	-0.1	-2.3
World exports	0.8	-0.9	0.9	-2.1	0.2	-1.8
Advanced economies	0.6	-0.9	0.1	-0.4	1.0	-6.0
US	-0.4	0.5	1.2	-1.7	2.0	-4.9
Japan	-0.8	-1.0	0.9	-2.2	2.1	-3.4
Euro Area	1.5	-1.9	-0.3	0.3	1.0	-7.7
Other advanced economies	-0.0	0.2	-0.2	-0.2	0.1	-4.7
Emerging economies	1.1	-0.9	1.9	-4.3	-0.9	3.8
China	-0.6	-0.7	5.4	-11.6	-2.2	12.4
Emerging Asia (excluding China)	2.3	-1.0	2.1	-2.4	-0.3	0.7
Eastern Europe/CIS	-0.6	-2.7	-1.9	0.0	-1.1	-1.8
Latin America	0.0	-1.9	-0.2	-0.1	-0.8	2.3
Africa and Middle East	4.3	1.8	-1.4	-0.2	0.2	1.3

* Regional aggregates are computed with shares in world imports.

Source: Calculated by the author from CPB World Trade Monitor database: <https://www.cpb.nl/en/cpb-world-trade-monitor-march-2020> (accessed on May 26, 2020)

ministers and senior officials from the 164 members to meet virtually and take big decisions in a ministerial conference, which takes place normally once every two years and lasts for several days involving many backdoor consultations and corridor meetings. This consideration leads us to anticipate that, as long as the coronavirus stays with us, the General Council will play a more important role than ever, as it “shall meet as appropriate” at the level of ambassadors and other officials in Geneva, conduct its functions “in the intervals between meetings of the Ministerial Council”, and “establish its rules of procedure and approve the rules of procedure for the Committees” (Article IV: 2 of the Agreement Establishing the WTO). A proposal for “Procedural Guidelines for WTO Councils and Committees Addressing Trade Concerns” has been tabled to the General Council for adoption. It aims to streamline meeting arrangements, make deliberations more responsive to emerging trade concerns, and resolve them informally at the level of committees without recourse to the formal dispute settlement mechanism (see below). This is intended to respond to the often-

heard criticism of the WTO that it has become a “litigation-centered” organization. Are WTO members ready to move ahead with such new procedural and decision-making arrangements in the time of Covid-19?

Transparency and Notification

Enhancing the transparency of members’ trade and trade-related policies is fundamental to sustaining an open and rules-based multilateral trading system as embodied in the WTO Agreements. At no time is this more critical than during the pandemic. Based on notification by members and information obtained from other public sources, the WTO Secretariat has created and updated a database of trade measures concerning the coronavirus-relevant medical and other products, such as food. This database can assist members in their efforts to stand still and roll back export prohibitions and restrictions that were imposed *temporarily* during the public health crises. In the past, many members have tended to leave notification obligations under the different WTO Agreements unattended because of capacity constraints or for other reasons. Proposals have been tabled to ameliorate such situations by allowing cross-notifications from other members, and in egregious cases, by imposing certain penalties on members concerned. The WTO Secretariat is being increasingly called upon to

assist members fulfilling notification obligations and voluntary submissions during the pandemic. Are current WTO staff and resources large enough to help members meet such transparency requirements?

Fairness

Fairness is one of the most important principles of the WTO trading system. The Covid-19 pandemic has raised a few questions about fairness in world trade today. First, as we discussed above, governments have responded to public health crises by enforcing export restrictions on medical supplies and personal protective equipment, while at the same time amassing them for domestic use. A global shortage of face masks, for instance, is a telling episode: a combination of export ban, hoarding and price gouging by some powerful countries has made it difficult for others to import such essential products at affordable prices. As a result, these medical products have become scarce commodities everywhere. Current WTO rules, under the so-called general exceptions, provide broad

space for members to adopt restrictive trade measures necessary to protect public health within their jurisdictions. However, export restrictions and aggressive procurement practices are counterproductive to the global fight against the pandemic, and contrary to the spirit of solidarity proclaimed by G20 Leaders. WTO members should consider rules for fair conduct of international transactions based on the Covid-19 experience.

Second, governments have often used contingency protection – the mix of instruments, such as countervailing, anti-dumping and safeguard measures, which are triggered contingent on certain circumstances, such as subsidization, dumping and import injuries. Countervailing and anti-dumping duties have been frequently applied to protect domestic firms and workers in agriculture and certain manufacturing industries, like iron and steel, from “unfair” foreign competition. This is another area of concern in the post-pandemic economic environment, as governments are susceptible to domestic political pressures for import protection arising from those coronavirus-affected industries that are suffering from evaporating demand due to social distancing and prolonged lockdowns.

A third area of concern is the distortions caused by “non-market practices” in which governments intervene to distort market competition in favor of domestic firms by way of administrative guidance and other directives. The Trilateral Initiative by the EU, Japan, and the US, which began in December 2017, has been instrumental in advancing discussions on industrial subsidies, state-owned enterprises and forced technology transfer. The US has recently made a proposal, entitled “The Importance of Market-oriented Conditions to the World Trading System”, to the General Council. How to deal with “non-market practices” in the WTO is an important issue in the context of Covid-19, as government intervention in resource allocation and economic management is on the rise.

Electronic Commerce and Digital Trade

Affordable access to information and communication technology is critical for people to work, communicate, and go shopping online during the coronavirus pandemic. The digital way of our daily life is likely to continue even after the current crisis is over. This has two ramifications for the future of the WTO trading system. One is that WTO members must accelerate negotiations on a new plurilateral agreement on trade-related aspects of e-commerce, which was kicked off formally at Davos in January 2019. A year later, the number of participating members has increased from 71 to 83, representing over 90% of global trade (<https://www.meti.go.jp/press/2019/01/20200124004/20200124004-2.pdf>). The success of this negotiation is key to the credibility of the WTO itself, and especially of a plurilateral approach to trade negotiations, often referred to as *flexible multilateralism*. To be sure, e-commerce is not

new for WTO members. They agreed in 1998 to launch a “Work Program on E-Commerce”, but since then the rulemaking in the WTO, with the exception of the time-bound moratorium on customs duties on electronic transmissions, has been lagging far behind the digitalization of the global economy.

Another ramification is the urgent need for global trade rules suitable for the 21st century, as the digital revolution is still in its initial stage. Big Data, artificial intelligence (AI) and the Internet of Things are likely to transform almost all manufacturing industries. A case in point is the automobile sector that is finding itself amid major technological and business transformations, widely known as CASE (Connected, Autonomous, Sharing, and Electronic). Thanks to digital technology, financial services are also in the middle of major transformations. For instance, it has helped East Africa play a pioneering role in providing mobile banking for those individuals being denied bank accounts before.

Every country, therefore, has a big stake in WTO rulemaking on e-commerce and digital trade. While certain issues involved are highly political as well as economic, such as protection of personal data, free cross-border data flows, prevention of forced data localization, and prohibition of disclosure requirements for source code and encryption keys, they are not insurmountable. What is fundamental to rulemaking in the WTO is to enhance transparency in members’ policies in the digital age and benefit from greater economies of scale that global market operations can offer. For example, forced localization of storage and data processing does not necessarily increase data protection, as it exposes local data centers to the higher risk of cyberattack. Nor does it facilitate the distribution of information on a global scale, which makes it difficult to realize greater economies of scale.

Development and Differentiation

Development constitutes a core element of the WTO trading system. Yet, nowhere in the WTO Agreements is developing-country status defined, except for the least-developed countries (LDCs) being recognized as such by the United Nations. It is conventional that a member is permitted to self-declare its development status in the WTO. This was perhaps not unrealistic 25 years ago when the WTO was founded, but it is hardly justifiable today when the global economy has become multipolar. The “developed-developing” dichotomy in the WTO membership does not reflect this reality. Nor does it help in negotiations on future trade agreements, which include as an essential component provisions on special and differential treatment (SDT) for developing and least-developed members.

To be sure, differentiation among developing members (other than LDCs) has been incorporated into the WTO trading system. For example, the Agreement on Subsidies and Countervailing Measures

provides them with time-bound and income-based criteria for SDT that have already lapsed. More recently, SDT has taken a new formulation in the Trade Facilitation Agreement (TFA) which came into force in February 2017. The TFA allows developing and LDC members to self-determine their timelines for implementing specific commitments, which is in some cases linked to receiving technical assistance and capacity-building support from the TFA facility. This formulation provides a promising model for future WTO trade agreements. Furthermore, in September 2018, the European Commission made a proposal to modernize the WTO in which developing members other than LDCs were urged to “move away from open-ended block exemptions toward a needs-driven and evidence-based approach” to providing SDT in future trade agreements. The EU proposal also encouraged them to “graduate” the current SDT entirely or in part. Similarly, the US made its own proposal about certain criteria for graduation to the General Council in December 2019.

Global Commons

WTO members can make a specific contribution to protecting global commons: eliminate harmful fisheries subsidies. WTO negotiations on fisheries subsidies received renewed impetus after the adoption in September 2015 of the United Nations Sustainable Development Goals (SDGs), with a specific reference to Target 14.6, which sets a deadline of 2020 to (1) prohibit certain forms of fisheries subsidies that contribute to overcapacity and overfishing, (2) eliminate subsidies that contribute to illegal, unreported and unregulated (IUU) fishing, and (3) refrain from introducing new such subsidies, while at the same time recognizing appropriate and effective SDT for developing countries and LDCs. Since then, WTO members have invested huge political capital in these negotiations, as they are the only active multilateral trade negotiations in the WTO. But the negotiations have been far from straightforward because they must strike a delicate balance between sustainability commitments and development concerns. Opinions have yet to converge, among other things, as to whether to introduce a global cap on use of fisheries subsidies in a new agreement with “comprehensive and effective disciplines”, set as a goal to reach by MC12.

Dispute Settlement and Appellate Review

A functioning dispute settlement mechanism, including fair and effective appellate review of legal matters related to panel reports, is essential to sustain the WTO trading system. Yet the Appellate Body (AB) – the standing body for hearing appeals in the two-tier dispute settlement procedure – has ceased to function since Dec. 11, 2019 when it was unable to make a quorum due to the US blockage of appointments of new AB members for more than three years.

Meanwhile, there have been two important developments. On the one hand, the efforts to resolve this long-standing dispute through the informal process of consultations during 2019, which was led by a facilitator under the guidance of the General Council, have failed. Subsequently, the director-general initiated high-level consultations at the beginning of 2020, which were apparently running into a logjam. On the other hand, the EU and 15 other members have put in place a Multi-Party Interim Appeal Arbitration Arrangement (MPIA), which is a “stop-gap measure” adopted pursuant to the arbitration procedure stipulated under the WTO’s Dispute Settlement Understanding. The establishment of the MPIA reflects the fact that many members share the view that an impartial and independent appeal mechanism is essential for the WTO’s dispute settlement procedure to function, but it also highlights a cleavage that exists between them and the US. The US ambassador to the WTO once explained forcefully the country’s position at the Informal WTO Ministerial Meeting in Davos on Jan. 24, 2020, by saying that “the Appellate Body is not a court and its members are not judges”. However, the US has not yet tabled any concrete proposal to reform the AB.

A recent move by the US to block the adoption by the Dispute Settlement Body of the appellate and panel reports in the case of “United States – Countervailing Measures on Supercalendered Paper from Canada” implies that the dispute settlement mechanism remains in limbo without a functioning appellate review. Therefore, it is not clear what remains to be done if the facilitator’s reform proposal cannot be adopted at the General Council.

Preparing for the Next Crisis

Rebuilding trust in the WTO trading system is essential to sustaining global recoveries in the time of Covid-19. Many affected countries have started to reopen their economies step by step, as a sign that virus infections are becoming subdued. It is fundamental to keep markets open *and* fair, as global businesses restore buoyancy. At the same time, WTO members must prepare for the next crisis, a crisis of climate change, because the costs of inaction – higher incidence of natural disasters related to climate change – would be unbearable to many. A small step for members to take in this direction is to restart plurilateral negotiations on an Environmental Goods Agreement which have remained suspended since late 2016. The Covid-19 pandemic indeed poses formidable challenges to G20 Leaders in restoring global trade health in the future. **JS**

Dr. Kiichiro Fukasaku is an international economist, working extensively in trade, investment, and development fields. His career includes various professional posts at the GATT Secretariat (1983-90) and the OECD (1990-2012), before teaching at Keio University (2012-20).

G lobal Risks & Opportunities Under the “With-Corona” Global Order

The Fourth JEF-KRA Global Risk Symposium — Key Geopolitical Developments in the Current Pandemic Situation

17:00-19:00 (JST), Monday 12 & Tuesday 13 October 2020

By Komatsu Research & Advisory



Dr. Keiichiro Komatsu



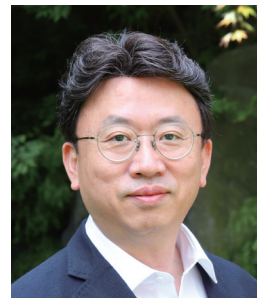
Sir Paul Collier



Professor Hassan Omari Kaya



Mr. Nigel Inkster CMG



Dr. Dong Yong Sueng

The Japan Economic Foundation (JEF) and Komatsu Research & Advisory (KRA) co-organised the fourth Global Risk Symposium to analyse the current rapidly changing international climate from a multifaceted perspective. Given the pandemic, for the first time it was held as an online conference (with simultaneous interpreters) over two consecutive days. Speakers joined from four countries: Japan, South Korea, the United Kingdom and South Africa.

The symposium was held under the Chatham House Rule to encourage frank discussion among the speakers and the audience.

An exclusive audience of 50 people including government officials, business persons, researchers, scholars and media personnel attended the event.

The following is a summary of the symposium produced with the permission of the speakers.

Opening Remarks

by **Mr. Kazumasa Kusaka**, Chairman and CEO, Japan Economic Foundation

Mr. Kusaka thanked the audience for joining the online symposium and briefly explained JEF's recent activities and the thinking behind holding the annual symposium.

When businesses actively operate globally, they may not be able to make good business decisions unless they become sensitive to global risks beyond business inherent risks. To address these challenges, it is extremely important to understand the structure of risks and its backgrounds. The top people from industry, academia and the government are participating to discuss not only their areas of expertise, but taking interest in economy, security and geopolitical risks. Discussions are held to cultivate capabilities to grasp things comprehensively, to enable a holistic approach.

Otherwise, business communities or security experts will not be able to understand the other field and may take action in a one-sided way with only partial knowledge.

This year, the theme of the global risk symposium is, what changes is the global pandemic bringing. While we have been trying to keep it

under control, what does it mean to live “with-Corona”, to coexist with COVID-19. How would the world move and what does it mean for global risks, these are themes that will be covered in this year's symposium.

We hope to hear from each perspective, how to not only passively but actively respond to the risks and opportunities even with the limitations of “with-Corona”. While the COVID-19 pandemic is a clear and present danger in front of us, we hope this symposium would be able to contribute to improving our response towards the risks presented by the coming global challenge through hearing how world-class top-level practitioners and thinkers think through and take action.

Guest Speech

by Professor Yoriko Kawaguchi, Minister for Foreign Affairs (2002-2004), Minister of the Environment (2000-2002), Visiting Professor, Musashino University, Fellow, Musashino Institute for Global Affairs

COVID-19 has upended the world for almost 10 months. The economy, education, no field was free from the impact of COVID-19 and unfortunately the future is quite uncertain. The task given to me today is to discuss the risks and opportunities for international politics from COVID-19.

The international community was already facing a multitude of problems before the outbreak of COVID-19 and the subsequent pandemic aggravated these issues. There were various frictions associated with the rise of China, in particular, rising tensions between the US and China in political, economic and military areas. After the inauguration of US President Trump, the America-first policy became very evident, Brexit and conflicts in Syria and other areas, poverty, deterioration in international co-operation, fragmentation of international community, the lack of leadership, and the list goes on. According to the poll by the US Pew Research Centre on 6 October 2020, which was conducted in 14 advanced economies, it shows a lack of trust in leaders in world-leading countries which is very unfortunate.

The fact that COVID-19 became a rapid aggravating factor in a way cannot be helped because of the nature of the pandemic. The pandemic countermeasures are mostly domestic, such as closing of borders, and reducing dependency on foreign countries including supply chains. As a reflection of the constraints on domestic politics, diplomacy is also constrained for both the US and China and they cannot but take hardliner policies against each other. Having said so, the problem is how to reduce the risk that has increased. The root of the problem is in the difference in principles of governance between China and countries including the US, Europe and Japan, such as the rule of law, freedom of speech and democracy. Therefore, the improvement of the situation is extremely difficult for the short-term.

Regarding the competing relationships between the two major powers, the US and China, so long as the competition is healthy and based on rules, it can be a stabilising factor from the perspective of international politics, in comparison to a case where one hegemonic

state is taking the leadership. It is against the interest of Japan to have poor relations with its ally and its neighbour, so what Japan needs to do in terms of its role is to contribute to smoothe communication between the US and China and make sure that there are no misunderstandings between these two countries. It doesn't mean that Japan should be equidistant in its diplomacy; Japan needs to maintain solidly the position of US ally but also support mutual understanding between the US and China by understanding both countries better.

Another impact from COVID-19 on international politics is a greater importance of international co-operation. The pandemic crosses borders and thus the infections cannot be controlled without international co-operation. The pandemic also will burden more on the vulnerable in the international community; international assistance and resource reallocation are therefore needed more than ever.

From the experience of the pandemic this time, we learnt that there are risks and uncertainties that are not foreseeable and controllable. Human beings must humbly coexist with the earth to survive. It is important to achieve SDGs, strengthen international regimes, climate change, biodiversity, infectious disease control and abolition of weapons of mass destruction including nuclear weapons. We must strengthen such international regimes. Regarding this point, the thinking of the EU reconstruction fund provides a useful reference.

Professor Kawaguchi believes that this suggests a possible role for Japan to take leadership to advance effective international co-operation with likeminded countries. To fulfil that role, Japan must maintain an international status respected by other countries, make efforts to constantly reform, to energise the Japanese economy, internationalise Japanese people and society, and to maintain and develop its soft power.

It is clear that now is not an abnormal time, and we cannot expect to go back to pre-COVID-19 days and this is both a risk and opportunity. That is all the more reason why we have to take action to use these opportunities to realise the desirable new normal. That is our responsibility.

The Concept of this Symposium Explained by the Moderator

Dr. Keiichiro Komatsu, Principal, Komatsu Research & Advisory (KRA)

With regards to the concept of the symposium, the reason the theme is "With-Corona" and not "Post-Corona" is that this COVID-19 is not going to be like SARS, there is not going to be a clear exit. With this as the starting point, discussions on both risks and opportunities will be held during this symposium. In previous years at the annual symposium, the term "New Normal" has been used to explain this phenomenon. Even before the pandemic there were issues, but with this pandemic, some issues have accelerated while other issues have

newly arisen. We hope to hear some insightful hints from the speakers.

On day 1, Sir Paul Collier, Professor from the University of Oxford, is the first speaker with a talk about the implications of the pandemic on capitalism and democracy versus autocracy, not just from economics and politics, not just looking from a narrow theme, but from a broader perspective including philosophical points of view as well as values.

The second speaker is Professor Hassan Omari Kaya from University of KwaZulu-Natal in Durban, South Africa. The Western healthcare system is not well developed in most African countries. There was, therefore, a fear and expectation that if COVID-19 spreads, the continent would be severely affected, with dead bodies scattered across the streets or patients with severe symptoms. However, that is actually not happening. While different from the perspective of industrialised nations including Japan and South Korea, African local communities have over many millennia developed their own indigenous knowledge and traditional healthcare systems, which perhaps have been working much better than expected. From this perspective, the African continent may be able to provide some solutions towards global challenges.

On day 2, the first speaker is Mr. Nigel Inkster CMG, IISS Senior Adviser, and former No. 2 at the so-called MI6. Speaking of MI6, in

Japan and elsewhere, we think of James Bond and he was actually in that world. He specialises in China so we hope to hear about the future US-China relationship, and he is also an expert on cyber-security so that would be another theme we could hear from him.

Our second speaker is Dr. Dong Yong Sueng, who was a member of the Council of Policy Advisors to the President of the Republic of Korea as well as a member of the Council of Advisors on foreign and security policy to the Blue House, the South Korean Presidential Office. He is now the Secretary General of Good Farmers. He will be talking about the impact of the pandemic on the Korean peninsula as well as the surrounding East Asia, not from a medical perspective but from a comparative view of different political structures.

The symposium is held under Chatham House Rule to encourage frank discussions.

Presentation Title: “Democracy vs Autocracy” in the Context of Tackling a New Crisis

Speaker: Sir Paul Collier, Professor of Economics and Public Policy at the Blavatnik School of Government, University of Oxford and a Director of the International Growth Centre, and the ESRC research network, Social Macroeconomics

Note: This presentation was made in English and simultaneously translated into Japanese for the Japanese speaking audience.

Sir Paul Collier raised the question of “Democracy vs Autocracy” in the context of tackling a new crisis such as the COVID-19 pandemic. He started by explaining the three characteristics that a successful society needs.

The first characteristic is a degree of social cohesion. It is possible to have any amount of difference within the society as long as there is some overarching concept of shared identity, shared purpose, shared understanding about how things work and don't work, and shared obligations. Social cohesion is enormously important in building willing compliance not only for individual citizens but also for firms, families and local communities around some common purpose and some common understanding of the strategy that is needed. The genius of social cohesion is a community in which people are able to have a dialogue, a conversation between equals and can search together for a common understanding.

The second characteristic is an ability to discover, the capacity to learn as you go. The COVID-19 pandemic is an example of what is called in economics “radical uncertainty” where if you asked anybody back in January “What should we do?”, the honest true answer was “we don't know”. There was no knowledge of how to deal with COVID-19, because nobody had ever had to deal with it, it was something new. Such situations are very common. There are two massive global examples in the last 12 years; the global financial crisis and now the COVID-19 pandemic. To find out what to do as quickly as possible, you need a very different approach, from top down.

When it is clear what to do, a hierarchical structure works, but when we do not know what to do, a hierarchical structure is very dangerous because the top is inclined to claim that they know best

and insist everybody does the same thing, whereas if you do not know what to do, what you need is experiments in parallel. For that it is necessary to decentralise, devolve the power of decision down to the bottom of society and devolving the agency to try come up with solutions in a team, and it is very useful because it merges two different types of knowledge.

All good decisions in any context rest on the fusion between expert knowledge and tacit knowledge. What is needed is to push the relatively shareable expert knowledge down towards the people, while at the same time practitioners who have practical knowledge, which is much harder to share because it is particular to context and time and more than often unwritten, try and push that practical knowledge up towards the people at the top. By devolving a system, it not only facilitates rapid learning but also creates a structure that empowers the people on the ground and creates an active participatory community dialogue.

The third characteristic of a successful society is that you need leaders who can be trusted. A trusted leader is not “commander in chief” issuing orders but a “communicator in chief”. In a situation like this pandemic, what the leader needs to do is to communicate a sense of common purpose; we all need to struggle to find out a solution to this problem; we all need to do our best. Since the answer is not known, we must expect sometimes to fail and there is no disgrace in experimenting and failing. In top down societies, there is a terrible fear of failing.

Professor Collier then applied this concept to the question of “Democracy vs Autocracy”. He pointed out that China is not a great successful autocracy but that its remarkable success over the last 40 years is a result of previous investments in social cohesion and rapid

experiment built over 2,000 years and made worse by the recent move to top down. The old emperors had responsibilities towards citizens and the leader earned the Mandate of Heaven by working towards a common purpose.

For 40 years, until recently China not only had this social cohesion, but it also acknowledged that it did not have all the answers. Repeatedly the Chinese leadership tried to build common goals, typically objectives lasting over the next four years. The leadership would say that this is what we are trying to do, and then they decentralised and experimented by sending young bright party officials to regional governments and saying: “you experiment, you try something”, and that created very rapid experiment in parallel and hence they learned from both failures and from successes. China has recently moved to a very top down centralized system and that has actually amplified the COVID-19 problem. It took a long time for news of COVID-19 in Wuhan to move up the system because people were scared of failure so there were delays in the first instance. If you are scared, you hide failure and do not report it.

In East Asia, in the face of COVID-19 Japan, Singapore, South Korea and Taiwan all shared these features of having very strong social cohesion and trusted leadership and ability to build new common purposes very rapidly. In Western democracies, what was

happening over the last 40 years was actually a widespread derailment of capitalism. Capitalism can work for everybody if there is good public policy that enhances the innovations that capitalism generates whilst compensating for those who lose out, so that people still trust the whole system. In much of Europe and America that did not happen and social cohesion was lost. There were huge new spatial rifts, a big divergence between the successful metropolis and broken provincial cities, as well as new educational divergence, a new class system. The tragedy politically was that nothing was done about this because the people losing out from the system also lost their voice and it was no longer a community in dialogue. Insider groups of the successful did not even notice that the less successful were suffering. Drawing on examples, Professor Collier then explained the need for leaders whom the people listen to when the word “we” is used, instead of half the society saying, “you are not ‘we’, you are an enemy”.

To conclude, Professor Collier pointed out that what we need is a balance within hierarchy. We need leaders who at times would set rules for us and say: “This is what you need to do”. But we also need an adaptive community because so much of the knowledge of what to do is at the bottom of the society, not at the top.

Presentation Title: Africa Building on Indigenous Knowledge Systems in Global Challenges: the Case of COVID-19

Speaker: Professor Hassan Omari Kaya, Ph.D. in Sociology of Development and International Political Economy, Director of the DSI-NRF Centre in Indigenous Knowledge Systems, the University of KwaZulu-Natal

Note: This presentation was made in English and simultaneously translated into Japanese for the Japanese speaking audience.

Professor Hassan O. Kaya pointed out the fact that the impact of the COVID-19 pandemic in Africa has been less, compared to other global regions, and that this demonstrated the efficacy of African indigenous knowledge systems and the philosophy of people working together as a community.

There is a tendency to look at Africa as a country, while of course Africa is a continent covering 30 million square kilometres with diverse indigenous knowledge systems based on over 2,000 distinct languages and cultures, 54 countries and a population of over 1.2 billion. Throughout colonisation, Africa’s diversity was looked at as a problem of development, while in the context of African indigenous knowledge systems (AIKS), cultural diversity is an asset. This is based on the holistic and multi-transdisciplinary nature of the AIKS which advances the complementarity and democracy of knowledge systems in combating global challenges such as COVID-19 pandemic.

Professor Kaya defines African indigenous knowledge systems as bodies of knowledge, technologies and innovations, belief systems and value systems which communities in diverse cultures and ecosystems produce in order to sustain life. In contrast, western ways of looking at knowledge tend to be limited to explicit knowledge that can be written, while African indigenous knowledge is often tacit

and exists in different ways such as oral knowledge, artistic, spiritual forms, and is more holistic. For instance, when looking at the issue of land, in African indigenous societies, land is not something you own, because there is a symbiotic relationship between nature and human beings. They depend upon one another.

The COVID-19 pandemic is a global phenomenon that affects all sections of society. It is not only biological but also has social, economic, environmental, cultural and political dimensions. This means that it needs a complementarity of knowledge systems for sustainable solutions. In most African societies, indigenous forms of knowledge on traditional medicines and healing systems are used. These are not only about treating the biological aspect of health, but also involve the holistic dimensions of health embedded and articulated in indigenous languages and philosophies. For instance, in South Africa, there is an African indigenous philosophy called “Ubuntu”, which promotes solidarity, compassion, human dignity, consensus and respect, to mitigate common challenges.

What colonialism and apartheid did was to destroy a sense of confidence among African people towards their own cultures, including value and knowledge systems. The concept of building on the indigenous, as articulated in this presentation, is not necessarily

what is traditional but whatever the African people themselves in their diverse cultures and ecosystems consider to be an authentic expression of themselves. Building on the indigenous creates confidence and thereby active citizenry. The success of African communities in dealing with the pandemic shows that African indigenous knowledge systems can contribute towards the global pool of knowledge in order to tackle global challenges. What COVID-19 is showing is that when Africa, like other regions in the world including East Asia and Europe, builds on the indigenous and mobilises grassroots knowledge and innovation systems, home-grown philosophies and indigenous languages so people become actively involved in mitigating global and community challenges. It creates a common purpose in which communities build a sense of confidence and self-reliance in all levels of societies.

Contrary to Western thought, that before colonisation African people had no social institutions nor history, African historical and archeological testimonies such as the remains of the ancient city of Gede in Kenya, Great Zimbabwe, the Great Pyramids, Timbuktu and other historical landmarks, show that Africa is the cradle of humankind and is where the oldest record of scientific and technological achievements are located. These historical achievements could have only been guided by highly sophisticated African indigenous socio-economic, political, spiritual and cultural institutions developed by African people's themselves. However, post-colonial African countries have not managed to leverage these Indigenous Knowledge Systems, including historical scientific and technological achievements and resources for sustainable development.

For instance, the African continent is positioned in the strategic global navigation routes, surrounded by the Atlantic Ocean, the Indian Ocean, the Red Sea and the Mediterranean Sea. Recently there is the

free and open Indo-Pacific Economic zone, which is not just an economic zone but also a cultural zone that connects the Pacific, the Indian Ocean, both in Africa and in Asia. Therefore, African countries can harness the rich potentialities of the blue economy, agricultural, wildlife, mineral and human resources, cultural and linguistic diversity, together with its historical legacy and heritage as sustainable developmental assets in the global economy.

The important thing to recognise is that these cultural diversities are not characteristics of African countries only, they exist everywhere, within the UK, Europe, Japan, Korea and China. Each has its own diversity of indigenous knowledge, value systems, which communities use in all aspects of life to mitigate against different life challenges.

Building on the indigenous and advancing complementarity of knowledge systems as an asset paves the way for: (i) creating high-level multilateral platforms and strategic partnerships that advance international human understanding, mutual cooperation, social and epistemic justice; (ii) development of strategic programmes and partnership to produce unique products and services for competitive advantage in the global market economy through the interface of AIKS and resources with other knowledge and technological systems; (iii) building a new generation of global human capital conversant in the significance of Indigenous Knowledge Systems for international peace-building, sustainable and dynamic global market economy; and (iv) develop global educational programmes to promote knowledge and awareness on Africa's rich cultural diversity and historical contribution to the global pool of knowledge.

Professor Kaya concluded that when diversity is seen as an asset these could be harnessed for the benefit of humankind and to mitigate global challenges.

Presentation Title: British Perspective of the Impact of the Pandemic on US-China Relations and its Implications

Speaker: Mr. Nigel Inkster CMG, Senior Adviser to IISS and former Assistant Chief and Director of Operations and Intelligence at the British SIS (also known as MI6)

Note: This presentation was made in English and simultaneously translated into Japanese for the Japanese speaking audience.

Mr. Inkster CMG opened his talk by explaining that it is probably too early to say how the change brought by the COVID-19 pandemic will manifest itself over the long term, while what we can say with greater confidence is that this pandemic has exercised a catalytic effect on trends that were already apparent. He then explained, from a British perspective, the impact of the pandemic on US-China relations, which were already undergoing a period of significant deterioration – from strategic alignment to one of strategic competition. This was a trend that was driven by China's rising power, which the US perceived as a challenge to its role as global hegemon, and the competition has been playing out in the realms of trade, finance and technology but always with the potential to turn kinetic. He then elaborated on the role

technology, in particular information and communications technology (ICT), have played in the way this relationship has developed.

He explained how of particular concern for America was China's technology ambitions and the Chinese state's efforts to reengineer the global internet, and to become the standard-setter of a gateway technology, fifth-generation mobile technologies (5G), massively investing in the areas of advanced technology including quantum computing, quantum encryption, and biotechnology. He pointed out that US concerns were a complex mixture of economic, national security, and geo-political and boiled down to a conviction that telecommunications networks critical to national security and national prosperity should not be in the hands of a company so closely linked

with and susceptible to control by the Chinese Party-state. US concerns about China's national ICT champion Huawei were further enhanced by a set of scenarios by Australia's signals intelligence agency, which showed that in the event of a conflict with China, reliance on Huawei-enabled technology would present serious challenges.

Meanwhile, the pandemic tipped already tense Sino-US relations over the edge and eventually led to the US national security complex banning any companies anywhere in the world seeking to sell to China large technologies based on US intellectual property, by requiring them to first obtain a licence from the US Department of Commerce. The ban on the sale of the advanced microchips on which Huawei is still dependent for its 5G systems and which China is unable to manufacture for itself is potentially very consequential.

The corona virus pandemic came at a time when globalisation had peaked and the pandemic highlighted the vulnerabilities of global supply chains that were highly efficient but not resilient and in which certain countries, particularly China, had become single points of failure in the supply chain. Already before the Pandemic, companies had begun to address these concerns by moving some manufacturing away from China to achieve greater resilience and to escape an increasingly restrictive environment within China.

This process is what has been termed "The Great Decoupling" and it has economic, financial and technology components. It is very hard to predict how this process plays out because the US and China, technologically speaking, have become so closely entangled that a complete untangling seems difficult to imagine. But the general direction seems to point towards an eventual technology and economic decoupling involving a global bifurcation in which other states will find themselves pressed to choose sides, as the UK was recently forced to do. But it is clear that the measurable costs of any such decoupling would be high and the intangible costs even higher. While China's contributions thus far in these technologies have not been in the area of foundational science but rather in the development of existing technologies, it seems highly probable that in due course the focus and resources China is devoting to hi-tech programmes will produce genuine innovation.

The challenge we are facing in the technology area is between a laissez-faire approach and an all-of-nation approach. It is the sort of dilemma that Britain faced in the early stages of World War I, when it

rapidly became clear that the laissez-faire approach to munitions production was no match for the all-of-nation approach to warfare of Imperial Germany. It remains to be seen how the US will respond to this, whether it might actually move in the direction of developing something like an industrial strategy fit for the 21st century. We could end up with a kind of technology bifurcation, in which some countries are using one model of communications technology and the others a different one, the Chinese one. There are questions here of technical compatibility and the risk that actually countries in the middle are forced to reduplicate and actually operate both sets of technology with all the additional burdens that this composes.

Mr. Inkster CMG concluded his remarks by asking the question of what is to be done. He noted that it is hard to make predictions because the progress of technologies is hard to anticipate but in geopolitics, the shift of power from West to East is happening and the US appears to be losing its appetite for exercising the role of global hegemon but is not yet ready to relinquish that role, nor is China yet ready to assume it. We could find ourselves in the "Kindleberger trap", a reference to the global situation in between the two World Wars during which the US had implicitly assumed the hegemonic role previously exercised by Britain but then failed to exercise it, thereby giving rise to an international climate of instability that resulted in World War II. Even if the US does continue to play the role of hegemon, its allies are going to have to learn to take greater responsibility for their own security, including in the realm of technology, and are going to have to adapt to a reality in which great power contestation conditions all facets of life.

He highlighted the need to acknowledge that we live in a world of uncertainty by referring to his own former profession. He pointed out that the profession of intelligence is about managing uncertainty. He shared that he always used to say to young colleagues entering the organisation: if you like a world coloured in black and white this is not the profession for you, because we only ever deal in grey. We are constantly operating in a situation where we don't know what the answer is, where we have to make pragmatic judgments based on evidence, and where conviction, zeal and ideology are anything other than helpful. This is something that all countries are going to have to learn to adapt to, to become comfortable with uncertainty, to recognise its inevitability and for governments to be honest with their populations in terms of acknowledging that this is the case.

Presentation Title: The Impact of the Pandemic on the Korean Peninsula and East Asia

Speaker: Dr. Dong Yong Sueng, former member of Council of Policy Advisors to the President of the Republic of Korea as well as a member of Council of Advisors on foreign and security policy to the Blue House; Secretary General of Good Farmers (NGO)

Note: This presentation was made in Korean and simultaneously translated into English and Japanese for the non-Korean speaking audience.

Dr. Dong Yong Sueng started his talk by pointing out three kinds of changes brought about by the COVID-19 pandemic which were likely

to stay even after vaccines and drugs are developed to tackle it: 1) The expansion of non-face-to-face communication, including using IT

and AI; 2) Changes in the Global Value Chain (GVC), turning from a global supply chain to a more regionalised one; and 3) Strengthening of central government functions. He then explained the impact of the pandemic on the Korean peninsula and on East Asia.

Dr. Dong then examined the situation of North Korea before and after the pandemic. Pre-pandemic, after the Kim Jong-un administration was established in 2012, foreign relations were severed and the focus was on the development of nuclear weapons until November 2017 when they declared the completion of a nuclear programme, together with the improvement of relations with South Korea and the US. Meanwhile, between 2012 and 2017, there were two major changes taking place domestically: 1) Reform and 2) Opening of the country. Reform was known as the socialist corporate responsibility management system and ownership changed from state ownership to a more communal ownership. This operational policy has been clarified in the April 2019 revision of the constitution. In order to open the country, four central special economic zones and 23 regional economic development zones were designated in order to attract foreign capital. Furthermore, in 2016, they created and advanced a five-year economic development strategy for the first time since the Cold War ended. In this way, the North Korean policies were very ambitious. However, after the collapse of the February 2019 Hanoi summit between North Korea and the US the policies changed dramatically and North Korea declared that if the US would not be moving in the direction it wanted, it would be moving to a new path. Until then North Korea was moving with the improvement of relations with the US in mind, but after the collapse of the summit, it shifted to “frontal breakthrough strategy with the might of self-reliance”. Since then, North Korea severed relation with the US and South Korea, strengthened relations with China and Russia and switched to an internal self-reliance strategy. They also declared that nuclear weapons are no longer on the table for the negotiations advocated for the sophistication of nuclear weapons.

After the pandemic started, in terms of non-face-to-face communication, North Korea closed its national borders, imposed a voluntary ban on assemblies, and mask wearing became mandatory. In terms of changes in the Global Value Chain, North Korea used the pandemic to their advantage and accelerated the self-reliance strategy. Meanwhile, it was acknowledged that the very ambitious five-year economic development plan was a failure and it was declared that a new five-year economic development plan is to be implemented starting in 2021. These are developments that may suggest a switch to self-reliance strategy; instead of globalisation, more of a regionalisation or centering on its own country. Dr. Dong also explained the attempts to solve the energy problem, food security under self-reliance, swift recovery from natural disasters as well as North Korea's attempts to combat the weakening market functions.

Dr. Dong then elaborated on South Korea's efforts under the Moon Administration to reopen dialogue with North Korea through proposals including joint epidemic prevention, proposals to start from small trade, and exploring leads for the declaration of the end of the war. However, North Korea has consistently not responded and with

the pandemic response and the dramatic shooting incident of a South Korean government officer in the Yellow Sea, there is a slowdown of the reconciliation momentum. There is concern in South Korea that it will be forced to choose sides between the US or China, or risk alienation. He also noted the fact that some point to the stubborn attachment to the pre-Hanoi Summit methodology in spite of the change in environment after the collapse of the Summit.

When looking from the East Asian point of view, there was a world centering around China before the 15th century and it turned to a West-centric society after the beginning of that century, when Admiral Zheng He of the Ming Dynasty went on eight overseas expeditions to connect with the Eurasian continent, but because of domestic issues this was not successful. 50 years or so later Europeans adventured into East Asia. The concept of “the Pacific” probably did not exist at that time, however, and Columbus tried to reach China through the Atlantic resulting in the discovery of a new continent. From the 16th to 20th century, China, South Korea and Japan remained regional powers. Europe was trying to connect East and West and a Western centric world order was established. In the West, Europe did not try to go through the Eurasian continent to enter the East because there was the Ottoman Empire, so Europe had to advance through the Pacific. In the 20th century, after World War II and the Cold War, it has become a US-centric world. Today China, though dormant for a few centuries, is once again expanding and trying to enjoy the benefits of economic advances through opening markets and technological advances. China is trying again to reconnect the continent, to achieve what it tried in the 15th century. It also has the ambitious objective of venturing out into the Pacific. With China trying to expand both continents and oceans, the US is trying to check and curb those moves.

Dr. Dong noted that after the pandemic started, with non-face-to-face and border closures, every country is heading towards more self-reliance and more nationalistic or authoritarian approaches. These countries are likely to show solidarity and this could connect the Middle East and then Europe, leading to an acceleration of conflicts between the US and China and a new geopolitical East-West Cold War may be witnessed in East Asia, leading to the Thucydides trap. The pandemic is likely to increase the power struggle between the US and China, but it is the countries in the middle who may be able to prevent both sides from going into conflict and minimise tension by playing the role of mediator.

After the talks, panel discussions among all four speakers were held with questions from the moderator and the audience. JS

Komatsu Research & Advisory (KRA) was established by Dr. Keiichiro Komatsu in March 2005 in London as an independent think-tank and advisory service, specialising in business promotion and country risk analysis. Its clients include governments, government agencies, private-sector companies (both medium and large companies) and non-governmental organisations.

Interview with Matthew P. Goodman, Senior Vice President for Economics, Center for Strategic & International Studies

The Biden Administration's New Foreign Policy – a Key Geopolitical Question in the Pandemic

By Japan SPOTLIGHT

(Interviewed on Jan. 12, 2021)

Main Pillars of Biden Administration's Foreign Policy

JS: We are in a somewhat complicated world, and geopolitics and economics cannot be separated. It is impossible to imagine that one can have truly stable economic relations with any nation in the absence of stable political ties. It is also true that domestic political stability is very important in deciding on any foreign economic policy. In this regard, facing high geopolitical risks and stronger populism in the United States, how would you define the main pillars of the incoming Biden administration's foreign policy?

Goodman: The first point is that the Biden administration's first priority is going to be the Covid-19 pandemic and dealing with that problem as a health problem, and as an economic problem. That is going to be the top priority, and that is the reality that they are going to be dealing with before foreign policy. That will shape the administration for the first 100 days or so. The second point is that the Biden administration has defined foreign policy priorities in terms of what they call a "foreign policy for the middle class", and what they are trying to do is to link traditional foreign policy interests more clearly with domestic economic and social and other concerns.

This is more than just a soundbite or a headline. They are genuinely committed to starting the foreign policy conversation by looking at what American workers' problems are, what their needs are, what their desires are, and then deciding what foreign policy interests should be pursued to support Americans at home. I believe that is a genuine impulse of President Joe Biden himself and his security advisor Jake Sullivan, who first coined the term "foreign policy for the middle class". That is the broad mindset that they are going to be bringing to foreign policy and in that sense foreign policy



Matthew P. Goodman

and economics are very closely linked. Foreign policy in the past has been too focused on external issues and political issues and traditional security concerns like nuclear proliferation or terrorism; these are very big problems, but the new approach under the Biden administration is that some of those policies have been taken in the past without enough consideration for what American people are really worried about, including economic concerns. From that flows first the "build back better" policy, which is the term for their economic and social plan at home, which has four broad pillars: re-energizing American manufacturing and innovation, investing in infrastructure, investing in the caring economy, and addressing issues of racial injustice. All of

these are top priority before turning to foreign policy issues. Of course, foreign policy starts from the first day and so they will have to immediately focus internationally. I do think that there will be much more focus in Biden's foreign policy on issues of democracy, human rights and political stability around the world; that will be more central to their foreign policy than during the administration of President Donald Trump.

JS: There is particular interest in foreign policy vis-à-vis China. Would democracy and human rights be the main pillars in dealing with China as well?

Goodman: I think they will be a pillar, and it will be a more important pillar than it was under Trump or even under President Barack Obama. The Biden approach to China begins with agreement with the Trump perspective that China is a leading strategic competitor of the US, and so it starts with strategic competition but then looks at the elements of that competition and how to address it.

Democracy and human rights will be a much higher priority, but other elements will still be there: there will still be trade, technology, and traditional foreign policy elements such as security. Then there will be questions of climate change and global health responses,

which provide areas for cooperation. All of these elements will be part of the China policy, but yes, democracy and human rights will be a much more important pillar of the China strategy.

JS: In the domain of trade policy in dealing with China, perhaps encouraging structural economic reform could be much more effective in achieving smooth relations between the two countries.

Goodman: Yes, it would be better for China and for the US, and indeed for Japan, if China moved back to its previous path of domestic economic reform and opening. However, the Biden administration is going to take the view that this is really a decision for China, and outside forces – whether it is the US or Japan or other countries – are going to have relatively little ability to influence China's decisions about its own reform path. Of course, the new administration will work on those issues, particularly those that directly affect American interests, such as where American businesses are denied market opportunities or treated unfairly. Where intellectual property is being stolen or forced technology transfer policies are being pursued by China, I think the Biden administration will pursue those issues. Where the Chinese government is using heavy subsidies of its state-owned or state-directed champion companies, the Biden administration will pursue those issues, but I don't think that the focus will be as heavily on Chinese internal structural reform as previous administrations, including the Obama or George W. Bush administrations, which had various dialogues to try to address those internal issues. I don't think that Biden will be so enthusiastic about those issues, and there will be more focus on strengthening American competitiveness *vis-à-vis* China, while the Biden administration will also push back aggressively to prevent China from stealing technology or engaging in economic coercion.

New US Foreign Policy in East Asia

JS: East Asia is the principal interest for many countries in terms of geopolitics today. Besides China, perhaps North Korea is a major source of concern. What do you think will be the foreign policy taken by the Biden administration in trying to achieve peace on the Korean Peninsula?

Goodman: I am not an expert on nuclear issues, but my general answer is that it will be a high priority for the Biden administration. The threat of North Korea's nuclear capability, combined with an improved missile capability, is a huge regional and global concern. In addition to Antony Blinken, who will be the secretary of state, the

deputy secretary of state will be Wendy Sherman, who was very involved in the Korean negotiations in both the Obama and Bill Clinton administrations, so it will be a high priority for her. The Biden administration will consult very closely with its East Asian allies, notably Japan and South Korea. I think they understand the importance of having both of those critical allies, and also Australia and semi-allies like Singapore, supporting this policy. Incidentally, I think that the Biden administration will be very sensitive to specific Japanese domestic concerns like the abductee problem.

JS: In particular, perhaps the new administration would expect Japan and South Korea relations to improve.

Goodman: It is clear that the US interest in Asia centers on a good relationship among all its allies and particularly between two critical allies, Japan and South Korea. The tension between the two countries today is very unhelpful to American interests, and I think there will be a strong effort to improve relations, although I don't think the Biden administration will play a brokering role but will rather encourage the two countries to try to resolve their differences, obviously over history and technology transfers and other concerns. Especially if we are going to deal with the North Korea threat, we need to have Japan and South Korea on good terms and working together. Similarly, to deal with China we need Japan and South Korea to work together, so this will be a high priority.

Climate Policy Affecting All Policies of Biden Administration

JS: Switching to the global environment, the Biden administration has already committed to rejoining the Paris Agreement, and climate policy will be very important for this administration. Is it correct to assume that will even be embedded in foreign relations and trade?

Goodman: I would agree that climate change is a number one priority for the Biden administration globally, and in foreign and domestic policy it will be an issue of key focus. Former Secretary of State and Senator John Kerry, who was very involved in the Paris negotiations, has been appointed as special international climate envoy, and former environmental protection agency (EPA) head Gina McCarthy has been appointed as domestic climate envoy. There will also be climate issues in our general foreign policy towards East Asia; for example, I think energy policy in the region will be much more focused on clean energy, much more discouraging of fossil fuel-based development in the region, which is a potential point of

tension between the US and Japan.

Obviously, climate change and sustainability will be a central element of the “Build Back Better” plan when it comes to building domestic infrastructure and investing in innovation and clean energy. It is going to run through everything that they do in the Biden administration. One of the interesting questions is how they are going to make all of these different elements work together, because it is somewhat unusual to have such a senior person like John Kerry in the White House specifically focused on international dimensions of climate change. On the other hand, it is also unusual to have a former Cabinet secretary in the White House in charge of domestic climate issues, so how those two will work together and how they will work with the agencies involved – the State Department, the Energy Department – will be key.

Incidentally, the Energy Department will be headed by Jennifer Granholm, who is the former governor of Michigan, which is of course where a lot of US automobile production is based. Governor Granholm has been very focused on electric vehicles, and I think she was picked because of her interest in those issues. Traditionally, the remit of the US energy secretary is to protect the American nuclear weapons supply, and to clean up nuclear problems. That is their main focus, but I think the appointment of Governor Granholm is a signal that the Biden administration wants her to play a critical role in clean energy and climate policy.

There are many other players throughout the government who will be involved in this issue at some level. For example, Pete Buttigieg, the secretary of transportation, if confirmed, will be very focused on sustainable infrastructure and transportation, so there will be many players. One of the questions I have is, will these people be able to work together in a way that is effective and efficient and achieves real progress on these issues? Based on my experience working in government, I am a little concerned about this, because there are many big personalities. I should also mention Brian Deese, who is going to be the director of the National Economic Council. He also has a background in working on environmental, social, and governance (ESG) investment, and so he is very interested in these issues. Treasury Secretary Janet Yellen, while a central banker by background, is very interested in climate finance. How these diverse players will work together is a big question in my mind.

JS: We are particularly interested in the linkage between this new environment policy and bilateral energy collaboration. The US-Japan energy partnership could be very important for the two nations. Would this bilateral energy collaboration likely reflect this change of US environmental policy, with a wider range of renewable energy sources in addition to natural gas and nuclear energy?

Goodman: Yes, I think so. I don't have any inside information about that specific issue, and I am not sure that the Biden transition team has focused on that question yet. However, I would expect that it will be a high priority for bilateral relations and globally to have that dialogue continue; I think that the emphasis will shift from the traditional focus on fossil fuels to renewable energies.

Frankly, I think also there may be some pressure on Japan to lessen its dependence on fossil fuel – coal in particular – in order to change trade patterns between the two countries, and to discourage Japan from financing overseas coal plants. There may be a different dynamic between the Biden administration and the administration of Japanese Prime Minister Yoshihide Suga on those issues, and it will sometimes be a little uncomfortable for Japan. Suga has committed to net zero emissions by 2050, and that is an ambitious objective; I think that Biden's interest in macro terms is in pushing in a helpful direction for Japan's own ambitions or targets, but I imagine there will be some friction or difficulty in coordinating and negotiating the specific elements of that bilateral energy cooperation. It is going to be an important and constructive, but also somewhat difficult, negotiation.

Trade Policy, Though It May Not Be the First Priority

JS: Moving to trade policy, the priority of the new government is on domestic structural economic reform. Trade policy may not be the first priority; however, the WTO dispute settlement should be improved to prevent chaos from ensuing. In that regard, would it be possible for the US to contribute to the restoration of the malfunctioning WTO dispute settlement by stopping preventing the WTO from appointing new members of the appellate body?

Goodman: I don't have any specific information or insight on that question, but first let me validate your basic premise, which is that trade policy is not going to be an early priority for the Biden administration, as they are going to be much more focused on domestic economic policy. Even when they start engaging more strategically on trade agreements, they are going to have a very different approach to those issues. However, trade issues are not going to wait for one or two years for the Biden people to figure out their approach.

The most immediate WTO question is the appointment of a new director general. I think there are at least three big WTO issues that have to be resolved pretty soon. One is the new director general; another is major negotiations on fishing will have a deadline, but they will be facing a WTO ministerial meeting in June. Then, the

appellate body/dispute settlement issue because it is heavily problematic right now. The good news is that the designated US trade representative, Katherine Tai, is very knowledgeable, competent and experienced and understands those issues very well.

On the specific question of the appellate body, I don't know what the Biden administration's approach is going to be; I think it will be different from the Trump approach, as they will understand the value of an effective dispute mechanism, including an effective appellate body system. Bob Lighthizer really didn't believe in the WTO dispute settlement approach because it limited the sovereignty of the US in some way. Even the Obama administration had some real complaints about the appellate body and the dispute settlement issue and was trying to fix those issues. The Biden people will also want significant reform of the dispute settlement system. Whether they will immediately appoint a new judge I am not sure. Philosophically I think they would want the body to function, but they might use as leverage the absence of a quorum to force serious reform.

JS: Regional FTAs are of course tools to achieve trade liberalization, but at the same time tools to achieve a sort of geopolitical stability. In that sense it is a kind of foreign policy as well as economic policy. How do you think the new administration will consider the RCEP or CPTPP in the Asia-Pacific region? China has already announced its interest in joining the CPTPP, so we are curious about the US response to this maneuver.

Goodman: Honestly, I think that the China maneuver is just symbolic and strategic, not real. I don't think China is likely to have a serious interest in joining the CPTPP at the level which existing members would expect on issues of state-owned enterprises and issues of intellectual property, subsidies and other issues. I think it will be difficult for China to reach that standard, and I don't think that Japan and other partners – Australia, Singapore – are going to water down the requirements just to get China in. I don't think it is realistic, but symbolically it was interesting that China indicated that interest, and when you combine it with the conclusion of the RCEP, which is the biggest regional trade agreement that the US is not part of, the completion of that together with this kind of feint, or fake move, by China into the CPTPP has definitely got the attention of people in Washington and has focused the strategic players of the Biden administration interested in East Asia and Indo-Pacific policy on finding a way to respond to those developments.

The problem lies in an inherent and real contradiction in Biden's foreign policy; they really want to re-engage with allies in Asia and they really want to confirm a strong American commitment to the region in all respects – diplomatic, security, economic – and they

definitely want to hedge against China's increased power in the region. On the other hand, they are very reluctant to go quickly into big trade agreements as we discussed before. There is a strong resistance to moving fast into big trade agreements, especially something like the TPP. That is a kind of tension, a contradiction or forces moving against each other. That is something that the Biden people are going to have to resolve, and I think it is going to be quite difficult.

I actually think that Biden himself is a little more focused on the geostrategic part of that story and understands the importance of trade and agreements like the TPP as a tool to advance our strategic interests in Asia more than some people on his team. There are members of his Cabinet and his immediate advisors who are more skeptical about those arguments and definitely very reluctant to do trade agreements. I think Biden might be a little more willing to take risks on trade, but I don't think it is going to be his top priority. The interesting thing I am watching is what Biden will do in the run-up to the APEC summit in November 2021. New Zealand will be hosting the APEC leaders meeting and there will be an East Asian summit as well, and as that meeting gets closer, there will be pressure on the White House to come up with a big strategy for Asia, and that has to include a credible economic pillar and a credible trade pillar. If the Biden administration does not want to rejoin the TPP, or join the CPTPP, then it has to find some alternative strategy on trade, and I think the best they will try to offer is some sectoral agreements, say on digital trade or on maybe other elements of the TPP that are less controversial, where it is easier to get an agreement, for example on subsidies or state-owned enterprises. Maybe they will try to pursue some new bilateral trade agreements although that is very difficult also. Possibly a new phase two agreement with Japan, although I think that is unlikely, and perhaps with Vietnam or the Philippines (but not under President Rodrigo Duterte, I think). This is a big tension: between the desire to be involved strategically in Asia – needing a trade policy to be credible as a strategic player in Asia – but on the other hand, not wanting to do big trade agreements. I think there is a conflict there which Biden will have to resolve before he goes to APEC.

JS: There are concerns over the new rules for digital products. On such urgent issues, should plurilateral agreements be achieved as quickly as possible in light of the speed of technological progress?

Goodman: I think there are different elements involved. Digital is a big subject that covers many issues. There are rules on data flows across borders, and there is definitely an impulse in the Biden team to work with Japan and other partners in the region to try to advance those rules. There are rules in the TPP, rules in the USMCA (the new

NAFTA), and there are rules in the US-Japan bilateral digital deal, which are good. There is also APEC, which has done work through Cross-Border Privacy Rules (CBPR), and I think the Biden administration may try to integrate all of that work with Japan, Singapore, Australia and other partners to try and come up with a new package.

At the same time there are serious concerns about technology transfer, which is a related but slightly different issue. I think there is a strong interest in the Biden administration to work with partners in Europe and Asia to try and ensure that we control sensitive and critical technologies, and I think there will be a strong effort to try to work with allies like Japan and also European allies. One of the Trump administration's successes has been to strengthen the Committee on Foreign Investment in the United States (CFIUS) investment screening tools, and Japan and Europe have also strengthened their rules, encouraged by the Trump administration. Export controls also have been strengthened in the US and Japan, and I think there is more work to be done there.

Then, research collaboration – there is a big concern in Japan and the US about technology and ideas leaking through universities. For all of these topics there will be a strong impulse in the Biden administration to work with our allies and partners, and there are also interrelated questions about supply chains. Huawei is the target now, but there are other questions around critical supply chains where there will be a strong desire to work with allies and partners to ensure that these supply chains are secure and, frankly, not dominated by China. I think there will be an interest in working with Japan and other allies on digital infrastructure, working together to build infrastructure to provide telecommunication services. The Japan Bank for International Cooperation and the US Development Finance Corporation have been working together with the Australians, including through the Blue Dot Network, which is an idea to build high-quality infrastructure. A lot of this is aimed at a digital “One Belt, One Road”. There is a whole portfolio of issues in the technology or digital space on which the Biden administration will want to work with Japan and other allies.

Strengthening the Indo-Pacific Region

JS: A re-strengthened alliance would seem to be a key issue for Biden's foreign policy. Would the Indo-Pacific region be one option for such a re-strengthened alliance in Asia?

Goodman: The “Indo-Pacific” terminology was created by Japan and then adopted by the Trump administration. It was a little controversial at first, and there are still questions about it. I am worried about India, because I don't think it should be in the room

when we are talking about economics. When we are talking about maritime security or other rules and norms, OK, but when we are talking about trade, investment, even digital economy, I am nervous having India in the room, because I don't think India believes in free and open trade and investment, so I personally don't like India being part of this.

I think the Biden team will be very committed, and National Security Advisor Jake Sullivan has already used the term “Indo-Pacific”. They might not use “free and open” but instead change that to “secure and prosperous Indo-Pacific.” I know this might worry some people in Japan in terms of the approach or focus, but actually I think it means that they want to focus on the ultimate goal, which is security and prosperity in this important region.

On a related issue, I think the Biden administration will continue to also pursue the Quad with India, Japan and Australia as a security initiative. There is no question that the Biden team intellectually understands the importance of the Indo-Pacific; they understand the importance of a region where there are many critical issues, especially the rise of China, the issue of North Korea, maritime security challenges, and health challenges.

My sense is that the Biden team's passion is transatlantic, and that bridging our differences with Europe is an equally high priority. A lot of the key players in the new administration are focused on Europe, Russia and the Middle East rather than Asia. That is my personal view, and it is a little hard to prove or provide hard evidence, but my instinct is that they are going to be most energetic about trying to reconcile with Europe. When the European Union announced that it was going to reach this investment agreement with China – the CAI – we saw Jake Sullivan tweeting, “The Biden Administration will welcome a chance to talk to our European friends about our shared economic concerns with China.” So it was a kind of hint that we don't want Europe to move too fast to negotiate or finish this deal. We want to talk to Europe about China and about Asia, so in my view the new administration will have more interest in talking as a group like the G7 countries or even a slightly broader group of democracies about these issues. Having a strong Europe policy does not mean a weak Asia policy or vice versa – the two are not mutually exclusive, and I think they want to integrate both elements. But there is a strong passion and energy that they want to devote to improving US-EU relations. **JS**

Written with the cooperation of Joel Challender who is a translator, interpreter, researcher and writer specializing in Japanese disaster preparedness.

Interview with Dr. Kei Sakaguchi, Professor at Tokyo Institute of Technology

5G – a Technology to Realize a “Super Smart Society”

By Japan SPOTLIGHT

Commercial use of 5G started in Japan in April 2020. The cellular communication system has been updated twice since 2000 when 3G service started, namely 4G in 2010 and 5G in 2020. With 5G, we can achieve ultra-high speed, ultra-reliable and low latency, or/and massive connectivity. What kind of services would 5G be able to realize?

Dr. Kei Sakaguchi of Tokyo Institute of Technology and dean of the Tokyo Tech Academy for Super Smart Society, talks about the “Super Smart Society” of our future.

(Interviewed on Feb. 28, 2020)

Self-Introduction

JS: First of all, could you please introduce yourself briefly?

Sakaguchi: I am an outside director of IT company ORO and a consultant of Fraunhofer Heinrich-Hertz-Institute, HHI, as well as a professor at Tokyo Institute of Technology. My specialty is wireless communication engineering and I am working on system design of wireless communication systems. We need this work around only once every 10 years and as such very few experts are working on it. Meanwhile, there are many companies producing systems based on the design or providing services for a system. Those companies are in the category of the information and telecommunication industry, including mobiles, and in Japan its market scale is the largest among all industries, larger than those of the commerce (retail and wholesale) or real estate sectors.

5G Explained

JS: The telecommunication system of cell phones or smartphones has been updated to 3G and then 4G and now 5G, whose service for commercial use is to start in April 2020. Could you please tell us about each system’s characteristics?

Sakaguchi: The updated mobile communication systems known as



Dr. Kei Sakaguchi

3G, 4G and 5G started with 3GPP Release 99, a standard specification of 3G released in 1999. 4G was released in 2008 with a standard specification called Release 8, and 5G’s standard specification is called Release 15 that was released in 2018 (*Chart 1*). Although there is a drastic change of performance from 3G to 4G and 5G, a gradual update of the systems has been carried out around once a year. A system design is formulated on the basis of what needs to be pursued at the next generation and the technological seeds to be provided. The most crucial innovation in the case of 3G was to enable international roaming, having made it possible for a domestic cell phone to be used internationally. With 4G, we achieved a multi-media data communication. New services

came into existence one after another with 4G. For example, watching and listening to videos, collaboration with a cloud system, navigation by using map applications, and so on.

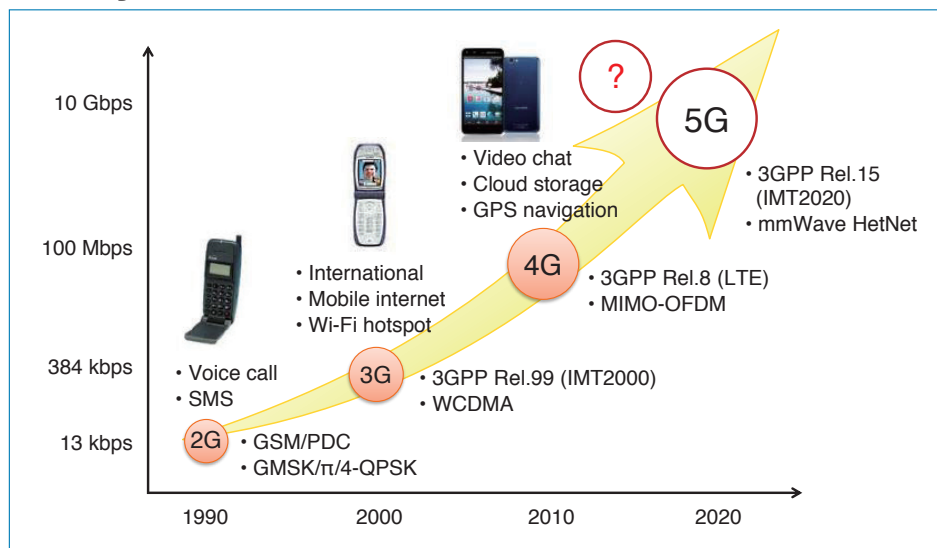
With 5G standardized in 2018, we will achieve improved performance of communication characterized by the following metrics: “ultra-high speed”, “ultra-reliable and low latency” and “massive connectivity”. Growing attention is focused on what kinds of services will be born with the arrival of a 5G with significant improvement of performance.

JS: Could you tell us how much impact 5G will have on telecommunication in comparison with 4G?

Sakaguchi: The maximum data rate of 5G will achieve 20 Gbps

CHART 1

History of cellular networks



Source: Kei Sakaguchi, Tokyo Institute of Technology

(giga-bits per second), which is more than 100 times faster than that of 4G (Table). In other words with 5G, a video content of a two-hour movie can be downloaded within a second. Moreover, the user experienced data rate with 5G might be about 1,000 times faster than that of 4G, since 5G will introduce small-cell base stations where the number of connected devices per base station is smaller than that of 4G. In addition, the communication latency of 5G will achieve 1 ms (millisecond), which is 10 times shorter than that of 4G. The shorter latency is very important to realize mission critical services such as automated driving. Furthermore, the maximum number of devices

connected to 5G will achieve 1,000,000/km², which is 100 times larger than that of 4G. It is noted that the ultra-high speed and massive connectivity are exclusive. However, there are a lot of requests to support massive connectivity even with a lower data rate especially in IoT scenarios such as in smart agriculture.

TABLE

Specifications of 5G

	LTE (4G)	IMT 2020 (5G)
Data rate	100 Mbps	20 Gbps
Latency	10 ms	1 ms
Connectivity	10,000/km ²	1,000,000/km ²

Note: LTE: Long Term Evolution, IMT: International Mobile Telecommunication
Source: Kei Sakaguchi, Tokyo Institute of Technology

JS: What distinct technological innovations can be achieved by 5G with this ultra-high speed communication?

Sakaguchi: Let me talk about electromagnetic waves first. Both radio waves issuing from cell phones or smartphones and optical waves issuing from lighting equipment are electromagnetic waves. With lower frequency, their wavelengths will be longer and reach distant places; with higher frequency, their wavelengths will be shorter and become light with a frequency exceeding 3 THz. Light with shorter wavelengths cannot reach beyond a barrier due to the shadow it casts. This difference creates a different usage of electromagnetic waves, depending upon frequency. Electromagnetic waves with relatively lower frequency are used for telecommunication in ships or airplanes or AM radio by taking advantage of their capacity to reach distant places.

Meanwhile, wavelengths affect the size of receiving equipment. We need a large antenna to receive waves of longer length. In the case of a cell phone, as it is important for this to be connected and also to be

small, its length and frequency for use is limited. So far, we have been using a wave around 2 GHz with a 15 centimeter wavelength for a cell phone. But with 5G it is possible to use higher frequency waves with far greater traffic capacity. This is a significant technological breakthrough. The higher the frequency, the more information the electromagnetic waves can transfer. In 5G we combine the existing frequency waves and the higher frequency waves which has never been done so far and achieve both connectivity and ultra-high speed in mobile telecommunication. This is what we call heterogeneous cellular networks. Namely, lower frequency used in 4G supports connectivity, while higher frequency introduced newly in 5G supports ultra-high speed data communications.

JS: With 5G services starting, what services should be commercialized at the earliest opportunity?

Sakaguchi: I think services that use augmented reality (AR) will be commercialized at the early stage. For example, with AR when you watch sports in a stadium, you can have the athletes' information or what has happened in the game so far in a part of your field of vision by using a wearable terminal. Or, with navigation services using AR, you can have geographical information in a map in a part of your field of vision without looking at a map application on a smartphone fixed on a bicycle or the screen of a car navigation system.

5G has been developed for the purpose of enhanced entertainment during the Tokyo Olympic and Paralympic Games 2020, as well as providing a wide range of services including enhanced security for the benefit of visitors. Initially the areas receiving such services will be limited, but will be expanded later.

JS: What kind of services would be available in the more distant future?

Sakaguchi: A smartphone's display is currently palm-sized. With a telecommunication speed a hundred times higher than now, we will be able to have a scope of view of 100 displays on a smartphone's screen. This would enable us to achieve mixed reality (MR) where real space and virtual space are combined in our field of view. Thus, in business operation spots, you will not have to look at a manual instruction book while proceeding with your work. In education venues, virtual training and learning would be possible. The MR/AR terminals for use will be smaller and lighter, and wearable terminals equipped with a camera, display, microphone and speaker will be put into practice. In a 5G network, a picture you take can be uploaded to a network and analyzed by AI, and the result will be shown to you

with low latency and thus you can see the analysis in real time.

With such technology, for example, you would be able to operate a robot in a remote place. You would not have to get on a tractor on your own on a farm. On a construction site, you would not have to get on a machine to operate it. There would be a variety of remote operations or virtual ones at medical and caregiving venues.

5G is also expected to contribute significantly to development of automated driving cars. We need to enhance safety to achieve this. There will be some occasions when some part of your driving area would be out of your view, such as turning at an intersection or parking in your garage. If cars equipped with 5G become prevalent, a number of sensors in these cars will replace your eyesight to enhance safety with the collected information on the surrounding traffic. With not only your own car's sensors but also nearby cars' sensors or the surrounding information collected by 5G set on a street, you could make a decision instantly based upon this collective information and your blind side would be reduced and safety enhanced (*Image*).

Another distinction of 5G is the availability of private 5G which will be introduced in local areas for private businesses. With the introduction of private 5G into sports stadiums, commercial facilities, construction sites and factories, its use will be accelerated.

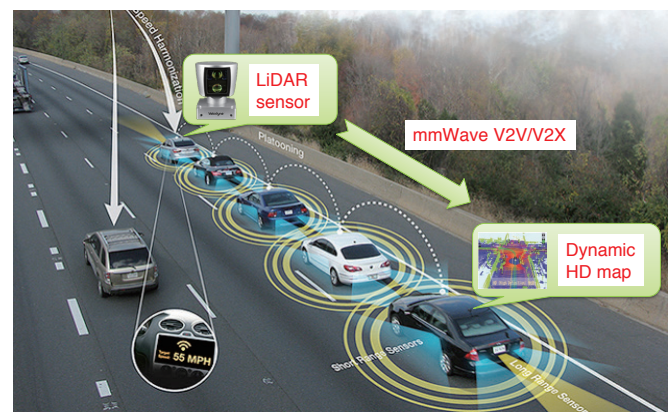
Tokyo Institute of Technology plans to introduce it in the 2020 academic year.

JS: What are some examples of services to be provided by private 5G?

Sakaguchi: One example would be automatic parking in a parking lot

IMAGE

How safety of automated driving cars can be enhanced



Source: Kei Sakaguchi, Tokyo Institute of Technology

at a commercial facility, such as a department store. Valet parking services in hotels can be replaced by this automatic service provided by private 5G. Stopping a car at a designated spot, your car will be automatically moved to a parking lot, and when you leave the hotel your car will come to you automatically. We define such a limited space of wireless telecommunication as private 5G.

JS: Judging from your examples, 5G would seem to have a greater impact on businesses rather than individuals. 5G is expected to contribute to productivity with expanded use of ICT, but would this have a negative impact such as a possible increase in unemployment?

Sakaguchi: It is true that the business needs for 5G would be very large. Whether new job opportunities would be born, or whether you would have more leisure time with changes in work style due to 5G, will depend on yourself.

What a Super Smart Society Will Look Like

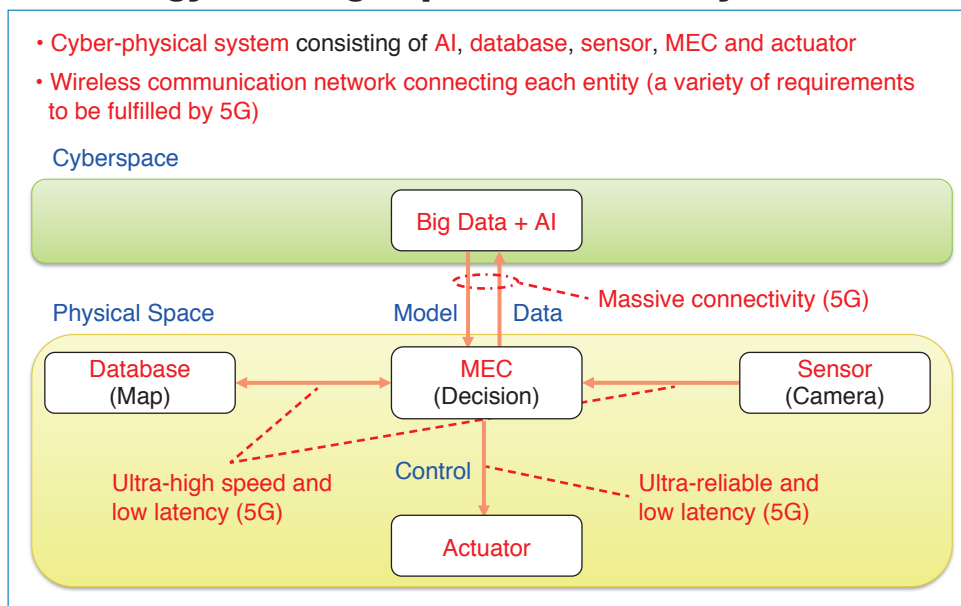
JS: What would this Super Smart Society achieved by 5G look like?

Sakaguchi: At the moment, smartphones are limited in use, enabling us to access information in cyber space and receive it. But we are now moving towards a Super Smart Society where remote control of machines or automated driving or telemedicine will be seen with the completion of a framework of connecting five components, i.e. sensors collecting information, a local database, an actuator for control, a mobile edge computing (MEC) for decision in a physical space, and Big Data (BD) and artificial intelligence (AI) in cyber space. The three main distinctions of 5G, namely ultra-high speed, ultra-reliable and low latency and massive connectivity, are used to connect these five components by satisfying their different requirements. In other words, 5G is an enabler to realize a Super Smart Society (*Chart 2*).

In the domain of mobility, there are services emerging that have nearly been put into markets. For example, in April 2020 automated driving bus transportation starts and demonstration experiments are in progress for promoting practical use of an automated driving taxi to be realized within two or three years. Toyota has also announced a plan to develop land in Shizuoka Prefecture at the end of 2020 to create a “connected city” with the introduction of automated driving cars. There, we expect new businesses to be born and new services to resolve the issues of an aging society.

CHART 2

Technology realizing Super Smart Society



Source: Kei Sakaguchi, Tokyo Institute of Technology

JS: What are the main concerns in realizing a Super Smart Society?

Sakaguchi: We call the gap between the people capable of using ICT and those not capable of doing so a digital divide. In the future, we see a “digital gap” being born. While our smartphones only enable us to access information now, in a future Super Smart Society, depending upon your skill in taking advantage of the variety of information, you will be a winner or a loser in your working life. In this light we will see a large inequality in standards of living or job opportunities. For example, whereas some are obliged to work within the constraints of time and venues as before, with 5G some will be able to do their job connected with human networks in Tokyo while living far from the city, such as in a resort place like Hawaii, since with the use of 5G you can do your work in a remote place from your company.

JS: How can we reduce such a “digital gap”?

Sakaguchi: I think it will be important for all generations to learn about new digital technology. We call it “open education”. That would reduce the “digital gap”.

Developing Human Resources

JS: Who will be the human resources leading a Super Smart Society?

Sakaguchi: I think we need to develop human resources who will be not only knowledgeable about robots or AI but also experts in creating combined systems that work well in the physical life domain, such as automated driving, smart manufacturing, etc. Good progress has been achieved these 10 years in human resource development in the fields of data science and AI. Meanwhile, in the next 10 years we will need to develop human resources who can understand both the physical and cyber domains and think about how digital technology can be applied to our daily lives and lead the research and development for such applications. We are planning to enrich our education programs for this purpose in the next 10 years at Tokyo Institute of Technology.

JS: Do you have any specific human resource development plans?

Sakaguchi: Yes. We have a special human resource development program called the “World-leading Innovative & Smart Education

program for Super Smart Society” (WISE-SSS) starting from April 2020 (<https://www.wise-sss.titech.ac.jp/>). This will offer a consistent academic program at both Master’s and Doctoral level. We adopt “open education” and make it online, and thus anybody regardless of age or workplace could learn from this program. What we call the industry-academia alliance between universities and private business has not necessarily been proceeding very closely, but we will need to strengthen the links between education and R&D to promote learning about a Super Smart Society. For this purpose, we have founded the Super Smart Society Promotion Consortium and pursue an open platform for simultaneous promotion of open education and innovation. Currently, more than 40 partners have joined this consortium (<https://www.sss.e.titech.ac.jp/>).

There are not only private businesses and public research organizations but also local governments such as Ota Ward in Tokyo or Kawasaki city are participating in this consortium. For example, in Ota Ward where the population is increasing, they are planning to work on ideas like a city with automated driving or a flying taxi. In Kawasaki, workers in the industrial zone are facing significant aging and they need to think about how they can find their successors and how their technical expertise can be transferred to the younger generation. The Hiroshima prefectural government is now searching for a more efficient way to conduct evacuations in the event of natural disasters like typhoons and is trying to raise the human resources to find solutions for such issues.

As a crucial part of this education program, we will soon, in the 2020 academic year, introduce private 5G on the campus of Tokyo Institute of Technology and create a learning environment where a student can physically experience automated driving and the new services accompanying it as well as learning about them. So far we have not had any education venue for learning holistically about automated driving, as the lectures on automated driving were divided into several courses – studies on machines, electrical engineering, system control and computing technology – in our university. Our new education program will create a venue where students can learn holistically about technology and acquire the knowledge necessary to achieve a Super Smart Society. **JS**

Written with the cooperation of Naoko Sakai who is a freelance writer.

Interview with Taro Shimada, Corporate Senior Vice President & Chief Digital Officer of Toshiba Corporation, President & CEO of Toshiba Digital Solutions Corporation, CEO & Representative Director of Toshiba Data Corporation, Board Chairman of ifLink Open Community

CPS Technology Creates a Society Sharing the Benefits of Big Data

By Japan SPOTLIGHT

On Feb. 3, 2020, Toshiba Corporation established its data business subsidiary, Toshiba Data Corporation. This company aims at turning all kinds of collected physical data available today through IoT into usable data by the Cyber-Physical System (CPS) for the benefit of the whole of society. With the advance of the Fourth Industrial Revolution, Big Data obtained by IT will be available to all people. How they can equally share its benefits is a key question in realizing a good digital society.

Japan SPOTLIGHT interviewed Taro Shimada, corporate senior vice president and chief digital officer of Toshiba Corporation, president and CEO of Toshiba Digital Solutions Corporation, CEO and representative director of Toshiba Data Corporation, and board chairman of ifLink Open Community.

(Interviewed on March 11, 2020)

Introduction

JS: Could you please introduce yourself briefly?

Shimada: I joined ShinMaywa Industries, Ltd. in 1990, and worked on aircraft design for Boeing and McDonnell Douglas for around 10 years. In my last assignment I was involved in the design of an amphibious aircraft, the US2, for marine rescues, which was adopted by Japan's Maritime Self-Defense Force.

Then I moved to another American company, Structural Dynamics Research Corporation (SDRC), and eventually became CEO of its Japanese subsidiary. SDRC was a rapidly growing enterprise selling software, such as a 3-dimensional computer-aided design system, and it was acquired by Siemens AG, a German company, in 2007. In 2010, I became CEO of one of Siemens's Japanese subsidiaries, Siemens Product Lifecycle Management (PLM) Software Inc., and then in 2014 I had an opportunity to work for Siemens headquarters in Germany where I worked with the principal promoters in Germany of Industry 4.0.

I came back to Japan in 2015 as senior executive and director of the Digital Factory Operation Department at Siemens Japan. I joined Toshiba in October 2018 at the invitation of its CEO, Nobuaki Kurumatani.

As corporate senior vice president and chief digital officer of Toshiba, I oversee the group's overall digitization. I am also the head



Taro Shimada

of Toshiba Digital Solutions Corporation and Toshiba Data Corporation. I recently added board chairman of ifLink Open Community to my resume.

JS: In Germany they are very keen on promoting Industry 4.0 with the introduction of smart factories. I have heard that Japan has been cooperating with them.

Shimada: China also has very strong momentum. It looks as though China is doing everything Germany proposed, and at one time it even looked as if China's implementation was more advanced, even though the original ideas all came from Germany. Japan, however, seems to stick to its own way of doing things, the "Japanese way" if you like. I am very concerned about that, worried about Japan's Galapagos syndrome.

Business Model in Industry 4.0

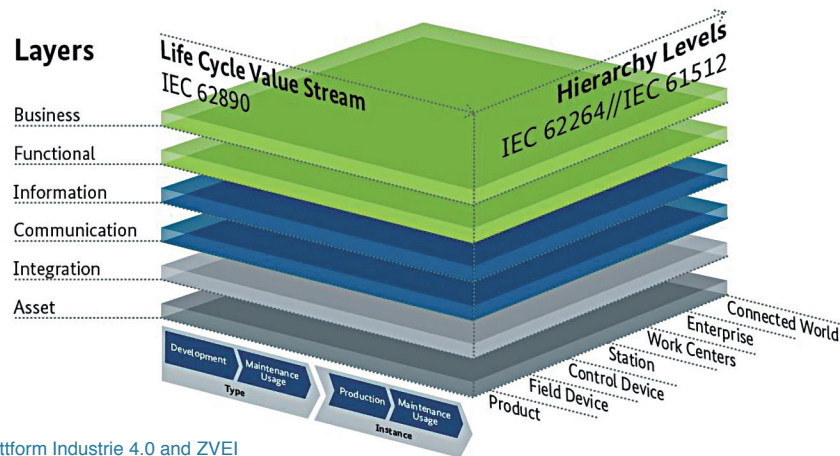
JS: Industry 4.0 will have a great impact on society. You are advocating for the ideal of a digital society as "a world of links among diversified groups and people benefitting from Big Data as a common asset". Would that mean your business model will make the categories of B2B or B2C meaningless?

CHART

The solution: RAMI 4.0 – the Reference Architectural Model for Industry 4.0

RAMI 4.0 is a three-dimensional map showing how to approach the issue of Industry 4.0 in a structured manner.

RAMI 4.0 ensures that all participants involved in Industry 4.0 discussions understand each other.



Graphics © Plattform Industrie 4.0 and ZVEI

Source: Federal Ministry for Economic Affairs & Energy

Shimada: I believe that companies that do not embrace the concept of B2B2C will have a very difficult time. Recently, successful companies like Amazon make profits in B2B through information obtained from B2C. Those who limit their businesses to a certain category will be left behind the trend.

JS: As 5G is starting for commercial use, there will be a massive amount of data under transaction at high speed with increased data issuing from digital products. What kind of changes will happen to society with this technology enabling the transfer of data from a physical product like an automobile or home electric appliance to cyberspace?

Shimada: There is a blueprint for this and realizing the world of Industry 4.0, Reference Architecture Model Industry 4.0 (RAMI 4.0) (*Chart*). This is a three-dimensional map with three axes: a hierarchy of levels, a lifecycle value stream, and layers. In Industry 3.0, it was not possible to communicate beyond the levels. For example, you could not use your smartphone to get data from a fluorescent lamp because they were in different levels of the hierarchy. In Industry 4.0, everything is connected directly. This is realized by the

Verwaltungsschale, referred to as the administrative shell in English, which serves as the standardized communication interface. Many see this as the key to accomplishing the objectives of Industry 4.0.

In a scale-free network, we see what is called the percolation phenomenon. This comes from the fact that when water is subject to enough pressure it vaporizes and disperses instantly. The Internet is a scale-free network. A thing or an act on the Internet is diffused worldwide in the same way, almost explosively. The expansion of GAFAs is a good example of this. In a world where everything is connected directly, the percolation phenomenon is a powerful force. That is what Toshiba Data Corporation is aiming for with its “Smart Receipt”.

“Smart Receipt” – Toshiba Data Corporation’s Core Project

JS: You are also CEO of Toshiba Data Corporation, a Toshiba data business subsidiary. What is your project called “Smart Receipt”?

Shimada: The idea of the “Smart Receipt” was nurtured in the aftermath of the Great East Japan Earthquake disaster of March 11,

2011. With serious shortages of materials in general, there was also a shortage of paper for receipts for cashiers. They wondered if they could issue an e-receipt. That question was the starting point of our project. Toshiba Tech Corporation developed the project and introduced “Smart Receipt” to some retail businesses in 2015. My company, Toshiba Data is now trying to expand the business in earnest in Japan.

Through sales promotion campaigns, we are now seeing significant increase in uptake of “Smart Receipt”. We are at a point where 57.1% of consumers at shops promoting the “Smart Receipt” program are applying for it. For campaigns that use paper-based receipts, the uptake rate is only around 5%. Shops can consider customers that use “Smart Receipt” as those who are always interested in them and their sales items, and can notify them of their sales campaigns when they are in the shops. When we surveyed users opinions of receipts, we found that 69% of respondents think paper receipts should be eliminated and 91.5% of them would be ready to use an e-receipt. Very few would stick to paper receipts, as the print on a receipt of heat sensitive paper fades as time goes by.

It is very easy to use a “Smart Receipt”: download the application program to your smartphone, get stores using “Smart Receipt” to scan its ID, and then you can use “Smart Receipt” there. You can use it as a loyalty card with the store’s point system, and if you also register cash card information in “Smart Receipt”, you can make cashless payments. This saves time at the cashier. You can use “Smart Receipt” for proof of purchase for medicines as well, and for simplifying application procedures for health insurance.

If we were to connect and analyze the information of a large number of retailers, we could offer more services with “Smart Receipt”. For example, it would be possible for a liquor shop to recommend to a customer who has bought a fish in a fish shop the specific Japanese sake that best suits it. With such an expanded network, it would make it possible to realize connections between producers and consumers. It would be even possible for the buyer of the fish to identify the fisherman and for the fisherman to get to know what kind of dish was eventually made out of the fish. Such possibilities are hidden in this “Smart Receipt” project.

We do not yet know the full potential of “Smart Receipt”. One idea is to take advantage of the data of purchases recorded in “Smart Receipt” in medical consultations. During a health check, you may be asked to complete a health survey. In responding to a question like, “How many times do you drink alcohol a week?” you may tend to underestimate the number. But by using the objective data recorded in your “Smart Receipt”, your doctor would be able to make a more appropriate medical judgement of your health. Not only on the question of alcohol but also on the question of meals, more objective data could be provided for a doctor, who could then give good advice to avoid excessive consumption of salty food, for example.

I am sure we can use the percolation phenomenon to create a network, and for that reason some of our business partners have



asked us to contract with them to give them a monopoly of the data from the network. However, we believe in the utility of a symbiosis among all the beneficiaries of the system, and we are not thinking about giving any company exclusive access to the data obtained from the network.

JS: If you do not provide your business partners with your data exclusively, can you expect their sincere collaboration in promoting the use of the data in a wide range of business?

Shimada: If we have 100,000 shops taking part in the “Smart Receipt” system, we will get information on purchases with a value of around 40 trillion yen. If you think about this scale, it is not difficult to understand that our business partners understand the merits of sharing our data and cooperating with us. I would also like our system to provide merits for early collaborators. Unfortunately, the proportion of e-commerce to total commerce in Japan is only 7%, and around 90% of the total commercial transactions are not yet linked to the cyber network. We would like to increase the percentage of e-commerce, and we believe that taking advantage of the data collected from physical goods connected with the Internet could contribute to promoting social welfare in Japan.

Challenges in Promoting Use of Big Data

JS: There would be two issues with taking advantage of private information such as customer purchases – the question of privacy and the question of monopoly of such data. How are you planning to tackle these?

Shimada: I think it must be up to users themselves how such personal information is used. In terms of privacy, we would not

provide any personal data to anybody else unless the person permits us to do so. This is what we call prior approval. Our basic policy for privacy protection is to prevent third parties from using personal information unless each individual user finds it valuable.

On the question of possible monopoly of the data, I think successful companies, like GAFA, in the business of data analysis in cloud computing that uses information obtained from a smartphone or PC, in other words data analysis based on data transferred from “cyberspace” to “cyberspace”, committed two big errors. The first one was their monopolization of data. They were accused of violating the antitrust laws by European companies. The second one was that they used the data without getting the permission of the individual owner of the data. Though the creation of the General Data Protection Regulation (GDPR) by the European Union addressed this question of privacy, the business of handling personal data still seems to be regarded with suspicion. This is, I believe, a big tragedy for people, because without the smooth circulation of data, business activities in our economy will be significantly slower.

We are very aware of the importance of protecting human rights, and our company has been discussing what should and should not be allowed on this question of privacy with a group of experts from outside the company. We have not yet settled on a general rule, but we recognize that any errors in rule-making could gravely impact on our future business. So we continue our discussions and will be as prudent as possible. I think if any individual considers any business use of their personal information as a violation of his or her privacy, it must be officially interpreted as a violation of privacy. This is a similar concept to the one adopted by the GDPR. Unless we create a system that convinces users that their privacy is firmly secured, we cannot achieve “Data Free Flow with Trust”. This is not a matter of law but a matter of business structuring, I believe.

Question of Cybersecurity

JS: Cybersecurity would be a big challenge for your business. In particular, in an age of massive data flow from a physical product to cyberspace I think it would be even more crucial to achieve ensured security. How do you assess Japanese technology’s performance in this area?

Shimada: Japan has been trying to ensure security by avoiding connecting physical products with the cyber network. But this is wrong. Going forward, it will be extremely important to enhance security with physical products being connected with the cyber network.

Currently, Toshiba is developing a telecommunication system called Quantum Key Distribution. With this system, the two communicating users would be able to detect the presence of any third party trying to gain knowledge of a shared secret key known

only to them which they can use to encrypt and decrypt messages. We would like to make this a global de facto standard, and will try to do so with the release of commercial use of 5G. When 5G prevails, we think that growing attention will be paid to new technologies like autonomous driving, autonomous control of electric power and autonomous robots, since they could expose human beings to life-threatening crises if any hacker caused them to malfunction. We would like to see this cryptographic communications system widely adopted, as a way to enhance security for those critical technologies.

Contributing to Social Welfare in an Aging Society

JS: Now, I see that Toshiba Group is contributing to enhancing welfare in an aging society by providing people with data on health. In doing so, how would you try to mitigate what we call the “digital divide” between elderly people and the younger generation?

Shimada: We plan to make IoT much easier to work with than it is now. We made an IoT platform called ifLink, and I am the board chairman of “ifLink Open Community”. With this, even older users without any knowledge of digital technology could easily program the home electric appliances connected with their smartphones. They can just pick up a card with “If” and another one with “Then” and make a program such as “If the door is opened, then switch on the light”. They can choose the action they want, and once the programming is done, they do not have to use the smartphone. This would be easy for the elderly.

With the expansion of IoT, it will be important that anybody can use it cheaply and easily. To achieve it, we made this platform open to everybody. Anybody can make an “If-Then” program and around 100 companies from a variety of sectors have announced their support for ifLink. I believe we will see a wide variety of IoT and many products emerging from diverse companies. Many kinds of IoT will be created by spontaneous combination of these products depending on users’ preferences, in areas like infrastructure, automobiles, home security and delivery services.

ifLink is really simple software but if people find it interesting and it prevails all over the world, a scale-free network will be automatically born. There would be an infinite number of combinations among the products. My presentation of ifLink at the World Economic Forum in Davos in 2020 was very well received by the audience. We look forward to seeing this platform make great progress.

JS

Written with the cooperation of Naoko Sakai who is a freelance writer.

Role of Digital Education to Help Long-Term Growth Recover Under Covid-19

By Naoyuki Yoshino & Masaki Nakahigashi



Author
Naoyuki Yoshino



Author
Masaki Nakahigashi

Introduction

At the university where I am teaching, professors are now giving classes in rooms where there are no students, though the windows and doors are kept open to create good air quality. They are giving their lessons via their personal computers. I have not met many students during the spring and fall semesters in person: I have met them only through my PC. This is a striking change from our normal teaching styles at school. Digital technology will change the style of education substantially. This change in how to develop human capital will result in big productivity differentials.

Importance of Digital Networks

Digital networks will result in huge productivity increases. The government and private sectors in Japan are lagging behind in digitalization, as shown in *Chart 1* where Japan is ranked 30th among OECD countries. This is a chance to improve productivity and social customs in order to boost efficiency. The private sector has to meet the needs of customers, but competition among businesses will push digitalization in a speedy manner. The government sectors, however, including local governments, are only making gradual progress compared to private businesses. The education sector is another area where digitalization can be incorporated.

Incentive mechanisms must be put in for the public sector to improve its digital-based work environment. One way would be to reduce budget allocations if some ministries are slow to introduce digital-based public administration.

Ways to Finance Digital Networks

To construct a nationwide digital infrastructure network will cost a

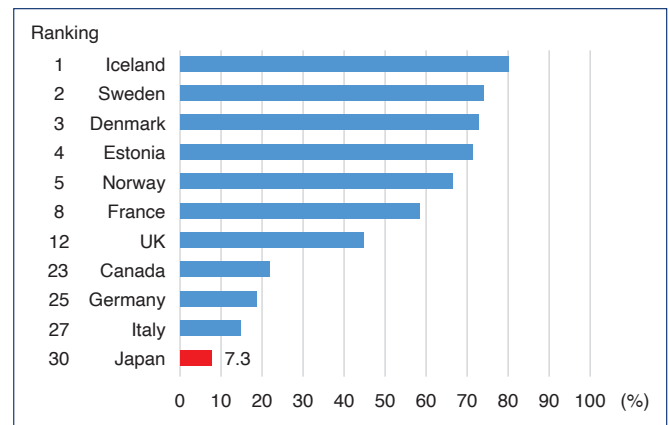
huge amount of money. Since Covid-19, many local governments have had to spend huge sums on the health sector and to support small and medium-sized enterprises (SMEs). They have little room to spend on digital infrastructure investments.

Broadband India, for example, would like to expand its network not only to cities but also to rural areas. Digital networks will bring new residential areas and new business to regions. But if digital infrastructure relies only on user charges, not enough money will be collected to expand networks all over the country, and heavy use of digital infrastructure will be restricted to urban areas, leaving rural regions behind.

Investment in digital infrastructure will lead to more people living in the region in question. New businesses will come to the region, and new shopping malls and restaurants will start to operate.

CHART 1

Utilization of government digital infrastructure



Source: *Selecting future 2.0*, Cabinet Ministry, 2020, chairperson: Yuri Okina

in the country can provide online education in various subjects and their lessons can be accessed by students at any time. Lessons in difficult subjects could be watched repeatedly at home.

Local teachers could complement the online lectures provided by top teachers by watching to see if their students in class have understood them well or not, and providing supplementary information. The online lessons could be taken at home if the school is closed. This is one way in which digital technology can change the way students are taught.

Adult education can also be easily introduced online. Various training courses, such as customer relations in the retail sector, can be provided online. Such courses could be provided in two ways – by the Ministry of Education and by private broadcasters. The ministry would be able to provide a wide variety of courses to fit with the curriculum as compulsory subjects, while private broadcasting companies could set up their own courses using their own materials and unique methods.

Digitalization Can Promote Sales of SMEs

SMEs hire fewer recruits each year compared to large companies, and it is difficult for them to set up their own education and training courses for their employees. Digital education programs on various subjects would be able to help improve the skills of employees at SMEs.

Online sales have been increasing since the Covid-19 outbreak, and many people have started to order goods through the Internet. Digitalization will help SMEs whose sales networks were poor compared to large businesses to sell their products. Farmers can sell their vegetables and meat by taking orders through the Internet. New start-up businesses can take orders from customers online, and if their products are high quality and reasonably priced customers will order them repeatedly. Their sales can be expanded overseas by use of digital technology if payment systems across countries are well established.

Infrastructure & Education

Digital education can be provided not only in cities but also in rural areas and remote islands. It has often been observed that urban areas have more teachers of high quality than rural regions, while

remote islands cannot provide top-level education in many subjects. But digital education will change traditional concepts of education. Wherever students live, top-level lessons in all the subjects can be provided to them through mobile devices. As long as students have the desire to learn, teachers in remote places can provide them with the answers. The Ministry of Education can help set up online courses taught by top teachers in all subjects.

Using 44 countries' data from the United Nations, [Table 2](#) shows that secondary school education and university education together

TABLE 2
Infrastructure investment & education

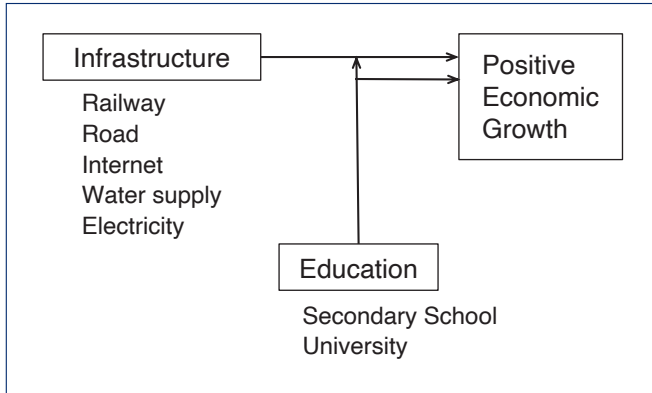
Dependent variable: log difference GDP per capita in 1991-2010			
Regression number	REG.1	REG.2	REG.3
Variables	Coef.	Coef.	Coef.
InY_1991	-0.06	-0.14	-0.14
	(-0.54)	(-1.35)	(-1.38)
In (n+g+d)	-3.09	-5.75	-4.36
	(-0.59)	(-1.23)	(-0.77)
In (Kg)	0.23	0.34	0.53
	(1.17)	(2.00)	(3.30)
In (Sec)			0.00
			(0.46)
In (Kg) x In (Sec)	0.20		
	(1.59)		
In (Uni)			0.21
			(2.07)
In (Kg) x In (Uni)		0.24	
		(2.76)	
Constant	-0.28	0.56	0.48
	(-0.33)	(0.69)	(0.57)
Number of observations	44.00	44.00	44.00
R-squared	0.21	0.30	0.30
F-statistic	2.62	4.14	3.29

Note: "Kg" stands for infrastructure, "Sec" stands for secondary school education and "Uni" stands for university education. "In(Kg)xIn(Sec)" and "In(kg)xIn(Sec)" show infrastructure combined with secondary school education and university education will enhance much more impact in regional growth.

Source: Naoyuki Yoshino and Umid Abidhadjaev (2016)

CHART 3

Economic impact of infrastructure



Source: Compiled by the authors

with infrastructure investment can create a statistically significant economic impact on a region (“Explicit and Implicit Analysis of Infrastructure Investment: Theoretical Framework and Empirical Evidence” by Naoyuki Yoshino and Umid Abidhadjaev, *American Journal of Economics*, 6 (4), 2016). Secondary school education will give basic skills to everybody, while university education will provide higher skills for professionals. *Table 2* gives an econometric estimate of the relation between education and infrastructure investment.

Digital education which can be provided not only in cities but also in rural regions will increase the productivity of people in those regions together with infrastructure investments.

Chart 3 demonstrates the importance of digital infrastructure in addition to secondary school and university education pushing up economic growth.

Human Capital Development: Estimates of Impact

The following estimation reports the impact on productivity in various regions in Japan of a 10% increase of human capital development, such as by digital education (“Changes in Economic Effect of Infrastructure and Financing Methods” by Masaki Nakahigashi and Naoyuki Yoshino, *Public Policy Review*, Vol. 12, No. 1, 2016). *Table 3* summarizes this impact on production in primary industries (=agriculture, fishery sector), secondary industries (=manufacturing) and tertiary industries (=services sector). The

TABLE 3

Impact of 10% increase of human capital on GDP in regions in Japan (trillion yen, Real GDP, base year 2005)

Region in Japan	Primary Industry	Secondary Industry	Tertiary Industry
Hokkaido	0.03	0.21	0.81
Tohoku	0.05	0.50	1.16
Northern Kanto	0.04	1.10	1.20
Southern Kanto	0.03	2.60	7.17
Hokuriku	0.01	0.44	0.75
Tokai	0.03	1.62	2.32
Kinki	0.02	1.65	3.44
Chugoku	0.02	0.61	1.05
Shikoku	0.02	0.24	0.54
Northern Kyushu	0.02	0.49	1.26
Southern Kyushu	0.03	0.23	0.59

Source: Compiled by the authors based on Masaki Nakahigashi and Naoyuki Yoshino (2016)

estimation is based on Nakahigashi-Yoshino where a trans-log production function was used at regional levels in Japan.

Conclusion

This article explains the importance of digital technology to promote sales by SMEs and quality education. Faced with Covid-19, there is little fiscal room to increase spending on digital infrastructure. Floating infrastructure bonds which return spillover tax revenues for infrastructure operators and infrastructure investors will be one way of bring private sector finance into infrastructure investment.



Dr. Naoyuki Yoshino is professor emeritus of Keio University and visiting professor at GRIPS, and former dean/CEO of Asian Development Bank Institute (ADBI).
Masaki Nakahigashi is associate professor of Niigata University.

Interview with Dr. Gary Hamel, Co-author of the book *Humanocracy*

How Can We Revive Organizations as Innovative as the People Inside Them?

By Japan SPOTLIGHT

During the Covid-19 pandemic, innovation can play a key role in helping businesses navigate the crisis. Restaurants, retail shops and other service sectors need to change their face-to-face business with clients due to social distancing, and the managements of these businesses now face the critical need to enhance their innovation.

Dr. Gary Hamel, an influential business thinker and long-time faculty member of the London Business School, is co-author with Michele Zanini of the recently published book *Humanocracy: Creating Organizations as Amazing as the People Inside Them* (Harvard Business Review Press, 2020). He strongly advocates in this book for management to unleash an individual employee's creativity, energy and resilience from the control of a hierarchical bureaucracy as a key to innovation. Dubbed a "management innovator without peer" by the *Financial Times*, Dr. Hamel offered us his insights in the following interview.

(Interviewed on Aug. 20, 2020)

Motivation to Write *Humanocracy*

JS: *Humanocracy* is a very enlightening book that provides many good ideas for saving companies from inertia or lack of enthusiasm to innovate or raise productivity. What motivated you to write it?

Hamel: The motivation came as I observed organizations from all over the world struggling with the same disabilities. Whatever the country, whatever the industry, it seemed that large organizations had some core incompetency, and most of them struggled with proactive change. Often deep change is crisis-driven; it is episodic and often convulsive. Typically, it takes a change in CEO to set an organization in a new direction after much ground has been lost. I also saw that many organizations are incremental – they are not very good at changing using the fundamentally new business models that come from relatively young companies which are unencumbered by the machinery of bureaucracy. And finally, I could see that large organizations were wasting an extraordinary amount of human capability. Gallup – which does a global workplace survey – reports that only 17% of employees around the world are fully engaged in their work. That means the other 83% are not bringing their ingenuity, their initiative,



Dr. Gary Hamel

and their passion to work every day.

We know from other surveys that only one in five employees believes their ideas matter at work, that only one in 10 is free to experiment with new methods and solutions, and only one in 11 believes that they can influence decisions that are important to their work. It seemed that many organizations waste more human capacity than they use. And think about the challenges that our organizations face – they are inhuman, they are incremental and quite dispiriting – these are things that human beings know how to fix. So as human beings we are resilient, we go through difficulties and tragedy. We are going through an immense global crisis right now and we are extraordinarily resilient and able to reinvent ourselves and to adapt to

difficult experiences. As human beings we have this quality of resilience, but our organizations are inertial. As human beings we are immensely inventive and creative; every day 500,000 hours of new video content goes up on YouTube, and 1,300 new apps get launched on the Google play store, and 40 million videos go up on Instagram. So there is no shortage of creativity in our world, but our organizations struggle to be truly innovative. And finally, human beings are filled with passion – we care about the environment, our families, perhaps our sports teams, and yet our organizations are often passion-free zones. So I was struck by this strange difference, this divide between our capabilities and the lack of capabilities in our

organizations.

So I wrote the book because I believed that organizations need to become as resilient and as inventive and as spirited and daring as the people inside them, and today that is clearly not the case. The book hopes to change that. I would just add one more thought to that. As a species, today we face an array of daunting challenges: besides the pandemic we face cyber threats, deep social fissures, climate change, geopolitical conflict, mass economic migration, and the potential of job-destroying effects of automation. Against those challenges, we need to be able to muster every bit of human initiative and ingenuity on the planet. So we can no longer afford organizations that are hierarchical, that are rules-bound, and that fail to use this immensely valuable human capital.

Individuals & Organizations

JS: Our next question is about hierarchy. You seem to be saying that hierarchy is the main culprit for low productivity and less creativity of each employee in organizations. Could you elaborate on how hierarchy hampers individual creativity or passion?

Hamel: First, I would want to distinguish between two types of hierarchy. There is one hierarchy that we inherited from bureaucracy. Literally, the word bureaucracy means the “rule of desks”. That is the traditional management structure in which you have a hierarchy of administrative positions, typically of department heads and business heads and vice-presidents and senior vice-presidents and so on, where your authority depends on the position. You are a vice-president and now you have that positional authority. And yes, I believe that is quite often quite destructive.

The other kind of hierarchy is the natural hierarchy. On the Internet, there are some people who have more followers than others on any social platform. On the Internet, I have influence only if people choose to follow me; I cannot compel them to follow me. So the problems with that traditional positional hierarchy are several. It is important to remember why we have those formal hierarchies and we have managers at all. If you go back to the early industrial era and even before, information was very expensive to acquire and move. The best way of doing that was through a hierarchy with the employees talking to customers and sensing changes, and they would report up to a manager. Then at that level you would consolidate the inputs and the data from the managers and that would be reported up again. So in that period, that hierarchy was in essence an information-handling machine. And of course, in that old world, the people at the top were the only ones who could see the whole picture, the only ones with the entire view. Now, of course, we can share information immediately, everyone can see the same information instantaneously, and so this hierarchy is a relic of another age when information was very expensive to move.

Also, in the early industrial and pre-industrial age, most people at work were illiterate or very poorly educated. And they needed a

particular breed of employee – a super employee called a “manager” to tell them what to do. Now today, most employees are quite well-educated, and they do not need someone to tell them moment by moment what they should be working on. And so, that hierarchy and that managerial control are artifacts of a time 100 years ago and more when information was expensive to move and when most people did not have the skills to be self-managing. And yet that bureaucratic structure has persisted. This causes damage across multiple fronts.

In that traditional hierarchy, we make the assumption that the thinkers are at the top and the doers are at the bottom. Hierarchy builds a kind of organizational caste system that distinguishes between thinkers and doers, between managers and workers, and between the clever and the compliant. When you treat people as doers, when you deprive people of autonomy and freedom in their job, they will not bring the best of themselves to work. That is why only 17% of people are engaged in their work, according to Gallup. And when you look deeper at that, it’s quite interesting because 89% of people around the world – at least in the Gallup poll – are satisfied with the task. They don’t mind the physical thing they are doing. What they object to is the work environment that infantilizes them and treats them like children.

In a typical company, an employee may be able to buy a car or an apartment in their private life but at work they cannot even buy an office chair without someone else’s permission. So that hierarchy is by definition disempowering because it is a hierarchy of authority and that means those at the bottom have almost no authority, and that is what the evidence says. It treats a large amount of employees as second-class citizens. If you think that I am perhaps exaggerating a little bit, I will share an example that appeared in the *Harvard Business Review* a couple of years ago. This was said by one of the managing directors of one of the world’s most influential consulting companies: “The CEO, the CFO and the CHRO will shape business by looking at the big picture, while others have their heads buried in operations.” So he is saying that 99% of the organization does not need to look into the future, they should just have their heads down, doing what other people have told them. This is an extraordinary waste of human capacity.

The second problem when you have a hierarchy with all those layers is that it takes an extraordinary amount of time to get things done. If you believe that you need senior executives to make the most important decisions, that means that nothing changes until you change the minds of people at the top. In my book I talk about two decades that were lost for Microsoft. Between about 1993 and 2013, Microsoft missed almost every new opportunity in the digital world because their leaders were operating under the old mindset where the personal computer was the most important digital device, and the most important customers were CIOs in large companies. So they missed the opportunities for smartphones and for tablets and online music and so on. Now they are slowly catching up, but they lost two decades there. That is not a criticism of Microsoft, but it is an inevitable result of these hierarchical organizations because

inevitably for leaders at the top with a long tenure most of their emotional equity is invested in the past. They feel that they have to defend decisions that were made 10, 15 or even 20 years ago. They are insulated from the latest trends by the layers of managers who are trying to package up the data and make it palatable to the leaders and are often unwilling to challenge the biases or the prejudices of their superiors. Because of that, there are long lags between sense and respond. So typically, by the time an issue is big enough or urgent enough to get the serious attention of the CEO, it is already too late.

And often today, the organization will never catch up. So my first problem with formal hierarchy is that it turns off a great quantity of human capacity. The second is that it makes organizations very slow because people on the front lines cannot act, they cannot experiment and move forward. Let me give you an example. The Chinese company Haier, which I know quite well, is now the world's largest appliance maker. I think they bought the appliance business of Sanyo in Japan and General Electric in the United States and are now a global presence. When I first met Zhang Ruimin, the current CEO of Haier, in 2011, he came to my office in California and we worked through a translator. He had read my book *The Future of Management* and said that he wanted to build the kind of company that I describe. He said, "We are going to encourage our employees to become entrepreneurs, because people are not a means to an end but an end in themselves. Our goal is to let everyone become their own CEO, to help everyone fully realize their potential." So what Haier did was to reduce eight organizational layers down to three; they broke the company up into 4,000 micro-enterprises, small entrepreneurial businesses, and they got rid of 12,000 middle managers. They didn't fire most of those managers, most of them were re-deployed into these new entrepreneurial units, but those jobs will never come back in a flat, highly networked organization where individual teams have the freedom to make important decisions, are accountable for results, and have the financial upside – you do not need legions of managers directing their activities.

In my book, I describe bureaucracy as a massive multi-layered game that is played for the prize of promotion; it is played for the prize of positional power. So if I play this game well, I get promoted and a bigger salary. Unfortunately, the game of bureaucracy is not very well-aligned to the actual challenge of creating value for customers, because the way you win in such an organization is you learn to manage up, you learn how to massage your bosses ego, to show great deference and not to argue. You learn how to negotiate targets and how to manipulate the internal financial systems so that you have a chance of beating your numbers. You spend time deflecting blame, learning how not take responsibility, learning how to elbow rivals out of the way. So these behaviors are destructive often, but in many organizations an enormous amount of energy goes into these non-productive behaviors.

What you end up with is a hierarchy of people who are still bureaucrats, not necessarily a hierarchy of people who are distinguished by their courage, their imagination, their creativity and

their leadership ability. So I think that the traditional idea of positional power and bureaucratic authority is going to have to surrender to something that is more dynamic, that better correlates confidence and influence and is more open to ideas and suggestions from people on the front lines.

JS: We think today that it is very important for employees to feel happy in their work, and your ideas in *Humanocracy* seem to be very helpful in encouraging an employee's happiness. Would you concur?

Hamel: Happiness is a difficult word, but I think yes. As human beings, we are at our best when we feel we have control over our own destiny. You have seen protests over the last few months and years in the US, but this is not just an American phenomenon. First of all, you saw a large group of disaffected voters in the Midwest part of the US who were left behind by deindustrialization. Those voters put Donald Trump in power. I saw in Britain 17 million British citizens voting to leave the European Union because they didn't think that distant political energy was alert to their needs. You see the Yellow Jacket protestors in France and the 5-Star movement in Italy, and coming back full circle to the US, it is not only people on the right who voted for Trump – there are millions of young people, many of them college educated, who do not see a future for themselves. If you look across the OECD, and this includes Japan, in every generation since World War II the percentage of people making it into the middle class has gone down. So we have immense frustration on both sides of the political spectrum today and that frustration is understandable. Every human being wants dignity. They want to believe that their life matters and their vote matters. They want opportunity and the ability to enlarge their skills, to enlarge their contribution and to benefit from that. Finally, they want equity – they want the rewards of success to be fairly distributed.

The data says that millions and millions of people do not find dignity and opportunity and equity in the workplace, and if you don't find it there it is going to be very hard to find enough of that anywhere else. So people go to work, and they are loyal and work hard, but they find very little fulfillment there – they find fulfillment in playing video games and distractions, and binge-watching shows on Netflix. But the emotional returns from work for many people are quite low. We do need to change that, and there are three levels of the argument in our book.

There is the economic argument that says, "We will not reverse that declining productivity growth until we find a way of turning on the individual worker's capacity at work." So if you look at the data, what we have seen since 1983 in the US is that the number of bureaucrats working in the economy – the number of managers and supervisors – has grown by more than 100%. It has more than doubled. All other job categories have grown by less than 50%. Most of this is not an artifact of government regulation; most of this comes from the natural human desire in organizations to win at the

game of bureaucracy and acquire more of the trappings of positional authority. So bureaucracy self-replicates in our own organizations. As bureaucracy has been growing, productivity has been slowing. I do not think those things are uncorrelated because bureaucracy puts a tax on the entire economy. We calculate that for the OECD, if we could reduce the bureaucratic load by half, and we know this is possible because we see some companies that have done this, it would raise economic output across the OECD by more than \$10 trillion. That would more than double recent productivity growth, just that single move, if we could achieve that over the next decade.

There is a competitive reason as well. If I look at many of the great companies in Japan, many of these have struggled to keep pace with change as the pace of change has accelerated. So today the biggest risk to any company is not that it becomes inefficient; it is that it becomes irrelevant. Many CEOs are now learning a very hard lesson – that you cannot win in a networked world with a hierarchical organization.

Finally, there is a social reason, because people have a right to dignity in their work, they have a right to grow at work and to have a financial upside, and for many employees that is not possible. As consumers, we understand now the idea of radical innovation. When you think about how the way we pay for things has changed with mobile payments, when you think about how we consume news and information – these are radical changes over the space of a decade. So I would argue that just as today we could at least contemplate and think about radical innovation in business models, now we need to think about radical change in management models, because this is the only way of building locally competitive companies and building a society in which everybody has the chance to win.

JS: We believe that digital technology could reduce the negative aspects of bureaucratic organizations or hierarchies. Would you agree?

Hamel: In traditional organizations, most of the relationships and information flows were vertical. That is, command and control. Today most of it is lateral. We are already online and using Microsoft Teams and so the reality is that our organizations are already more lateral than they are vertical. And yet we are using these new collaborative technologies mostly to make white-collar work more efficient. So many of the new collaborative technologies do for teams what Microsoft Office did for individuals 30 or 40 years ago. But that does not change the structure of the organization; very few companies are using these collaborative platforms to set strategy. They are not using these to ask thousands of employees what they need to change in that bureaucratic model. We are doing that in some companies – we have a platform using our software that we built that is now being used by 70,000 people in Apple to collaborate and share ideas in a way that was simply not possible a few years ago.

The technology could harness the collective wisdom and imagination of many people, but the people at the top still have to be

willing to listen. They have to be willing to empower people and to give them a voice in these conversations; otherwise those people will take their ideas somewhere else. They will be talking offline, they will be on Facebook, they will be talking about something else, but you won't be harnessing them at work. So it is wonderful having these new open platforms, but first of all you need an open mind to be able to use them.

Management in “Humanocracy”

JS: Our next question is about managers. We need to select wise managers in order to achieve the purpose of “Humanocracy”. How do you think that would be possible? Meritocracy might be the answer mentioned in your book, but could you elaborate on this argument.

Hamel: Let me start with a little anecdote. In the book I talk about a Dutch company called Buurtzorg. This is the leading provider of home health services in The Netherlands, and this is a growing business around the world as we have an ageing population. So Buurtzorg employs around 16,000 nurses and nurse helpers. They divide those 16,000 employees into teams of 12 caregivers. Each team has somebody who is responsible for finances, somebody who is responsible for staffing, someone responsible for winning customers. Each of these teams operates as a little business. They have to find their own office space, they recruit colleagues, and they win customers. All of those teams are tied together by a social platform. So if I have a problem with a patient I can go online and search the collective wisdom of 16,000 colleagues about this problem. The performance of every team is visible across the entire network, so I know exactly how my team is doing against all the typical parameters of patient satisfaction and nursing utilization. Nobody wants to be at the bottom of that league table. So given all of that, they run a company of 16,000 people with only two managers. Two managers. That is a span of control of one to 8,000 people. And when they built the company, one of the founders said, “I want to create a company that values humanity over bureaucracy.” I told this story because I am not sure how many managers we need – maybe we don't need any.

We certainly need less, so if you look at the companies we profile in the book, another example is Nucor, one of the world's most innovative and profitable steel companies. It is a company with 20,000 employees, and they have roughly one-third the number of managers of their competitors, because they have frontline employees who are taught to think like business people. Blue-collar employees who know how to read a profit and loss (P&L) statement and calculate return on capital, who have a natural upside if they improve those metrics, and every day they spend thinking about how to build a more successful business. So when you have people at the front lines who have been trained to think like business people and who have the authority to make important decisions and who have a

financial upside if they do well, you do not need a lot of managers because these people are self-managing. How do we select wise managers? I think we are going to need a lot fewer managers.

Let's go back to the early industrial revolution. When you had all these people coming to work, many of these people were illiterate and so you needed a manager to tell them what to do. The first business school gets established in the 1890s. All of the leading business schools get established around 1890 and 1930 or 1940 and then the rest of the world follows suit. The business schools were created to train this new breed of employee called the manager. At that time, it was a very rare skill set – it was like a data scientist today or a geneticist, very rare and very special. That was true for managers 100 years ago. No more! Interestingly, our companies are still hierarchies of administrative expertise. What distinguishes one layer from the next is just the size of your headcount and the size of your budget, not that you are adding more value, but you get paid more and get a better title because you have a bigger organization beneath you. Which is why people want to build a bigger organization beneath them – whatever the role, you try to add staff because that is how you get power and authority.

But I think that today, with information instantly available and very educated employees, the number of managers we need is much less. In 1988, Peter Drucker said that 20 years into the future we would have half the organizational layers and one-third the number of managers, and that did not happen. He should have been right because with better-educated employees as we went from an industrial to knowledge-creative economy, and as we got better communication, it should have been possible to reduce all of that bureaucracy, but it did not happen and we have to ask why. The most likely explanation is that people with power are pretty good at hanging on to it and can give reasons why they need to. That is the number one challenge in busting bureaucracy. I think of Pope Francis when he became the pontiff in 2013. He declared that he was going to cut through the Vatican bureaucracy – he wanted to create a church that was more responsive to the needs of the world and less inwardly focused. He was asked last year how it was going with dismantling the bureaucracy, and he said that it was like trying to clean the Sphinx with a toothbrush.

So if you want to bust bureaucracy you have to evolve the whole organization. This will never happen top-down – you cannot ask bureaucrats to remove bureaucracy, as a rule. Coming back to your question, I think that what we are going to have to do is to distinguish genuine leadership from management. That is hard because what we do today is talk about senior managers as if they are leaders, whether or not that is true. You hear people talk about “the leadership team”, but my experience is not all of those people are leaders, and usually it is not a real team. They are usually fighting with each other, have very different views and perspectives, and yet we call them leaders. People refer to themselves as being in the “leadership ranks”. I think that to be a leader is not about your positional power. Today, with young people coming to work, if you have to rely on bureaucratic power to get things done you are

actually eroding your leadership capital. You are losing the respect of young people because they have grown up in a world where power trickles up, not down. If you have influence on the Internet, it is because people have chosen to follow you. People need to ask themselves – assume for a moment that I have no title with my name and no positional authority, what can I accomplish in my organization? If the answer is “not very much”, then you are probably a bureaucrat and not a leader. What we have done is that we have completely conflated and intermingled these terms. My view of leadership is very simple – a leader is somebody who makes a catalytic contribution to collective accomplishment. That could be anybody at any level. And so I think that in some of the companies I talk about in my book the teams chose their own leaders. Leadership should be the reciprocal of followership. You are only a leader if people will follow you if they have the choice. That is the other question you could ask – if people had the choice, would they willingly follow?

At Haier, every year at every one of those micro-enterprises, they elect a leader. And if they miss their performance targets for three months in a row, it triggers a new leadership election. You can even do a hostile takeover if you see a micro-enterprise that is not doing very well and you know that people are anxious to do better, you can go and make your case and say, “I think I can lead your team better.” And if the team says yes, you are the new leader. The reason that Haier can trust this kind of system is because every employee has a financial stake in the business. They are quite willing to tolerate a leader who is maybe not the easiest to get along with if they help them to achieve amazing results. So I think that we are going to have many fewer administrators in organizations; the work of managing will be more distributed to the periphery. I think that leadership will be less about mastering administrative tasks and will be much more about your capacity to drive meaningful change in a hostile environment with other people. We need to be very careful about conflating these terms “leadership” and “manager” as they are quite different.

Future of “Humanocracy”

JS: Our last question is about the future aspect of “Humanocracy”. Do you think it will turn shareholder capitalism into stakeholder capitalism all over the world? Also, what is your view of the role of leadership recommended by “Humanocracy” in the age of the pandemic?

Hamel: I think that we already live in a world of stakeholder capitalism. Businesses have many responsibilities and not only to shareholders. Businesses do not have any innate rights. As human beings, in my way of thinking about the world, human beings have unique and inalienable rights, but I don't think companies do. Leaders need to remember that, because if you are not attentive to society's needs, then they will take away your freedoms and you may

end up having less latitude on many issues. So it is better to be proactive than reactive in meeting the demands of society. We are already in that world and that is happening. However, around the world, capitalism is in crisis, which is quite extraordinary when you think about it. There is no other system that has lifted so many people out of poverty as capitalism. It does not have a single intellectual rival – so why are people so frustrated? There was a recent poll across the 28 OECD countries, and 56% of people thought that capitalism does more harm than good – that is extraordinary. The reason is that capitalism has allowed itself to be perverted in some ways; it is not something inherent in capitalism, but it has allowed itself to be perverted and I think we have to separate two ideas here – the idea of capitalism from corporate power. In my country, more than 80% of Americans say that big companies have too much power, and it is hard to argue against this. They have immense power. I am sure the same is true in Japan, where you see more and more industrial concentration and smaller numbers of firms competing for customers. We know that pricing power is going up – economists tell us that a greater share of the gains is going to corporations versus employees.

There is an estimate in the US that \$400 billion a year is going from consumers to producers who have more market power. Then you see a lot of financial engineering – companies spending trillions of dollars on share buybacks, loading up on debt, imperiling the balance sheet to give the illusion of superior performance when simply what they are doing is reducing the denominator in their earnings-per-share calculations. So I think there is a legitimate reason why people are upset with concentrated corporate power and the interference of large companies in the political process.

Let us not mistake abuse of corporate power with capitalism; that happens because the people who are supposed to be defending us are asleep at the switch. That is what we pay governments to do – not to kill capitalism but to point it in the right direction. I am in favor of more vigorous competition policies, and in favor of incentives for long-term shareholding, and in favor of CEO pay. All of that makes sense. But here's the deeper challenge with capitalism – as I said earlier, most people want a chance to run their own business, to have that sort of freedom. In the US, 77% of millennials want to run their own business. The number one subject area in most MBA programs is entrepreneurship. Many people will not have this chance.

When I look at Haier or other companies, I think you could create a league of owners; you could create a company where you divide it into small teams, everyone has a real P&L, not a top-down performance target, has the freedom to make business decisions, and where you can invest in your business and get a dividend. There is no reason to have a company that is just managers and employees – instead you could have a league of owners that share platforms and assets and compete together in productive ways. I think that for at least 30 or 40 years management experts have said that there is no way large companies can be entrepreneurial – that is completely wrong. Every employee needs a real financial stake in the business, a

real upside, real decision rights, because that brings dignity into work, and most people would like that chance.

Secondly, regarding the role of “Humanocracy” in the age of a pandemic, in most organizations over the last 30 or 40 years centralization has brought more and more power to the center, and there is good data for this. What happens in a big crisis is that power moves away from the center. In a small crisis, if you have a financial scandal at a company or something else, power moves to the center, somebody steps in to correct it. But when the crisis is big enough, power moves to the periphery because the center does not know what to do.

In most countries around the world at the beginning of the crisis, the bureaucracy struggled. Public health authorities struggled, certainly in Britain and in the US and so healthcare providers at the periphery stepped up. Nurses talked to nurses online, looking at the data, trying to figure out how to save patients. So you have these instant learning networks of physicians and caregivers, searching for best practice and learning from each other. In a crisis, when you are facing problems that are both novel and fast-moving, there is no hierarchy that allows you to deal with that solution.

The good news with the current coronavirus crisis is that it allowed a lot of individuals, under the worst possible circumstances, to dust off their initiative and ingenuity and to really make a difference. We need to give enormous thanks and gratitude to the people who did that. Looking ahead, I am not so optimistic because as a crisis wanes authority moves back to the center. If you look at what happened after the 2008 financial crisis, for a couple of years actual bureaucracy comes down. It took out some layers of bureaucrats but in two years it was back on the same trajectory as before. Unfortunately, Covid-19 is not lethal against bureaucracy. It may give leaders a nudge, because it is another reminder that we live in a world of unprecedented challenges, and to cope with that we need organizations of unprecedented capability. This will give a lot of leaders a nudge, and will create an inflection point in remote working which is probably a good thing, and maybe it will give a little nudge to say, “This is not the only crisis we face as human beings – we need to get better at harnessing the capability of everyone and we have to move away from these structures that are part of a world that no longer exists.” **JS**

Written with the cooperation of Joel Challender who is a translator, interpreter, researcher and writer specializing in Japanese disaster preparedness.

The Development of “Job Crafting” & Its Implications in the Workplace in Japan



Author
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By Nobutaka Ishiyama

Introduction

In Japan today we can observe what we call population onus, in which the working age population is decreasing due to a low birth rate and the aging of society. Against this backdrop, capacity building and training of workers is increasingly vital to raising labor productivity, since raising labor productivity will be one of the major prescriptions for addressing the decline in the working age population. One of the Japanese government's principal economic policies today is to change an individual's work-life balance to promote their welfare as well as to raise labor productivity. Developing an individual worker's skills and capacities is one of the major aspects of this policy. But putting too much emphasis on it could result in a failure to promote the worker's own welfare, and thus the motivation for working. This initiative will need to address an essential question for both companies and their employees, namely what values should be recognized by both sides. On this crucial question, “job crafting” is an idea to achieve high motivation for each worker and thus eventually better business performance on the company side. It means a redefinition of the work to be achieved by employees on their own, and they themselves can thus recreate their jobs by this redefinition.

Job crafting is now attracting growing attention. This article will highlight what it is and why it has been receiving attention in Japan, as well as giving examples of it and looking at its possible future in Japan.

Definition of Job Crafting

For an individual, self-fulfillment in one's job, which is an important goal in life, is not necessarily compatible with improving productivity as a goal of labor policy. Job crafting has been becoming popular because it reminds us of the essential question of the meaning of work in an individual's life. This was the idea developed in 2001 by Amy Wrzesniewski, a professor at the Yale School of Management, and Jane E. Dutton, a professor at the Ross School of Business at the University of Michigan. It can be contrasted to “job design”, an earlier idea, as shown in *Chart 1*.

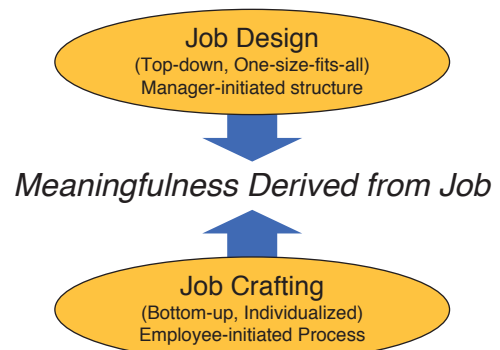
Job design is a given job assignment provided by the top management of an organization or a worker's superiors in the hierarchy of the organization, and as such it tends to be of a one-size-fits-all nature. Of course, in terms of organizational

management, it is definitely necessary. But there may be some individual workers who are not happy with this passive kind of working style and who seek greater satisfaction in their workplace. Job crafting could transform this situation even under the existing job design culture, as it could enable workers to play a positive role in redefining their assignments. This would be by a bottom-up and employee-initiated process in which workers craft a job in accordance with their preferences, transforming their assignment as defined by the top-down process of job design into one which they can do with greater motivation on their own behalf, while remaining cognizant of the needs of the organization. With this personal transformation of a job assignment into an individually valuable one, workers could achieve a greater sense of fulfillment.

The core of this transformation process must be redefining job assignments. As in *Chart 2*, Wrzesniewski and Dutton assumed that workers basically desire to have greater control over their jobs by redefining them. Their view of work would then depend on whether they saw their job as in some way separate from the overall work of their organization or whether they regarded it from a more holistic perspective in the context of the organization's mission. In the former case, the job might be seen merely as a means to earn a salary, but in the latter it might be seen as having valuable implications for society as a whole and therefore be more meaningful for the individual worker. If employees reassessed the value of their

CHART 1

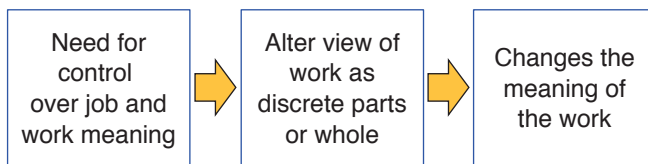
The interaction between job design & job crafting



Source: Berg, J. M., Dutton, J. E., & Wrzesniewski, A., “Job crafting and meaningful work” in *Purpose and Meaning in the Workplace*, Washington: American Psychological Association, 2013

CHART 2

The meaning of the work



Source: Wrzesniewski, A. & Dutton, J. E., "Crafting a job: revisioning employees as active crafters of their work" in *Academy of Management Review*, Vol.26, No.2 (2001)

work in this way, they would actively try to enrich the contents of their jobs, while still observing the minimum requirements of the assignment as devised by job design.

According to Prof. Yuta Morinaga at Musashi University, a good example of this redefinition of a job is that of the so-called "custodial" worker at Tokyo Disneyland. This job of cleaning all day long had been considered one of the most painful and laborious at the park, and was one of the most hated jobs among employees there, who were often deeply disappointed with this inflexible assignment. But then their superiors began to insist that the work of "custodials" is not limited to cleaning but contains a wide range of duties such as clean management of the whole park and protecting customers. The implications of the job have now successfully changed from simply cleaning the park to contributing to the creation of a customer-friendly environment in the park, which is a job definition based on a more holistic context. The custodial workers at Tokyo Disneyland now add their own creative services to their routine job, such as drawing faces of Disney characters on the ground using colored leaves or blooms. As a result, being a custodial has become a very popular job among the workers there.

Implications of Job Crafting in Japan

Despite attracting increasing attention, there are some who say that Japan does not need job crafting. The reasons may lie in the Japanese personnel management system. *Charts 3 & 4* show the salary system in Japan – the percentage of wages by post and job responsibility, wages based on job skills, and wages related to age and seniority to the total wages in Japan. Wages by post and job responsibility are determined by a clear definition of a job written in a document, like a job description statement. In this case, job design

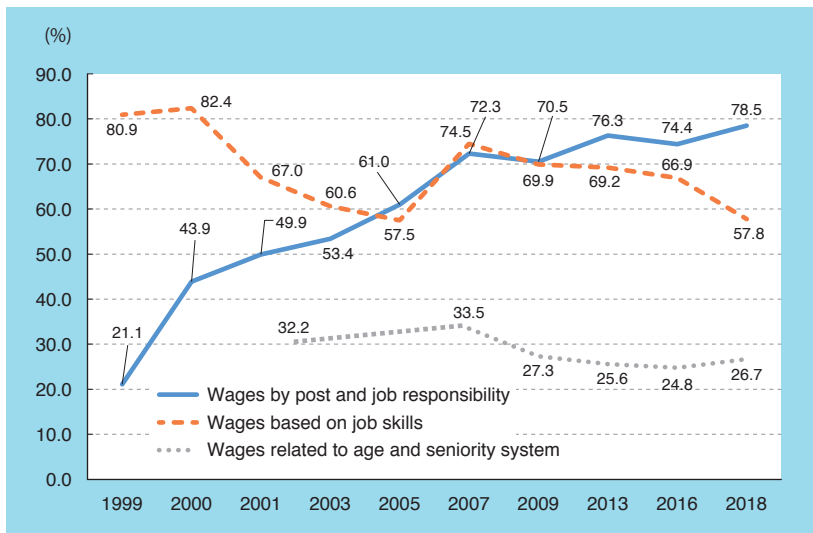
as seen in *Chart 1* clearly exists and is fixed by a top-down process originated by the top management of an organization as well as section chiefs. Meanwhile, wages based on job skills do not presume any clear definition of job assignments and are determined by an employee's capacity. In this case, there should not be necessarily a clear definition of an assignment by job design and thus the scope of the assignment can be interpreted and performed with flexibility. Wages related to age and seniority are determined by the age of an employee and the number of years he or she has worked for an organization. In this case as well, it does not presume any clear job design and the scope of job assignments can be rather arbitrary.

The charts show that in Japan the proportion of wages based on job skills exceed 50% even among managerial posts, though the proportion of wages by post and job responsibility is on a rising trend and among non-managerial posts the proportion of wages based on job skills is higher than that of wages by post and job responsibility. This means that in Japanese working places there is not necessarily a clear job design and individual workers could interpret the scope of their job assignments in a more flexible manner. In other words, without the top-down process of job design on behalf of the top management or senior officials, an individual worker can do job crafting spontaneously in their routine work in Japan.

Related to this, Japanese workers are mostly multi-skilled. In short, as job design does not divide the working process in detail, each employee would be responsive to plural working requirements and this results in creating many multi-skilled workers and increasing their individual skills. In fact, *kaizen*, a well-known business practice born in Japan for improving production efficiency or safety through discussions among a small group of production site workers, does not target any individual production process but plural processes, and tries to achieve improvement of those processes systematically. A production worker's experience as a multi-skilled worker in doing a specific job but always bearing other processes in mind would enable them to redefine their job assignments in a broader and more systematic context. Thus, in Japan it may be true that job crafting has already become a de facto routine in the workplace. If so, Japanese may not necessarily have to learn from the theory of job crafting created by American business school professors.

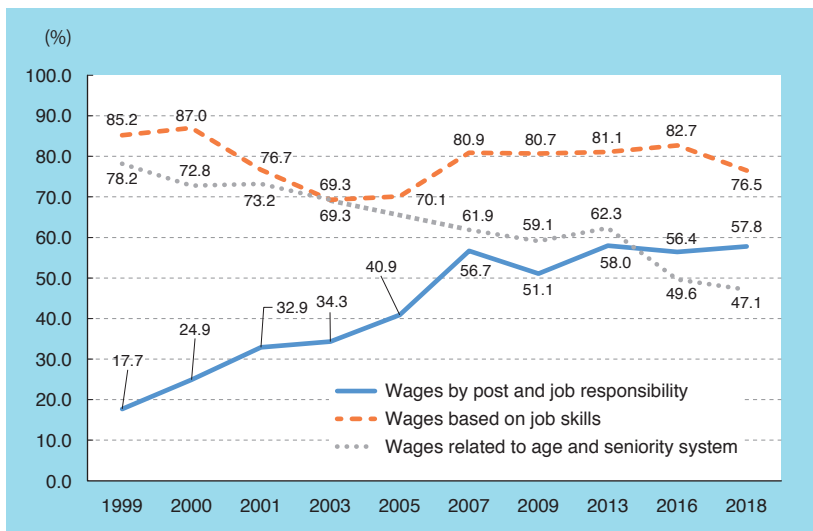
However, I believe that the story of *kaizen* does not necessarily show a precise picture of the reality of Japanese business

CHART 3
Trends in wage system introduced among managerial post employees



Source: Japan Productivity Center, 2019

CHART 4
Trends in wage system introduced among non-managerial post employees



Source: Japan Productivity Center, 2019

management. There must be cases where the top management of an organization would be the only people who could define each job assignment in detail by a top-down decision making process, even though the definition might leave room for flexible interpretation on the part of employees. In other words, if an organizational culture is hierarchical and decision making is done by a top-down process, the employees would have to continue to do only what has been instructed by management or their section chiefs, while their job assignment remains ambiguous. In fact, according to a *Nikkei Journal* article on May 26, 2017 about a Gallup poll on employees' engagement with their jobs among countries worldwide, the Japanese employees' score is much lower than the global average and ranked 132nd among the 139 participating countries. In this article, Jim Clifton, CEO of Gallup Corporation, mentioned that the reason why Japanese employees' engagement score was so low is their organizations' command and control, ensuring that employees perform their job without any contesting remarks on their obligation to the management. This remark seems to suggest that a top-down approach in business decision making is dominant in Japanese organizations. Under such circumstances, job crafting would rarely be achieved.

There is another academic concept called "work engagement" implying an employee's willingness to work. In terms of this concept as well, it is known that Japanese employees rank low in international comparisons. But it is true that job crafting would have an effect in raising work engagement, so I believe there is a great need for Japanese workplaces to develop work engagement by promoting job crafting, since Japanese workplaces are not necessarily concerned about their employees' real happiness.

Examples of Job Crafting in Japan

I would like to introduce Japan Railway (JR) East TESSEI Co. Ltd. as one of the success cases of job crafting in Japan. A former senior executive of TESSEI, Teruo Yabe, wrote about how he was successful in encouraging employees to redefine their jobs to raise their motivation in his book *A Miraculous Company* (2013). TESSEI is one of the affiliated companies of JR East and its main business is to clean up the cars of Shinkansen bullet trains between their arrivals at and departures from terminal stations. This was introduced by CNN in a news video in 2012 as “Tokyo’s seven minute miracle”. Before redefinition of the work initiated by his leadership, the employees had thought their job should be just cleaning the train cars exactly as instructed by their boss. Yabe, having been transferred to a senior executive post in TESSEI from JR East, questioned this, and he began to redefine the work of the whole company to raise employees’ motivation. He made a clear change by proposing to redefine the work as “providing hospitality for the customers by their total service” without limiting it to only cleaning up the train cars. He tried to transform the workplace into an “exciting theater” which was considered a symbol of the redefined job.

His concept led to a redefinition of each individual worker’s job. The employees, having previously been passive in their work routines, started to propose numerous new ideas for their jobs. For example, to elaborate on the idea of “exciting theater” they adopted seasonal clothing, such as aloha shirts or a *yukata*, a casual kimono, in the summer, and they created resting areas for babies next to restrooms at stations and decorated them with colorful origami paper.

Another good example of job crafting in Japan is the work done by Haruko Niitsu, a leader of airport cleaning staff at Japan Airport Techno Co. Ltd., whose work was introduced by an NHK TV program series “Professional Working Style”. The distinguished cleaning skills and technology of her and her staff have been instrumental in Haneda Airport winning first prize a number of times in the airport ratings for cleanliness made by the British air industry service research company Skytrax Co. Ltd. She and her staff make the right choice of cleaning tool and detergent for a specific spot among innumerable choices. Niitsu also redefines her job as one that delivers hospitality to a wide range of customers visiting Haneda, Tokyo’s main international airport, as her staff work to ensure a pleasant trip for all customers on international as well as domestic

flights.

These examples of job crafting in Japan all happen to be cleaning jobs, in which the results of redefinition of the work can be easily seen. But job crafting could be expanded to a wider scope of jobs. I believe there would be a strong need for it in areas of knowledge intensive jobs. You may think that knowledge intensive jobs would be subject to a high degree of discretion and as such job crafting might seem unsuitable. But as I pointed out, Japanese organizations seem to be more subject to top-down decision making which obliges employees to follow the managers’ orders without questioning them, and so there must be a concern that knowledge intensive jobs cannot take advantage of their discretionary nature in Japan. In this light, I believe we should do more to promote job crafting in knowledge intensive jobs in Japan.

A Footnote on Job Crafting

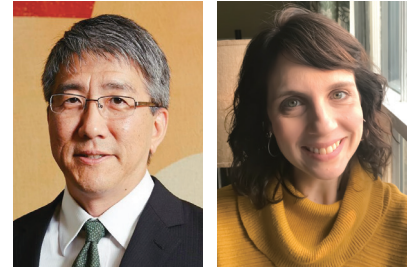
We need to take note of the challenges in introducing job crafting as well as its implications in Japan. Job crafting is an exercise by employees’ to recreate their jobs by redefining them in the hope that they will deliver greater self-fulfillment. Such redefined jobs would not necessarily be in line with the expectations of their organizations or colleagues, and might even be a nuisance for them. In these cases, workers who had redefined their jobs might be regarded simply as self-centered.

In order to avoid this, they must be aware that job crafting is a collaborative exercise with their colleagues. A well balanced approach that takes account of an individual’s own initiative in redefining his or her job without simply following a superior’s command and also of collaboration with colleagues will be essential in promoting job crafting in Japan. **JS**

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Redistributing Happiness: How Social Policies Shape Life Satisfaction (Part 1)

By Hiroshi Ono & Kristen Schultz Lee



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Happiness Science: Discovering What Makes Us Happy

The pursuit of happiness is a fundamental right written into the founding documents of many countries. And yet, the study of what makes people happy is far from complete. For many years, countries pursued higher GDP with the unquestionable assumption that economic growth will automatically lead to a happier society. But as Richard Easterlin showed in his influential paper “Does Economic Growth Improve the Human Lot?” in 1974, the correlation between economic and subjective well-being was not as robust as had been expected. Despite significant advances in our standard of living, people claim to be no happier today than they did 50 years ago. The disconnect between economic well-being and subjective well-being has led to a renewed interest in the study of happiness.

Happiness research is now discussed widely in policy circles, academia, the business community and the popular media. Owing to advances in data collection and research methods, “happiness science” is flourishing, with new discoveries of what makes us happy or unhappy.

What makes us happy? Past theorizing has pointed to individual pursuits like friendships and money, or to society-level factors like wealth and equality. Yet neither approach alone can tell us what brings happiness, because the reality is this: happiness is a question of context. It’s determined by who you are *and* where you live.

In our book *Redistributing Happiness* (Praeger Publishers, 2016), we view the sources of happiness in an international context. Our contribution is an interdisciplinary approach, exploring the sources of happiness from the perspectives of sociology, economics and psychology. In particular, we pay close attention to the role of context. Accounting for social context allows us to better understand that what makes people happy in one society may not do so in another.

Happiness is determined by the right mix of societal and individual factors. A person’s happiness is shaped by the social context surrounding him or her – by local policies, the size of the welfare state, norms and attitudes about religious beliefs, economic and political security, income redistribution, and more. A person’s chance at happiness depends not only on who they are, or what they have achieved, but also on where they live.

While the aim of any society is to improve the quality of life for its citizens, there is greater political, economic and ideological disagreement regarding how this can be achieved. Would individuals be happier if the state played an active role? Or should the pursuit of happiness be left to individual choice and market forces?

In this two-part series, we highlight the main findings from our book, with particular focus on *how social policies shape life satisfaction*. In Part 1, we focus on economic redistribution and taxation, and their effects on people’s happiness. In Part 2, we focus on social conceptions of gender, family and parenthood, and explore how social policies can shape family formation and fertility decisions.

Welfare States & the Redistribution of Happiness

Let’s begin with the idea that countries can be mapped along a continuum, which shows the extent to which the state becomes involved with the welfare of their citizens. The measure of our central interest is public social expenditures (PSE). On one end of the continuum lie the market-based economies with low PSE and limited government involvement. On the other end of the spectrum lie the social-democratic welfare states of Scandinavia with high PSE and a high degree of government intervention. (In Gøsta Esping-Andersen’s seminal work on the three types of welfare capitalism, he outlines welfare systems according to the role of market, state, and family. In our study, we focus on the typology between the market and the state, and transform this into a continuum.)

The Scandinavian welfare state model is first and foremost identified by its universalism and comprehensive provision of welfare services. Citizens of social-democratic welfare states enjoy comprehensive and heavily subsidized coverage of childcare, elderly care, healthcare, education and other forms of social support.

In stark contrast, in the market-based economies where the government’s role is limited, many types of social services must be purchased from the market. Social insurance is replaced by private insurance, and publicly provided services such as healthcare and childcare are replaced by market mechanisms. The market-based system generates a more stratified and uneven society dividing those who can afford such benefits from those who cannot.

Social democratic welfare states achieve universal and comprehensive welfare services through the massive redistribution of resources. The government collects revenue through a combination of progressive income taxes, flat consumption taxes, flat social security taxes, and heavy taxation on addiction goods such as alcohol and tobacco. Tax revenue is then returned in the form of comprehensive social programs.

Through taxes and transfers, the social democratic welfare states redistribute resources from low-risk to high-risk persons, thereby reducing poverty and inequality. For example, OECD data from 2014-2015 show that the tax and transfer systems reduced income

inequality by more than 35% in Denmark, Finland, and Belgium, compared to 18% in the United States, and 10% in South Korea.

Sustaining universal welfare is expensive, and this can only be achieved through high tax revenues. While the citizens of the Scandinavian welfare states benefit from the most generous level of social insurance, these countries consistently rank among the highest taxed countries in the world, in terms of both average and marginal tax rates. The benefits of the welfare states are many, but so are the costs associated with maintaining the system. Redistributing resources from low-risk to high-risk individuals requires that the rich are taxed heavily to subsidize the poor.

Welfare States Can Generate New Inequalities

Redistribution of resources can reduce economic and social inequality, but it can also generate new inequality in other areas. Some types of social insurance benefit all citizens, but others are targeted for specific demographic groups, such as families with small children. This pro-family policy is rooted in the idea that families are exposed to greater social risk than are single persons or households without children. For example, in the case of healthcare, a single person may be concerned only with his or her own health. But a parent in a family of four must ensure that he or she is protected against the risk of illness not only for himself or herself, but also for their spouse and two children. If a child falls ill in the household, it will not only affect the child, but also the parent who may have to take time away from work.

The effect of welfare provision on happiness must be evaluated in light of its costs and benefits. Following our discussion, it can be argued that the pro-family bias of the social democratic welfare state leads to less generous treatment of people without children, particularly of single persons. According to OECD data, single people on average pay higher personal income tax and contributions to social security (as a percentage of gross wage earnings) than do married persons. While single persons do benefit from some forms of social insurance, such as healthcare, unemployment, sick leave, and old-age assistance, they do not qualify for the benefits that are targeted for families with children. Hence, in this regard, the social democratic welfare state is partial to families, and puts single persons at a significant cost disadvantage. The burden of preserving a pro-family policy falls disproportionately on single persons.

Measuring Happiness Using the ISSP Data

Let us examine how redistribution of resources can affect happiness. We used data from the 2002 International Social Survey Program (ISSP), consisting of 42,187 respondents from 29 countries. The survey included detailed information about the respondent's demographics and socio-economic status including age, gender, marital status, presence of children under 18 in the household, education level, employment status, household income, etc. The outcome of interest is general life happiness. Respondents were asked: "If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?" Responses range from 1 = completely unhappy to 7 = completely happy.

At the country level, we include PSE as a proxy for the extent of

welfare spending. PSE is available from the OECD database, and is defined as the percentage share of GDP spent on welfare, excluding education. In our collection of 29 countries, the social democratic welfare states, i.e. the Scandinavian countries of Sweden, Norway and Denmark, rank among the high PSE countries, while Mexico and the Philippines rank among the low PSE countries.

Redistributing Happiness: Example 1 – Marital Status

Consider the case of marital status. The [Table](#) shows the results of simulations predicting the odds of selecting one of the three highest categories of happiness by marital status. The results are divided into two categories of individuals, in low- versus high-PSE countries. We refer to the high PSE countries as the social democratic welfare states as these are dominated by the Scandinavian countries.

We find that average happiness is highest among married persons in both low- and high-PSE countries, followed by cohabiting persons and single persons. However, this marriage premium is not universal. The happiness gap between cohabiters and married people is smaller in countries with high levels of public spending (with no statistical differences in happiness between these groups in high-PSE countries). We elaborate on this finding below.

First, married and single persons are actually less happy in high-PSE countries compared to low-PSE countries. The results thus suggest that at least in terms of happiness, these demographic groups do not benefit from living in social democratic welfare states. The lower state of happiness for single persons (compared to their counterparts in the low-PSE countries) is consistent with our previous discussion. Single persons are less happy because they pay high taxes for living in the pro-family based welfare states, but they receive fewer benefits in return as they do not have children.

Second, we confirm that cohabiting persons are happier in the social democratic welfare states compared to their counterparts in low-PSE countries. There is a well-grounded reason for why this is so (we will discuss the happiness gap between married and cohabiting persons in greater detail in Part 2 of this series). In the Scandinavian

TABLE

Predicted odds of selecting one of the 3 highest categories of happiness by marital status

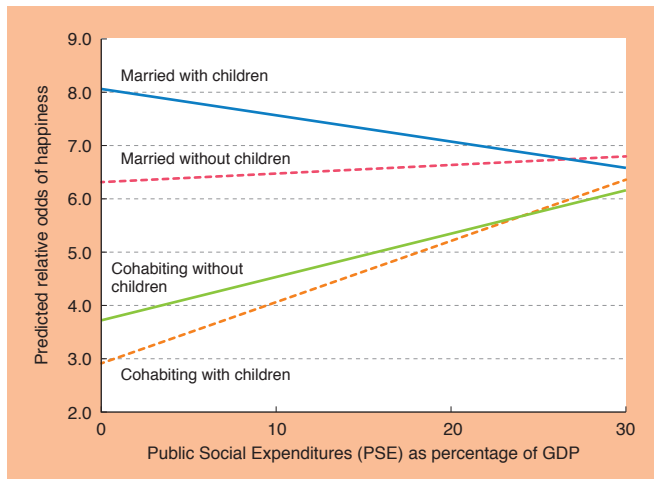
	Low-PSE countries	High-PSE countries *Social democratic welfare states
Married	8.30	6.76
Cohabiting	4.22	5.95
Single	3.47	2.05
Women – married with children	6.33	6.81
Women – cohabiting with children	2.93	6.37

Notes: PSE = public social expenditures. Low-PSE countries correspond to countries with minimum PSE. High-PSE countries correspond to countries with maximum PSE.

Source: Hiroshi Ono and Kristen Schultz Lee, "Welfare States and the Redistribution of Happiness" in *Social Forces* 92(2), 2013.

CHART 1

Predicted odds of happiness for women with & without children



Source: Hiroshi Ono and Kristen Schulz Lee. *Redistributing Happiness: How Social Policies Shape Life Satisfaction* (Santa Barbara: Praeger, 2016).

countries, cohabiting persons with children have access to comparable benefits as do their married counterparts, with regards to family support such as childcare and paternity leave. The policy is based on the ideology that all persons should have equal access to family benefits regardless of marital status. Since this inclusive, nondiscriminatory policy is available only in the social democratic welfare states, it makes sense that cohabiting persons are happier there, relative to other countries where benefits are clearly delineated between married versus unmarried persons. In our study, we did not find evidence that the marriage premium on happiness exists in the social democratic welfare states. From the [Table](#) we can see that there is a small difference in the reported happiness of married and cohabiting persons and an even smaller difference in the reported happiness of married and cohabiting women with children in the high-PSE countries, but these differences do not reach statistical significance.

Redistributing Happiness: Example 2 – Women With Small Children

While children can bring happiness to families, they can also impose constraints. Resources, such as time and money, become constrained with the addition of a new family member. Empirical studies including our own research have consistently confirmed that the effect of children on happiness is negative, and that this negative effect is stronger for women than it is for men. These findings confirm anecdotal observations that the burden of parenting falls disproportionately on women than on men.

[Chart 1](#) shows simulated results of predicted happiness for women with and without children as a function of PSE. Here, children are defined as small children under the age of 18 residing in the household. First, we confirm the negative effect of children on happiness for both married and cohabiting women in the low-PSE countries. More interestingly, we observe that the slopes are different

for women with children; this is because women with children get an extra boost in happiness for living in the high-PSE countries, as these countries are characterized by extensive public support for families. Indeed, for married persons, the negative effect of children disappears in the high-PSE countries, i.e. the happiness gap between married women with and without children becomes statistically insignificant in the high-PSE/social democratic welfare states. Likewise, we observe that the happiness gap between cohabiting women with and without children disappears in the high-PSE countries. These results strongly suggest that the heavily subsidized pro-family policies of the social democratic welfare states are effective in improving the happiness of women with small children.

Redistributing Happiness: Example 3 – Income

The relationship between money and happiness has attracted considerable attention in happiness science. Does money buy happiness? The answer is yes, but with qualifications. *How much* it affects your happiness depends on *where you live*.

Taxes play a major role in transferring resources from low risk to high risk individuals. The high marginal tax rates in the social democratic welfare states suggest that high-income individuals are taxed at higher rates in order to subsidize the low-income individuals. How does this transfer of resources affect the happiness of their citizens? If happiness follows the same path as the redistribution of resources, then we would expect to see a similar “transfer effect”, from low-risk to high-risk individuals, i.e. from high-income to low-income individuals.

[Chart 2](#) shows how happiness changes with income as we move from low- to high-PSE countries. Since PSE as a percentage of GDP is highly correlated with tax revenue as a percentage of GDP, the high-PSE countries are also the countries with the highest taxes. (Indeed, the following analysis reveals identical results when we substitute PSE with tax revenue as a percentage of GDP.) In this three-dimensional illustration, the vertical axis is the predicted log odds of belonging to the top three highest categories of happiness. One horizontal axis is income, expressed in Z-scores, and the other is PSE. For reference, we mark the four corners of the graph. Point A is the lowest income group in the lowest-PSE country; at the other extreme is point D, which is the highest income group in the highest-PSE country. The slope of AC and BD measures how happiness changes as income grows. The slopes of AB and CD capture the change in happiness as one moves to a higher PSE country.

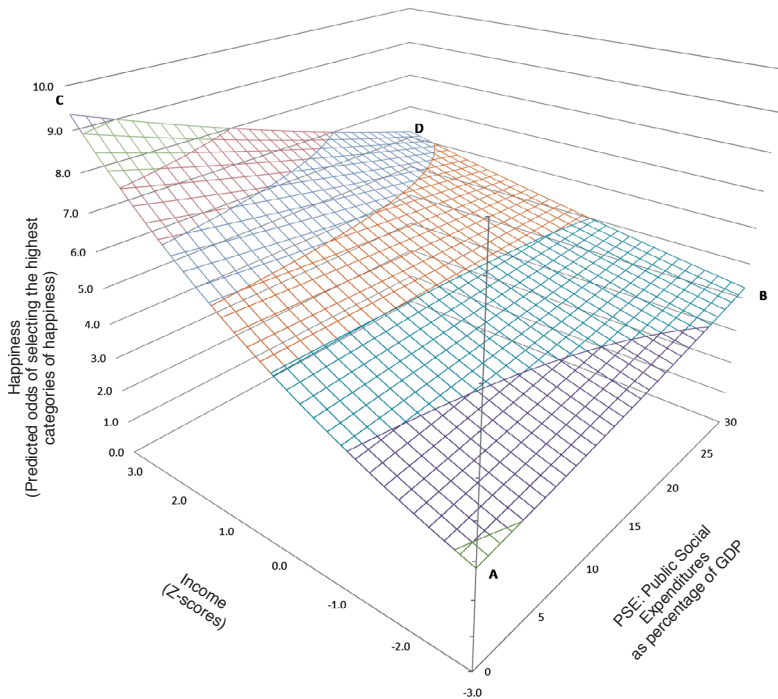
First, we can see that the slope of AC is steeper than the slope of BD. Higher income brings greater happiness in all countries, but this effect is much stronger in the low-PSE countries. Second, the slope of AB is positive, but the slope of CD is negative. Low-income people are happier if they live in high-PSE countries, but high-income people are happier if they live in low-PSE countries.

Hence, the gain in happiness derived from money incomes is not uniform across countries. Specifically, people in the low-tax/low-PSE countries achieve bigger gains in happiness as their income grows. In contrast, people in the high-tax/high-PSE countries derive little happiness from higher income.

Our findings are largely consistent with expectations: happiness

CHART 2

Individual income, public social expenditures & happiness



Source: Hiroshi Ono and Kristen Schultz Lee. *Redistributing Happiness: How Social Policies Shape Life Satisfaction* (Santa Barbara: Praeger, 2016).

redistribution in the social democratic welfare states mirrors income redistribution in these countries. The ideology of “spreading the wealth around” in the social democratic welfare states diminishes the happiness gains from income. Clearly, we see that the distribution of happiness is compressed much like income in these countries. There is a smaller happiness gap between the rich and the poor, suggesting a more egalitarian society with less economic and social inequality.

The fact that poor persons are happier in high-PSE countries (compared to their counterparts in low-PSE countries) suggests that social welfare programs targeted for the poor not only improve their economic well-being and protect them from poverty, but they also improve their subjective well-being. Furthermore, the finding that rich persons are less happy in the high-PSE countries suggests that the poor achieve greater happiness *at the cost of* rich persons in these countries.

Summary

“Welfare states” have massive redistribution schemes, with money and other resources transferred from the privileged to the less so. Social policies intended to improve the well-being of particular demographic groups can have the unintended perverse effect of lowering the happiness of others. Redistribution policies commonly observed in Scandinavian countries like Sweden and Norway can make the less privileged happier – but at the cost of reduced happiness among the privileged. For example, taxes can make the poor happier

through redistribution, but they can make the rich less happy. Social assistance can make families with children happier, but single people less gratified.

Lessons for Japan

Our research has important implications for taxation policy. The effect of redistribution on happiness is zero sum: the happiness of the economically disadvantaged is increased while the happiness of the advantaged is decreased. From the perspective of public welfare, economist Richard Layard argues that the goal of public policy should be to reduce misery for the poor, rather than to increase happiness for the wealthy. Following this logic, it can be argued that the gains to the disadvantaged from economic redistribution justify the cost paid by the more advantaged members of society.

Our research also has important implications for fertility in Japan. Until recently, the safety net in Japan was a hybrid of a conservative family-based model (e.g. childcare and elderly care are provided by family members), and a corporatist model, where companies (especially large companies) provided generous support for families. However, against the backdrop of declining fertility and an aging population, there is an acute realization that the traditional family and corporatist model is no longer

sustainable, and that government intervention is crucially required. Indeed, in the last few decades, Japan has transitioned to a more social democratic, state-centered welfare state. PSE (as a percentage of GDP) remained stable at about 10% during the 1980s, but increased to 16% in 2000 and 23% in 2013.

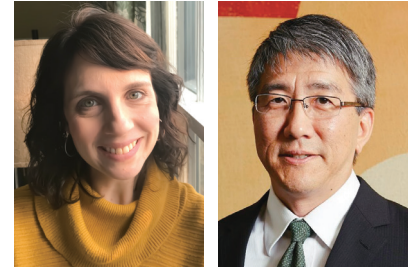
Redistributing resources through taxation can provide *disincentives* for single persons to remain single. As our research has shown, redistributive policies of the social democratic welfare states can elevate the happiness of families with small children, *but at the cost of* those who do not have children, in this case single persons. Taxing single persons at higher rates may result in their lower happiness, but at the same time it will discourage them from remaining single, and encourage them to start a family. The idea of encouraging higher fertility through higher taxation of single persons dates back to *Lex Papia et Poppaea*, legislated by the Roman Empire in 9 AD. Now, some 2000 years later, the law has important lessons for taxation and social policy for Japan and for other societies struggling with super-low fertility.

JS

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Redistributing Happiness: How Social Policies Shape Life Satisfaction (Part 2)



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By Kristen Schultz Lee & Hiroshi Ono

In this two-part series, we highlight the main findings from our book *Redistributing Happiness* (Praeger, 2016), with a particular focus on *how social policies shape life satisfaction*. In Part 1 (https://www.jef.or.jp/journal/pdf/232nd_Special_Article_03.pdf), we focused on economic redistribution and taxation, and their effects on people's happiness. In this second article, we focus on social conceptions of gender, family and parenthood, and explore how social policies can shape family formation and fertility decisions. First, we examine what factors make married people happier than their cohabiting and single peers. We tackle the question of whether it is marriage itself that makes people happier or if it is instead something about the social norms and beliefs in a society that celebrate and support marriage and make married people happier. Then, we focus more closely on happiness in marriage. We ask what makes people happy in marriage and how this varies in two specific countries: Japan and the United States. We conclude with a discussion of policies related to family behavior, informed by our research findings.

An extensive research literature supports the popular belief that marriage makes people happier than cohabiting with a partner or being single. Marriage and family scholars argue that married people are happier; they enjoy more intimacy and they take better care of themselves because they have someone relying on them. But it's also the case that married people are happier for reasons not intrinsic to the experience of being married but rather because of the social support married people receive compared to everyone else. Married people are in part happier because many social policies have a pro-family bias and bestow greater benefits on married persons (as discussed in Part 1), and because social norms and religious beliefs uphold marriage as the preferred way to live an adult life.

We set out to investigate to what extent the benefits of marriage for well-being are largely intrinsic to marriage and universal, and to what extent they are due at least in part to the social support received by married people and therefore context-specific. This question has critical policy implications. Marriage promotion policies have been propagated in the US, particularly as part of the 1996 Personal Responsibility and Work Opportunity Act, based on social research that marriage makes people happier and healthier. If, instead, the well-being benefits of marriage are

rooted in the social context and the social support given to married people, then this points to different policies that are needed to promote health and well-being in the population.

To investigate this question of the role of social context in shaping the relationship between marriage and happiness, we analyzed data from 27 countries in the 2002 International Social Survey Programme's Family and Changing Gender Roles module. Details of these data and our analytic approach can be found in Part 1. We started by estimating the aggregate happiness levels of married, cohabiting, and single people in these different countries. The *Table* shows aggregate happiness by marital status across countries.

TABLE
Descriptive statistics by country

Country	GDP Per Capita	Religious Climate	Gender Climate	Happiness by Marital Status		
				Single	Cohabiting	Married
Australia	42,279	0.10	-0.10	5.09	5.34	5.45
Austria	46,019	0.18	0.09	5.54	5.88	5.71
Belgium	43,430	-0.50	0.01	5.22	5.43	5.27
Brazil	8,114	1.51	0.74	5.39	5.24	5.55
Chile	9,645	1.28	0.59	5.47	5.55	5.65
Czech Republic	18,139	-1.71	0.00	5.12	5.15	5.14
Denmark	55,992	-0.92	-0.63	5.28	5.51	5.45
Finland	44,491	0.14	-0.25	4.86	5.41	5.35
France	41,051	-0.88	-0.22	5.08	5.34	5.42
Germany (East)	40,873	-1.15	-0.71	5.15	5.34	5.26
Germany (West)	40,873	-1.15	-0.18	4.92	5.05	5.17
Hungary	12,868	-0.56	0.38	5.03	5.20	5.28
Latvia	11,616	-0.17	0.16	4.86	4.71	5.03
Mexico	8,000	1.71	0.50	5.57	5.20	5.63
Netherlands	47,917	-0.83	-0.15	5.22	5.36	5.41
New Zealand	29,000	0.01	-0.07	5.40	5.57	5.57
Norway	79,089	-0.58	-0.45	5.25	5.41	5.41
Philippines	1,745	2.00	0.16	5.27	4.57	5.48
Poland	11,273	1.45	0.07	4.86	5.29	5.15
Portugal	21,414	0.94	0.35	5.15	5.12	5.39
Russia	8,676	-0.36	0.27	4.88	5.09	5.12
Slovakia	16,176	0.48	0.18	4.90	4.68	5.02
Spain	31,774	-0.40	-0.03	5.28	5.29	5.37
Sweden	43,654	0.11	-0.51	5.15	5.33	5.37
Switzerland	63,629	-1.18	0.06	5.43	5.55	5.67
Taiwan	16,400	-0.08	-0.05	5.19	4.86	5.24
UK	35,165	0.31	-0.20	5.21	5.50	5.60
US	46,436	1.50	-0.24	5.46	5.53	5.70

Source: *Redistributing Happiness: How Social Policies Shape Life Satisfaction* by Hiroshi Ono and Kristen Schultz Lee (Santa Barbara: Praeger, 2016) and Lee and Ono, "Marriage, Cohabitation and Happiness: A Cross-National Analysis of 27 Countries", *Journal of Marriage and Family* 74 (2012)

Although married people reported higher happiness levels than singles in all countries, married people were not on average happier than cohabiters in every country. Indeed, cohabiting people reported greater happiness than their married counterparts in countries like Austria and Belgium but reported considerably lower levels of happiness than married people in other countries like Taiwan and Mexico. This evidence of variation in the happiness gap between married and cohabiting individuals across countries was our first piece of evidence that the marriage premium in happiness is in fact context-specific and not universal. Based on this initial descriptive finding, we set out to uncover what characteristics of the social context could help explain this cross-national variation in marriage and happiness.

Descriptive Statistics by Country

As seen in the [Table](#), we focused our attention on economic development, societal beliefs about gender, and religious beliefs as reflections of the different social, economic and institutional contexts for marriage. We hypothesized that, due to the support for marriage found in many religious faiths, married people in more religious societies would report a greater happiness premium than married people in more secular societies, in comparison to single and cohabiting people. Similarly, traditional beliefs about gender are based on traditional marriage and the beliefs that men and women should perform specialized roles to create interdependency in marriage, with one spouse specializing in work and the other on the household and family. We therefore hypothesized that married people would report a greater happiness premium in societies with more traditional beliefs about gender than in more gender egalitarian societies. Gross Domestic Product was included as a country-level control for

economic development in all of our analyses.

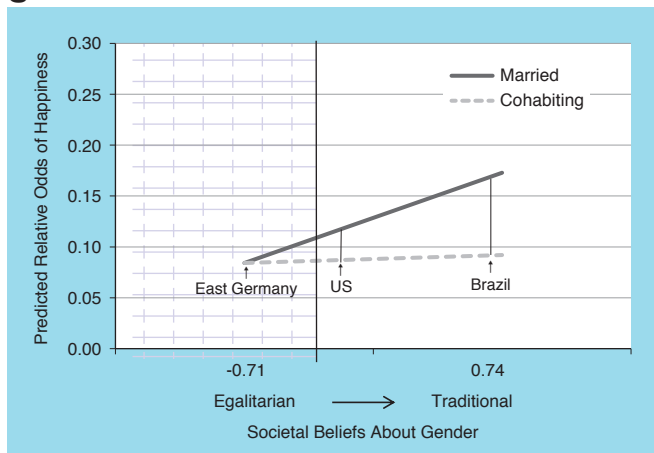
Our results provide support for the hypothesis that the association between marriage and happiness varies based on the societal religious and gender context. Due to the different experiences of men and women in marriage, we analyzed men and women's happiness in different relationship statuses separately. For men, marriage is associated with greater happiness regardless of levels of societal religiosity or gender egalitarianism. For women, the relationship between marriage and happiness varies depending on the social context. In societies with more traditional beliefs about gender, the happiness gap between married and cohabiting women is much greater than in societies with more egalitarian gender beliefs. [Chart 1](#) illustrates how the happiness gap between married and cohabiting women increases in increasingly gender conservative societies. In the most egalitarian gender contexts (the cross-hatch area of the graph), there is no measurable difference in the reported happiness of married and cohabiting women.

Similarly, the difference between married and cohabiting women's happiness varies as a function of the societal religious context. [Chart 2](#) illustrates the widening happiness gap between married and cohabiting women in increasingly religious societies. Again, in the most secular countries (those countries falling in the cross-hatch region of the graph), no measurable difference in the happiness of married and cohabiting women was found.

Together these results support the hypothesis that the relationship between marriage and happiness varies depending on the social context for women. For men, marriage is associated with greater happiness than cohabitation regardless of social contexts. But why is there this difference between men and women, with women's happiness more closely tied to the social context? We argue that women are more harshly judged when violating the religious and

CHART 1

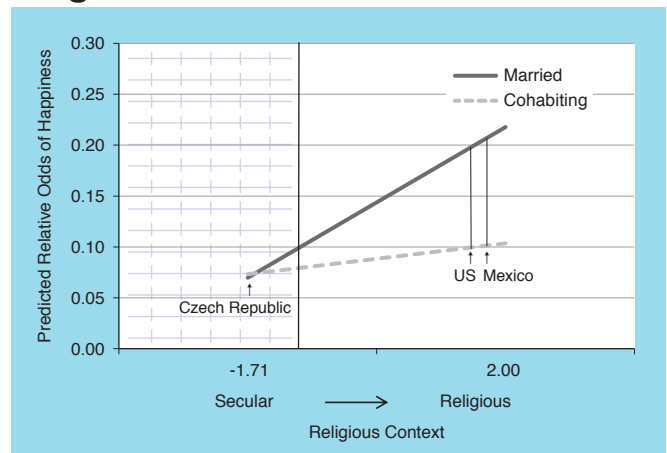
Predicted happiness for married & cohabiting women as a function of gender context



Note: The cross-hatched area of the graph indicates a non-significant happiness gap.
Source: *Redistributing Happiness: How Social Policies Shape Life Satisfaction* by Hiroshi Ono and Kristen Schultz Lee (Santa Barbara: Praeger, 2016) and Lee and Ono, "Marriage, Cohabitation and Happiness: A Cross-National Analysis of 27 Countries", *Journal of Marriage and Family* 74 (2012)

CHART 2

Predicted happiness for married & cohabiting women as a function of religion context



Note: The cross-hatched area of the graph indicates a non-significant happiness gap.
Source: *Redistributing Happiness: How Social Policies Shape Life Satisfaction* by Hiroshi Ono and Kristen Schultz Lee (Santa Barbara: Praeger, 2016) and Lee and Ono, "Marriage, Cohabitation and Happiness: A Cross-National Analysis of 27 Countries", *Journal of Marriage and Family* 74 (2012)

gender norms in a society and perhaps better rewarded when conforming to these norms. Men may be given more leeway in violating societal religious beliefs and non-marital cohabitation may not even be viewed as a violation of traditional masculinity in many countries.

Based on these results, we conclude that the happiness benefits of marriage are due in large part to the social support given to married couples in some contexts, rather than being intrinsic to the marital bond and being universal. We also found that women’s happiness is lower when they have dependent children in the home whereas men’s happiness is not affected. We conclude that marriage in and of itself does not cause people to become happier. Instead, marriage has different meanings and benefits associated with it in different countries.

Marital Happiness in Japan & the US

In other research, we focus our analytical lens on what makes men and women happier (and less happy) in marriage in just two countries: Japan and the US. We were again interested in investigating gender differences in marriage, building off the same themes in the first analysis, in countries with different life course patterns and norms surrounding work and family life. This comparative analysis provided us with the leverage to more precisely analyze what features of the social and institutional context are associated with greater (and lower) happiness among men and women in marriage.

Compared to women in the US, Japanese women marry later, are less likely to cohabit before marriage, and are also less likely to divorce. Although Japanese women’s labor force patterns have changed dramatically across the 20th and into the 21st centuries, Japanese women have a high likelihood of exiting the labor force after becoming mothers. Japanese women are also more likely to perform the majority of unpaid household labor compared to their Western counterparts. According to 2016 OECD statistics, Japanese men spent just 41 minutes per day on housework, compared to Japanese women’s 224 minutes.

Structural factors underlie these differences in women’s life course patterns in the two countries. Japanese taxation policy implicitly discourages married women from seeking full-time employment. Although this policy has changed over time, if a spouse earns under a threshold amount, their income is tax exempt and they can be claimed as a dependent, providing an incentive for women (who on average earn less than their husbands) to restrict their labor force earnings. Some Japanese employers also give their regular employees allowances for dependents that are reduced or eliminated if the spouse is employed. These distortions both underlie and reflect implicit gender beliefs in Japan that are more supportive of a gendered division of labor than in the US. In other words, there is more support for the belief that men should work outside of the home and women should care for the family than in the US. Some scholars have argued that the role of housewife is both more professionalized and associated with greater power due to the wife’s customary

control of the household budget in Japan compared to in the US. This may in part explain the relatively greater support for this domestic role for women in Japan.

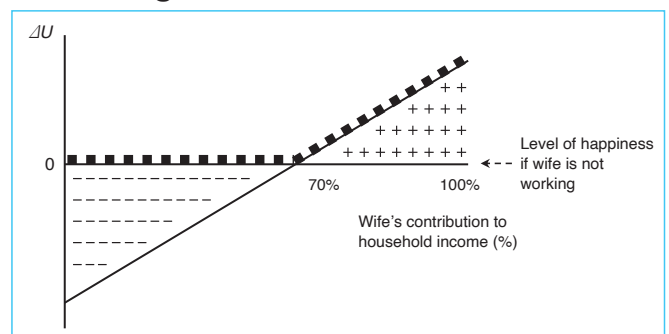
For this project, we analyzed data from the 2000, 2002 and 2004 General Social Survey in the US, and the 2000, 2001, 2002 and 2003 Japanese General Social Survey (JGSS). We again estimated separate models for men and women and analyzed marital happiness. What we found was surprising.

In the US, men and women report being equally happy in marriage but, in Japan, women are less happy in their marriages than men. American women’s marital happiness is less tied to their husband’s income than is Japanese women’s happiness. Instead, American women and Japanese men report greater marital happiness associated with their own income. What is surprising is that by default, American men report greater marital happiness when their wife is not working, with the one exception being when the wife is contributing a great deal to the household budget. *Chart 3* shows that for American men, their wives have to earn at least 70% of the household income for men to report greater happiness than when their wives are not working outside the home.

These findings point to competing values rooted in the social structure, what some have called sociological ambivalence. Americans are generally more supportive of gender equality but, at the individual level, men still report greater marital happiness when their wives are not working or when their wives are earning a lot of money. Japanese women report greater happiness in marriage when their husband earns more and they are not working themselves. And Japanese men report greater marital happiness when they themselves earn money, independent of their spouse (similar to American women). And yet, despite Japanese women’s endorsement of specialized roles in marriage, they report lower levels of happiness in their marriages than do their husbands.

Perhaps these findings reflect the uneven pace of change in Japan and the US: different groups within a society may change their beliefs at different rates. This may help explain why American women are

CHART 3
Relationship between wife’s contribution to household income & men’s happiness in marriage in the US



Source: *Redistributing Happiness: How Social Policies Shape Life Satisfaction* by Hiroshi Ono and Kristen Schultz Lee (Santa Barbara: Praeger, 2016) and Lee and Ono, "Specialization and Happiness in Marriage: A U.S.-Japan Comparison", *Social Science Research* 37 (2008)

happier in marriage when they earn higher incomes and contribute to their families financially while American men are divided: some are happier in marriage when their wives are specialized in domestic labor while others are happiest when they are economically dependent on their wives. Similarly, this might explain why Japanese women report greater happiness in marriage when economically dependent on their spouses and yet report lower levels of marital happiness overall compared to men. Over time, as social structures adapt to changing beliefs about gender and changes in family roles, we would expect some of these seeming disjunctures to disappear. One finding that cut across social contexts, however, was that the presence of children in the household was associated with lower levels of marital happiness, particularly for women.

Social Policies & Life Satisfaction

Our research points to particular policies that target family formation and childbearing. First, we return to the question of the efficacy of marriage promotion programs. As we mentioned earlier, some countries (notably the US) have invested federal dollars in programs to promote marriage based on the understanding that marriage makes everyone better off. However, we add to the critiques voiced by other family scholars who have questioned both the effectiveness of marriage promotion programs in encouraging marriage and in improving child well-being. To those critiques, we add our finding that it is not something intrinsic to marriage and therefore universal that makes married people happier. Instead, it is the support received by married people, and the stigma faced by those who are not married, in certain social contexts marked by essentialist beliefs about gender and strong religious beliefs that explain the marriage premium in happiness. This finding suggests that it is not marriage promotion that we need but rather greater economic and social support for families who are not married to narrow the gap in happiness by marital status. Specifically, programs that boost the well-being of single parent and cohabiting families, as well as policies and programs that provide poor families with access to education, jobs, mental healthcare and other key resources would make children and parents happier overall.

Our research on parenthood and happiness also offers some guidance to governments concerned about fertility decline. Many existing policies to address fertility decline attempt to offset the rising costs of childrearing by providing couples with baby bonuses and paid childcare leave. But there is no strong evidence that these policies are associated with a higher fertility rate. We argue that, in addition to considering the rising costs of children as driving fertility decline, we should also consider the link between ideology, happiness and childbearing. We showed that children are associated with lower levels of happiness for women cross-nationally, except in the social democratic welfare states of Scandinavia where the state provides generous institutional support (see Part 1). We argue that this is because women perform the majority of the unpaid, time-inflexible family labor associated with childbearing. As sociologists, we are interested in identifying the structural pressures associated with

mothers' unhappiness around the world.

Social policies that reduce work-family conflict and make the household division of labor more gender equitable could make parenthood more desirable for women. However, parental leave policies (over six months) have been shown to exacerbate rather than reduce gender inequality in parenting. Instead, paternal leave policies could give couples a chance to establish a more equal division of household labor early in the child's life and potentially contribute to change in cultural conceptions of men's involvement in childrearing and housework. In addition to paternal leave, policies or collective agreements to reduce the maximum work week could reduce work-family conflict and make men in particular more available for household labor. Indeed, as we discussed in Part 1, the policies of the social democratic welfare states, including paternal leave policies and subsidized childcare, give parents greater flexibility in balancing work and family. As our research shows, the negative effect of children on happiness disappears in the countries with high levels of public spending. This is particularly relevant for Japan. As the country invests in building a social infrastructure to overcome super-low fertility, removing the negative effect of children on happiness will be effective in providing incentives for women to have more children.

What about our finding that Japanese women are happier in marriage when they have a more specialized division of labor? It is important to note that we also found Japanese women are less happy in marriage overall compared to men and that their marital happiness was further diminished by the presence of children in the home. Other scholars have argued that Japanese women are experiencing ambivalence rooted in a desire for equality and the structural barriers preventing them from achieving it. In response to this ambivalence, Japanese women are postponing marriage and fertility or forgoing it altogether. Policies targeting the gendered division of labor and work-family conflict have the potential to make families happier and therefore encourage family formation and childbearing. These policies also have the potential to change cultural conceptions about who is most suited to care for young children and what kind of balance between work and family is appropriate.

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