



Punching Above their Weight: Small Economies in the Global Marketplace

Edited by Ozgur Erkan

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Speakers:

Sir Prof Dr. Peter Gluckman, Chief Science Advisor to the PM of New Zealand

Dr. David Skilling, Senior Advisor to the Secretary, Dept. of Foreign Affairs and Trade, New Zealand

Prof. Ehud Gazit, Chief Scientist, Ministry of Science and Technology

Mr. Netanel Oded, National Economic Council, PM's Office (Israel)

Mr. Dror Strum, President, Israeli Institute for Economic Planning

Commentators:

Prof. Zvi Eckstein (Dean, The School of Economics, IDC Herzliya)

Mr. Michael Shalin (Matimop - Israeli Industry Center for R&D)

Moderator:

Amb. Irit Ben-Abba, Deputy Gen. Director for Economic Affairs, Ministry of Foreign Affairs

Discussion held at the Accadino room, on 11 March 2013, 10:00-12.30.

Executive Summary

Major points of discussion raised at the panel session:

- 1 The high economic performance shown by small advanced economies so far and challenges lying ahead for small economies.
- 2 The benefits and drawbacks of globalization for small advanced economies.
- 3 Areas and need of cooperation among small advanced economies:
 - a Tax policy/race to the bottom.
 - b Multinational companies' regulation inside the small economy.
 - c Trying to enjoy the fruits of start ups emerging in small advanced economies, before multinationals buy them at a premature stage. (Intellectual Property)
 - d Cooperation among small advanced economies to set the global agenda on R&D priorities.
 - e Cooperation of small advanced economies against big economies.
- 4 How to prioritize as a government of the small advanced economy a research issue?
- 5 Should small advanced economies innovate bottom-up or top-down? I.e. should the government tell the academia in which areas the government needs to see innovation?
- 6 Making second tier universities in small advanced countries excellent in certain areas of research, in order to encourage undergraduate students to go to their country's 2nd-tier university. This is important to fund research at these 2nd tier universities.
- 7 Government support for high-tech research, government and university cooperation.
- 8 Cooperation on a uniform measure across small advanced economies to measure the impact of investment in R&D on the public.

Summary of the main arguments made by panelists in their presentations and discussion:

Sir Prof Dr. Peter Gluckman:

- Small advanced economies have to prioritize their synergy of innovation and production in certain areas, as unlike the big economies they cannot produce everything on their own. As the prioritization is a strategy undertaken by governmental actors, they need to ask the question in which areas to prioritize. Here comes a vital asset of small advanced economies into the game: short distance between the government actors and scientists. In other words, the implicit message here is that given the small distance in small advanced economies between the governmental actors and scientists in the hierarchy, governmental actors can easily consult the scientists on prioritization issues and work with them closely.
- The issue of brain-drain goes hand in hand with the premature sale of start-ups and flow of Intellectual Property as well as the educated personnel abroad. IPs quickly flow out of the small countries, but the problem of is that they bring with them the qualified people with them

abroad. This flow already starts in the form of brain drain at the undergraduate level, as an increasing number of small advanced economy residents choose to study at Harvard, Stanford etc. rather than at second-tier universities in their countries, which in turn creates a critical question of funding for the research activities at 2nd-tier universities. The same argument applies to the flow of SMEs abroad from small countries. This is a drawback of globalization for small advanced economies.

- Cooperation of small advanced economies is possible in two areas:
 - 1.) Getting the impact of public investment in R&D
 - 2.) Getting the informative matrix on measurement tools, eg. the OECD does not distinguish between what was contributed to the economy by the SMEs versus the multinational companies. Especially SMEs matter in terms of how they use the knowledge.

Dr. David Skilling:

- Globally, small advanced economies have performed better than economic giants in terms of economic development. They managed to keep their share of percentage in world GDP, which has been consistent at 9-10% of world GDP. This share in the cake of US, Japan, Europe has declined since 1980s, while that of China has increased.
- What makes small advanced economies successful in terms of economic growth? 3 reasons for that:
 - 1.) Global Environment. Small economies benefit from open international trade, exporting, low tariffs, hence since reach wider markets, they benefit from globalization.
 - 2.) Political cluster. More small economies are benign. At the end of WWII, there were 90 small countries, today there are 180. 100 years ago empires have dominated the World markets, but in the last 50-60 years it is possible to be a small economy and survive.
 - 3.) Higher level of trust in small economies. In small economies, high levels of capital of social trust, there exists also a stable medium term direction, and this makes it easier for small advanced economies to respond to economic shocks easier. This was tested at the 2008 financial crisis. Small advanced economies were more flexible to respond to the crisis by structural reforms, given also the fact that there is a greater internal consensus in small economies, among decision makers.
 - There are two potential threats for small advanced economies in future: 1.) Inability to diversify their production focus, i.e. establishing a growth model based just on one sector, which can then lose its competitiveness e.g. the case of Nokia in Finland. 2.) Continuous domination of the global research agenda by giant economies, which cater to their economic needs, hence small advanced economies need to make greater attempts to have a say on the global research agenda.
 - In addition to the points made above, one benefit of globalization for the small advanced countries has been the reduction in tariff barriers, which eased their exports to third countries. However, the most challenging questions for them today are: how do you expose to outside markets, open and benefit? How do you maintain excellence in certain sectors whilst trying to diversify your production portfolio?

Prof. Ehud Gazit:

- Education is a significant component for small advanced economies. Creating excellence in certain areas of second-tier universities in small advanced economies will help attract the students of these countries to study at home, rather than going abroad. However, there should be also clear, unbiased criteria for measuring the level of excellence in education these university departments reach.
- Intellectual Property is crucial to maintain for small advanced economies. IP in Agriculture here underlies both Israel, and New Zealand which have become exporters of agricultural products and technologies. Losing IPs at their premature level is a lack of competitiveness of Israel. IPs which are penetrated in Israel are completed by multinationals, which enjoy the fruits of R&D and hence these IPs. Israel should focus rather on exporting IPs smartly, rather than losing them at a premature stage to multinational companies.
- We cannot rely on only one sector to build up a growth model. (again case of Nokia in Finland is brought up as a failure). However, whilst excelling in a certain number of areas, the question is about prioritizing the areas of research: who should choose the strategic areas to excel in? The scientist (bottom-up) or the government (top-down)? The EU Consul mechanism took the decision down to the innovator level, but the Israeli government needs research in the areas of water technology, agriculture, natural gas production and geophysics of the Mediterranean, which are strategic areas of research for Israel and to which the State of Israel needs to divert researchers.

Mr Netanel Oded:

- So far, in small advanced economies, governments do not have a positive record on detecting the right areas of research to prioritize in. The same applies to Israel: Israel has been a distinct member of the space club, where all other members have GDPs multiple times larger than Israel's GDP. One other issue here is that prioritization of research areas should focus on local needs (military, security, economic etc.) and they should not remain on the research level, but also they should be able to reach the firms to generate economic output from those ideas.
- We need a better eco-system in Israel, to manage the multinational companies in Israel and to prevent the sale of premature IPs to multinationals, who then complete the IP in Palo Alto, CA and enjoy its fruits.
- Multinational companies rule the world, because they persuaded the small advanced economies to apply a race to the bottom in their corporate tax rate policies. Small advanced countries need to cooperate on their tax policies, at least every country can subsidize something different.

Mr Dror Strum:

- Small economies should not create a coalition to confront the giant economies, as the small advanced economies survive based on export trade to these countries.
- In designing a competition policy, there is no copy-and-paste. You need to adjust to local needs. This is why Israel has created a competition policy as a hybrid of the EU and US regulations.
- Small advanced economies should not be following a pattern of targeting very long-term goals (such as we want to be at point X in Y number of years), given the constant uncertainties

economies face today. Instead, they should continue fertilizing their infrastructure better, e.g. continuous human capital development.

Comments/Questions:

Prof. Zvi Eckstein:

- Rather than subsidizing education and R&D, we should resort to openness in those areas, as small economies. Education is about openness. The question is, if you subsidize it, how do you retain enough of it?
- Business IP restrictions are a dilemma and there is a debate in Israel about start ups: some say start ups are great, some say they are abused by big corporations. My point is that we have not developed human capital at floor. We do not produce here. If you want to have highly qualified people in technology, you need all layers of human capital.
- Government support for chief scientists is now less. There is also the reduction in leading part of business due to low support of chief scientists. There is thus the need to establish a selection mechanism. Once you establish the selection mechanism of government funding, banks will come in (as financial supporters). Hence, the government needs to select basic research and signal its quality.
- OECD should implement a policy to limit tax competition (i.e what is called the race-to-the bottom by small countries to attract multinationals by undercutting corporate tax rates for them). OECD needs to come in to stop Switzerland, Ireland and set an upper and lower boundary for tax brackets for multinational corporations. In Israel, based on the tax policy for multinationals, the Knesset has reduced the tax rate to 6%, which is really low. There is a big debate now that large corporations are paying low taxes. The worst point is that in Israel you need to be exporting 25% of your output to be eligible for the 6% tax bracket, because of which some companies in Israel lose on the exports they make, in order to benefit from the 6% tax bracket.

Mr. Michael Shalin:

- Small economies enjoy the benefit of close connections. However, they do not know how to deal with linear and long-term research. Israel is good at destructive research, but not at long-term, linear research. There is an issue of low productivity.
- Bottom-up approach is the way for small advanced economies to live, and small countries do like bottom up approaches (in innovation).
- Public investment's impact: Building tools is necessary to bridge the gap between basic research and applied research, such that the industry can carry the basic research forward. Chief scientists are there for that.
- Israel cannot be imagined without multinational corporations, as they are heavily involved in R&D, but how far can you go with them?

Full transcript

Moderator:

Amb. Irit Ben-Abba, Deputy Gen. Director for Economic Affairs, Ministry of Foreign Affairs

Amb Ben-Abba opened the session and introduced the guests from New Zealand first. General remarks were made by Amb. Ben-Abba regarding the initiative started by the New Zealand government to have informal gatherings of small developed economies, in order to share and learn from each others' experiences in the fields of R&D, macro-economic issues, and why they concentrated on these issues primarily. Amb. Ben Abba referred to the commonalities underlying the small developed economies, where she referred to the first meeting in Auckland, New Zealand under this initiative of the New Zealand government, which brought together 6 small developed economies: New Zealand, Singapore, Israel, Finland, Denmark and Ireland. A two-day meeting among the representatives from those six countries above was organized and hosted by the government of New Zealand. The aim of this meeting was to share ideas in professional issues, and Amb. Ben Abba supported such gatherings in future, where her emphasis was to host them in future in Israel. Finally, Amb. Ben Abba emphasized that the topics for the next meeting of small developed economies would be: IP (Intellectual Property), financing capital, having a group of academics from Israel and New Zealand that are of interest to the governments of both sides.

Amb. Ben-Abba left the floor to Sir. Prof. Peter Gluckman.

Sir Prof. Peter Gluckman: I want to make a general introduction into this initiative/project. The initiative/project started with separate discussions, one with Denmark and one with Elud (?). The aim is to look at science and innovation issues. SOme important points are population and skilling. The point is to think of these issues from strategic view of small countries in a global environment of instability and and global change. In this respect, Israel and New Zealand are very similar. Small countries need to think about their risk resilience. New Zealand approached Israel and SIngapore on these issues above, outside the small developed economies of the EU, as there are diverse lessons to learn from each country. Preliminary meetings were held, at the end of the meetings in Auckland, papers were published accordingly. Now this group of small developed economies are not only talking (about their experiences), but they are also exchanging ideas. I am now leaving floor to Dr. David Skelling, who is the main generator of this initiative, and I will later talk about certain dimensions of our topic.

Dr. David Skilling: I would like to start with intuitive questions: why small economies are coherent? What can they learn from each others? Performance of small economies - observations: why did they perform very well? Perception of future outlook - given the world is changing, it is becoming more challenging for small economies to perform well.

On the performance of small economies: Important issue of defining small economies we are talking about. Those are not the advanced economies of oil rich states, since these oil-rich states are rich but

not industrially developed. Small developed economies also have a population of maximum 10 million inhabitants, by definition. This group of small advanced economies did perform well on different dimensions, since 1980 they make up a share of 9-10% global GDP. Since then, the share of Japan, the US, Europe in global GDP has gone down, the share of China in global GDP has increased, but small advanced economies maintained their 9-10% share of the global GDP. Thus, small advanced economies performed better than big advanced economies.

On the issue of per capita GDP: Small advanced economies are overrepresented at the top places of the list of countries' per capita GDP. Small advanced economies have done well in this term, but being a small economy is not a guarantee for a top place on the list of per capita GDP. Why?

1.) Exportation, engagement in globalization: given a small domestic market, small advanced economies exported more, to a degree to exceed the level of export of big economies.

2.) Where do multinational companies come from? From big advanced economies. Small countries have much weight on the international marketplace.

Again, being small is not a guarantee of having a high GDP per capita, but this has been the tendency so far. This fact runs contrary to the theory of economies of scale, i.e. larger countries will grow economically more, since they primarily have big domestic markets to produce and cater for. Thus the relationship between country size and innovation now obsolete. I now do not want to exaggerate too far on that, but explain the reasons why small advanced economies did so well in the last 30-40 years.

There are three clusters for me:

1.) Global Environment. Small economies benefit from open international trade, exporting, low tariffs, hence since reach wider markets, they benefit from globalization.

2.) Political cluster. More small economies are benign. At the end of WWII, there were 90 small countries, today there are 180. 100 years ago empires have dominated the World markets, but in the last 50-60 years it is possible to be a small economy and survive.

3.) Higher level of trust in small economies. In small economies, high levels of capital of social trust, there exists also a stable medium term direction, and this makes it easier for small advanced economies to respond to economic shocks easier. This was tested at the 2008 financial crisis. Small advanced economies were more flexible to respond to the crisis by structural reforms, given also the fact that there is a greater internal consensus in small economies, among decision makers.

Do small economies act the same? No, there is no small-economy-template, some focus on FDI (Foreign Direct Investment), some on R&D (Research and Development). Thus different models of growth exist. In challenging the risks of globalization, positioning and deliberations matter in small advanced economies. Unlike the US, they cannot rely on closing the budget deficit of California with the budget surplus of New York. Decision-makers need to deliberate in order to manage global shocks. Deliberations of strategy define their economic performance. The ability of the public sector to position themselves rightly also define the performance level of small advanced economies. These points give already an indication of underlying commonalities among the small advanced economies.

Thoughts on future: There are no guarantees for future. Referring to columns in 2008 and 2012 in New York Times. The 2008 crisis was demonstrated from the eyes of small versus big birds and the small birds were flying around big birds and picking up their feathers. The small economies hence were characterized as flexible and big ones were characterized as inflexible to economic shocks. 2012: big economies are trying to be flexible, and now the concern is about big volatilities, shocks, they move in

tandem and there is less resilience by small advanced economies. Things can change very quickly (eg. of Nokia of Finland, i.e. its inability to adapt to changes). There are also competitive challenges from both big and small economies. Given so far the concentration of small economies only in certain sectors, they need diversification in different sectors. In addition to that, the Doha Round of the WTO (World Trade Organization) is in trouble. This issue (of Doha Rounds of the WTO) is very important for small economies, who benefit from globalization, but who also do not have much role/say at the negotiation table. The G-20 can at least be hoped to give small advanced economies some more say on shaping the agenda. In this regard, it was vital what the EU Commission President, Barroso, said in a speech on EU integration. Barroso said that there should be greater push for the EU project in the future, as the future was called by him the age of giants. Thus, from the small advanced economies perspective, giants (EU, China) shape the debate.

The last 5-10 years show no evidence that small advanced economies struggle. In Europe, just in contrast, the better ones are the smaller economies: they were flexible to enact structural reforms.

Again, turbulences of the global economy matter for the small economies, but they need resilience and cooperation to perform well. Small advanced economies have similar views of the world, which can be divided into two dimensions:

Horizontal dimension: They transfer insights from each others, given the agenda of globalization is dominated by the giants/big economies.

Vertical dimension: Small economies have accurate views of the world, they distinguish themselves from the big economies, but because they expose themselves to world markets, areas of exchange rates, global markets are worth exploring. Look at the G-20 today: small countries are the generators of the new ideas today.

Dr. Skelling concludes his speech here, with some concluding remarks, and leaves the floor back to Prof. Gluckman.

Sir. Prof. Peter Gluckman: (Dr.) David (Skelling) talked about the the economic and strategic pillar of the initiative. The third pillar I initiated is the size & innovation. It also overlaps with the microeconomic side of the economic pillar. All small advanced economies are committed to education, R&D, science, technology as corporations, and aim to transmit that to the private sector for economic growth. Other reasons for this transmission are: reputation for their own innovation, those innovating talk to other innovative countries, especially in Asia, which gives a light to those not innovating.

Israel is a model in R&D, innovation as a national strategy. There is a lot to learn from Israel. For 6-7 mins, I will take you through the issues discussed over the (past) years with Israelis, on actual analysis and projections (for future).

The point on R&D underlying all small advanced economies is that they cannot afford to do everything. The US on the other hand leaves R&D to academics and commercial institutions simultaneously. Small advanced economies need to ask the question "how to prioritize something being a giant/important issue?". Ireland did prioritization, but how explicit or implicit was the process of prioritization is under question. Every ministry and scientist also faces the same question. However, there is a virtue of being a small economy: that is the great connectivity between different actors. The distance between ministers and academics is very small. Hence, connectivity of the state to all other actors is vital.

Another question here is: what is the impact of their investment on public? The issue of values of investment in R&D, policy research, health research, come from North America. They (i.e. North Americans) accept that investment in R&D has economic spillover, but there is still a difficulty of obtaining a quantitative measure of the impact of these investment on public. Hence, the value of this initiative/project (of the New Zealand government) is to assess the impact of R&d via a uniform measurement tool, which can be applied across a number of different countries.

Issue of scale: On the issue of prioritizing a question, the question is whether to apply a top-down process or leave it at the academic level? Small advanced economies are now applying a top-down approach, as the government tells the academia areas of research the government wants to see.

Not unique but acute of small advanced economies: expansion of tertiary education, human capital, more universities, hence there is more demand for public research institutions. Is this a way to maintain public/tertiary education? Affordability matters here.

The elephant in the room is how to get IP (Intellectual Property) out of university, to get know how out of university, given that politicians (in New Zealand) say that academics are not doing enough, they are lousy. The reality however is the (high) ratio of no of ideas generated (at university) versus the commercializability of those ideas. There is also a challenge Israel knows well: you invest in SMEs (Small and Medium-Size Enterprises), human capital, clever people, but at the end it is not just IP flying (out of the country) but also the (educated) people go with the IP. So how do we retain the value given to the people? There are two issues/problems here:

1.) SMEs: Challenge of SMEs - they are easy to be sold, but how to help them stay at home and let SMEs grow domestically is the challenge. SMEs in small countries do not agglomerate with each others in the same country. Small companies across jurisdictions shall work together.

2.) Impact of globalization: Two aspects here:

2a.) Globalization of science: EU, US, including Asian giants determine the international science agenda, hence small advanced economies need to protect their interests. Research agendas by the giants are set tightly, which is a danger for small advanced economies. The impact of globalization on education: Universities like Harvard, Stanford attract New Zealand's best students via online courses. They may threaten the research fabric of New Zealand, such that University of Auckland, for example, which relies on undergraduates for funding, may find it hard to maintain its structure. Same applies to second tier universities in other small advanced economies, such as the University of Copenhagen, and Trinity College Dublin. But how will small advanced economies know the impact of online education? Small economies here relying on 2nd tier universities may be under risk. 10-15 years from now, we need to think about these issues.

We cannot solve all problems collectively, but cooperation is possible in two areas:

1.) Getting the impact if public investment in R&D

2.) Getting the informative matrix on measurement tools, eg. OECD does not distinguish between what was contributed to the economy by the SMEs versus the multinational companies. Especially SMEs matter in terms of how they use the knowledge.

Prof. Gluckman summarized his arguments, concluded his part and in this second part, Amb. Ben-Abba left the floor to Israeli speakers, starting with Prof. Ehud Gazit.

Prof. Ehud Gazit: I acknowledge the work being done by (Prof) Peter (Gluckman) and (Dr) David (Skelling), and I gratify them both intellectually and practically. This is a major issue for Israel. The small country always faces the following dilemma: You need to specialize (your production) in certain areas, as you cannot be producing in all sectors, but simultaneously, you need to keep others (i.e. sectors) at a mediocre level.

The Israel Space Agency meeting was part of a geo-political act. Today, Israel is member of a group of 10 nations with activities in space (such as satellite building), and this group includes the NASA, which has an annual budget of 17 Billion USD, which is equivalent to Israel's annual military budget. Israel had to excel in some aspects of the space industry, in some Israel was the only one: in case of low-weight satellites even giant economies came to/approached Israel (i.e. US, China).

This issue goes back to higher education. Higher education is the real key for small countries to excel. 2nd tier universities of small economies need to excel in some areas to make them excellent. (Here comes the comparison to Harvard, Stanford, which excel in multiple areas). In Israel, some educational institutions do that excelling good, some others not. The way to achieve it is to keep clear criteria for excellence. It is also crucial for small countries to have qualitative and quantitative measures of their impact. In big economies, there is tolerance for redundancy. Not particularly good universities, scientists will be compensated by the top universities, researchers. However, in small economies, there is no tolerance for redundancy.

An example here is the past experience in Israel. Negotiations with PM Ben-Gurion hardly increased the budget for education, but today the situation is different. Higher education system in Israel today is very cost-effective. Same as in other small advanced economies, it is also equally important in Israel: the Planning and Financing Committee decides on the budget for education, here measuring the impact of investment in education matters. Israel did that, it needs to provide equivalent tools in economy, in order to see the impact of investment in research on the economy, through the use of clear, unbiased measures.

IP (Intellectual Property) is crucial. For small advanced economies (such as Israel and New Zealand) it is now an asset. An example is found in agriculture. Both countries turned from exporter of agricultural products to exporters of agricultural technology, e.g. seed exports. You export to competitors who compete with your market. Seed companies matter today a lot in Israel and New Zealand.

Genetics: this will be the future. This will be the production capability. Export of IP is a crucial point to be looked at economically correctly, as well as the management of IPs, which is challenging in case of multinationals operating in the country. Protection of IPs is equivalent to the tariffs in the past. Intuitively, the use of protection of IPs protects your market from being flooded with inexpensive products, but the use of tariffs signalled in the past underdevelopment as you protected your market literally. It signals a lack of competitiveness. The export of IPs in Israel is a result of lack of competition in other areas, Israel can do better on utilization of innovation. We and other small economies need to think about being ripped off intellectually by multinationals on the one hand, and exporting IP smartly on the other.

Another strange situation in Israel: IPs penetrated in Israel are done/completed by multinationals, who have R&D centers, so the State of Israel is not enjoying the fruits of IPs. Israel is an EU Framework member in this respect, from an industrial point of view, there is a significant cost to pay, from a ministerial view (Ministry of Industry), some funding goes directly to the multinationals.

Restrictions on the export of IPs and funding indirectly a multinational company does not benefit the State of Israel.

Directed Research vs. Initiated Research (Top-Down vs. Bottom Up):

Small economies are not excelling in some areas, and they maintain activity in others. The example from the EU: There was an Initiative for having top-down research activities. They however cannot invest in everything, hence they established an EU Consul, and they are now taking the process back to the inventor initiated research, where the individuals are the backbone of the process. However, there is a dilemma here, because you need directed research for the state. E.g from Israel include directed research in areas of geological, agricultural research, research in lakes and oceans (Dead Sea, Red Sea, Galilei), research on natural gas production, geophysics of the Mediterranean. As a small advanced economy's government, we need those activities, hence we need to attract researchers to those research areas/institutions.

Agricultural research in Israel is successful, not only due to the founding fathers, but from the beginning, the Agricultural Institute has a clear measurement of output.

Infrastructure maintenance also matters, Israel's solution was to join the European Infrastructure. There is a political framework behind this as well as the geographic proximity as a motivation.

We also need to be careful in other areas, as we cannot excel in one bucket only. E.g the NOKIA case of Finland. Israel is well off here. It has excelled in healthcare, defense industry, chemical production (fruits of a growing economy), eg TEVA has become a giant.

Prof Ehud Gazit concluded his talk here, and the moderator left the floor to Mr. Netanel Oded

Mr Netanel Oded: The main difference between small and big economies is that in small economies, domestic market is not part of the R&D, and the macro part. However, the big economies benefit from their domestic market in this respect. In Israel, there is a difference between domestic market players versus the exporters, the latter of which invest the most in R&D.

The Government thinks "we need to prioritize". Small economy government, including Israel, have had a bad record of choosing the right sectors to prioritize. Israel focuses on sectors based on local needs. Space industry is a typical example here. Israel is a distinct member of the space club, as the closest member to Israel in the same club has a GDP as big as nine-times of the GDP of Israel. Hence, Israel's membership in this club looks absurd, but also not mistaken/so absurd given the security interests of Israel. What the Israeli government needs to do here is to focus on the question how to create an ecosystem to lead that idea (space) from military/security needs to get it to the firms to generate economic output.

Hence, if there is a local need for a sector in Israel (like water, agriculture, cyberspace, space): the point is to develop comparative advantage in this sector and to make sure that it does not remain just as a public expenditure.

On Multinational companies: A merciless competition continues here, and the mistake of human capital is has a payment. You however cannot impose tariffs on multinationals in a world of globalization. There is in Israel a good eco-system for start-ups, but a bad one for managing the multinationals, given the premature sale of start-ups to multinationals. They have the IP, given the tax laws in Israel do not let IPs here, and there are few CFOs here. There is no one here in Israel to do the job, thus somebody in

Palo Alto, California does the thing your start-up has developed. It is a capture of much of the ecosystem you develop.

Cooperation of small economies: There is room for cooperation on tax policy. In many areas, small economies incentivize, subsidize R&D, but at the end fruits are enjoyed by another country. Although R&D is heavily subsidized in Israel, most of the IP started in Israel goes outside. Many acknowledge the need for cooperation on tax policy, but then there is a race to the bottom in tax rates. In other words, companies rule the World. All small economies pay a price for this tax competition, and there is little need for big countries to catch multinationals, as they usually start in big economies. Hence, we need to cooperate on tax policy, at least by being more coherent, such that everyone subsidizes something else.

Mr. Netanel Oded concluded his statements here and the moderator left the floor to Mr Dror Strum.

Mr Dror Strum: Small economies are suffering from their structure of economy. Small economies are isolated, for example Canada was also so in the past.

I felt like a music of coalition of small nations moving against big nations. If we go that route, it is a mistake. There is no right of existence, if we cannot interface with large nations. For example, Israel depends on export trade.

Competition policy of Israel developed 15-20 years ago, where its approach was original in taking which law from whom. For example, on regulation against monopoly, we could not adopt the US law, but we adopted the EU law. On cartels, we did not adopt the EU law, which was lenient, but we adopted instead the US law. Hence, we have a hybrid. Even the OECD says you create your own mood...In competition policy, there is no room for simple cut and paste.

Last issue I want to touch upon is what strategy should small economies adopt? Setting a numerical target, i.e. where should we be in X years vs. keep fertilizing infrastructure. The first approach is contrary to the history, given the uncertainties to come in future. However, you should keep fertilizing infrastructure better, e.g. the human capital... Israel also tried to regulate IP, but it did not work.

Mr Strum concluded his statements. Moderator Amb Ben-Abba turned to guests, and first addressed Prof. Eckstein, and asked him for his comments.

Prof. Zvi Eckstein: A difference between big and small economies is R&D. R&D is a traded good, and what is the (optimal) strategy on that? Openness. The American strategic decision of funding PhD students is a strategy pursued after WWII by the US as an R&D investment. Israeli success on R&D also relies on openness.

What happens to IP? Educated people may go abroad (citing his own PhD life in the US), but eventually we came back to Israel with the knowledge we had from the US.

The strategy for all countries on R&D is being open, hence it is hard to persuade people who subsidize R&D.

Education is about openness. If you subsidize it, how do you retain enough of it? All education in human capital comes without competition.

Overall, Israel subsidized high-quality education. We got the Nobel Prize in Chemistry, but the work was done in a lab in Michigan, but the Nobel Prize winning professor decided to come back to Technion. He

would not return to Technion, if he thought he would not be able to compete globally from there (Technion).

Business IP restrictions are a dilemma and there is a debate in Israel about start ups: some say start ups are great, some say they are abused by big corporations. My point is that we have not developed human capital at floor. We do not produce here. If you want to have highly qualified people in technology, you need all layers of human capital. Machines can come from abroad, it is doable with money, but you need layers of human capital.

Government support for high tech research, government and university cooperation: Government support for chief scientists is now less. There is also the reduction in leading part of business due to low support of chief scientists. There is thus the need to establish a selection mechanism. Once you establish the selection mechanism of government funding, banks will come in (as financial supporters). Hence, the government needs to select basic research and signal its quality.

Last key point for Israel is "tax competition" to attract export industry. Some multinationals do not pay much tax. This is a worldwide issue to come onto table in OECD. OECD should implement a policy to limit tax competition (i.e what is called the race-to-the bottom by small countries to attract multinationals by undercutting corporate tax rates for them). It is thus easy to write a paper of the negative impact of multinational companies on getting low tax by governments of small economies. Linked to that: the New Trade Theory. Ricardo argues that if you want to be an exporter from a small country, you need an innovative product, which is not produced in the US. If you do not have a new product, you also do not have a market in the US. Pharmaceuticals is a cutting edge here. The US is generally very good at attracting new producers and getting their products produced in the US. What happens is that HP produces a product invented by Israelis, they can produce it everywhere, they can do multi-production based on risk analysis. They will do that. To stop the inefficient competition due to tax competition/race to the bottom, OECD needs to come in to stop Switzerland, Ireland and set an upper and lower boundary for tax brackets for multinational corporations.

In israel, based on the tax policy for multinationals, the Knesset has reduced the tax rate to 6%. Now there is a competition inside Israel. Tel Aviv versus the periphery of Tel-Aviv, down all the way to Beersheba, where the tax rate remains at 12%. This is a low rate (i.e. 6%). There is a big debate now that large corporations are paying low taxes. Now, you need to be exporting 25% of your output to be eligible for the 6% tax bracket, because of which some companies in Israel lose on exports they make, in order to benefit from the 6% tax bracket.

My last point is how do you change returning to services? Productivity in Israeli high tech industry (top 5% of corporations) are below their equivalent output/worker in SMEs in the US. Productivity in Israel in this respect is one third of that in the US, hence their wages (USA) are high because they produce more. There is hence a bimodal economy in Israel, i.e. it suffers from low productivity in traditional industry, due to small scale, concentration, lack of openness. The Israeli economy is bimodal, because the hi-tech sector in israel developed in late 1990s-early 2000s, and it reached an output beyond the US. With regard to low-tech industry, however, Israel does 0% R&D in low-tech industry. One exceptional company in the low-tech industry in Israel is ISHKAR. They are very innovative, and given that fact, Warren Buffett decided to invest in them.

Issue of isolation, finally. The question is how to overcome it, where we show similarity to New Zealand in that respect.

Moderator Amb. Ben-Abba returns to another invited guest, Mr. Michael Shalin, from Matimop, for his comments.

Mr. Michael Shalin: Small economies enjoy the benefit of close connections. However, they do not know how to deal with linear and long-term research. Israel is good at destructive research, but not at long-term, linear research. There is an issue of low productivity.

With regard to bottom up approach of innovations: bottom-up approach is our way to live, and small countries like bottom up approaches (in innovation).

Public investment's impact: Building tools necessary to bridge basic research with applied research such that the industry can carry the basic research forward. Chief scientists are there for that.

I cannot imagine Israel without multinational corporations, as they are in R&D, but how far can you go with them?

Mr Shalin ends his statement here and the moderator Amb. Ben-Abba leaves the floor once more to Prof Gluckman and Dr. Skelling, for any response they may have to their Israeli counterparts.

Sir Prof Dr Peter Gluckman: Unique to small economies is that scale and size matters. New Zealand has the highest percentage of SME-oriented research, based on OECD figures. There is also enormous value in putting PhD students in a position to do industrial PhDs in small companies, for them to be more information-based.

The more we talk to each others, the more we will understand in dealing with similar issues. It is important to think on how to get the voice of small advanced economies heard, which make up 9% of global GDP, in order to change the multinational corporation architecture. Contextual issues make us think differently.

Dr. David Skilling: Small countries open to other markets out of necessity and choice. Small economies have also been the most liberal ones in economic approach. Reduced tariffs gave them benefits.

But the point is how small economies deal with the issues discussed here, i.e. most importantly competition policy, R&D. The challenge for the small economy is how you at the same time expose (to outside markets), open and benefit? How do you maintain excellence in certain sectors whilst diversifying your portfolio of sectors? World has become really challenging. Small advanced economies do not have a loud voice, in reality, but we should try to shape the environment dominated by big/giant economies.

Moderator Amb. Ben-Abba expressed her encouragement of this initiative and her support behind the initiative. She thanked the speakers and participants, and given the absence of any questions, she closed the session.

Ends.