



WORLD TRADE
ORGANIZATION

**Council for Trade-Related Aspects of
Intellectual Property Rights**

**EXTRACT FROM MINUTES OF
MEETING OF THE
COUNCIL FOR TRADE-RELATED ASPECTS OF
INTELLECTUAL PROPERTY RIGHTS**

HELD ON 9-10 JUNE 2015

**ITEM 10 IP AND INNOVATION:
THE ROLE OF INTELLECTUAL PROPERTY IN FINANCING INNOVATION**

EXTRACTED FROM DOCUMENT IP/C/M/79/Add.1

AGENDA ITEM 10: IP AND INNOVATION: THE ROLE OF INTELLECTUAL PROPERTY IN FINANCING INNOVATION

10.1 United States of America

223. The United States would like to thank the EU, Singapore, and Switzerland for co-sponsoring today's agenda item on Intellectual Property and Innovation: The Role of Intellectual Property in Financing Innovation.

224. Financing is a critical part of the innovation lifecycle that we have been discussing extensively under this agenda item at the TRIPS Council, and it is pervasive in every aspect of that life cycle. Innovation funding is a key part of our respective national innovation policies, and it is essential to the success of our innovative small-and-medium-sized enterprises (SMEs). It is a core consideration in research and development by universities and the startups they create as well as for social entrepreneurs seeking to maximize the social benefits of their IP. As we heard repeatedly at the WTO Innovation Fair, for innovators both large and small, the quest for capital is inextricably linked to the quest for innovation.

225. Whether we recall our discussions in this Council on green technology or sports, IP plays a central role in securing investment in climate change adaptation and mitigation technology as well as athletic competition at the local, national and international level. And as we have also explored in depth, innovation intermediaries – such as incubators and accelerators – often serve as essential companions for early-stage companies and inventors, including by simultaneously lowering the risk of innovation and increasing the incentives for investment, both by inventors and investors.

226. In its most elemental form, financing decisions are driven by a risk/reward calculus. IP protection mitigates the risk of innovation and can radically change the reward profile of R&D investment. We have devoted considerable time in this Council to supporting our own view that IP incentivizes innovation by investors. Today, we will look at a different dimension of IP's catalytic effect, and present what we view as prolific and compelling data demonstrating that IP also incentivizes innovation through financing. More simply put, IP couples creativity with capital.

227. We will focus our intervention on the role of financial intermediaries in the innovation life cycle. First, we will describe the significant and positive relationship between financing, innovation and IP. Having reviewed the extensive literature on the correlation between financing and innovation we will describe the unique and defining features – as well as the diversity – of capital structures and stages in the innovation life cycle, including venture capital.

228. Second, we will then discuss the role of IP as an asset that drives access to and lowers the cost of financing. Finally, we will turn to the role governments can and have played in this context.

The Significant and Positive Relationship between Financing and Innovation

229. Turning to the first issue, there is considerable data supporting the view that financing is critical to innovation. In their recent paper on "Financing Innovation", Kerr and Nanda cite to growing literature in support of the view "that well-functioning financial markets play a central role in driving economic growth through their ability to spur technological innovation."¹

230. Their study focuses on the role capital markets and financial intermediaries play in impacting firm-level innovation. They conclude that "there is clear evidence that financing constraints have the possibility to be considerable in the context of firms engaged in R&D and innovation – with the

¹ Kerr, W. and Nanda, R., "Financing Innovation", Working Paper 20676, National Bureau of Economic Research, November 2014, page 1. See Comin, D. and Nanda, R. "Financial Development and Technology Diffusion", Working Paper, 2014; Hsu, P.H., Tian, X. and Xu, Y. "Financial Development and Innovation: Cross-Country Evidence", Journal of Financial Economics, 112(1), 2014, pages 116-135; Brown, J.R. Fazzari, S.M. and Peterson, B.C., "Financing Innovation and Growth: Cash Flows, External Equity, and the 1990s R&D Boom", Journal of Finance, 2009, 64(1), pages 151-185; Levine, R., "Financial Development and Economic Growth: Views and Agenda", Journal of Economic Literature, 1997, pages 688-726; King, R.G., and Levine, R., "Finance, Entrepreneurship and Growth: Theory and Evidence", Journal of Monetary Economics, 32, 1993, pages 513-542; King, R.G., and Levine, R., "Finance and Growth: Schumpeter Might Be Right", Quarterly Journal of Economics, 108, 1993, pages 717-737.

ability to shape both the rate and the trajectory of innovation."² Numerous studies reach similar conclusions. For example, in their paper on "Financial Dependence and Innovation: The Case for Public Versus Private Firms", Acharya and Xu find that public listing on stock markets is beneficial to innovation firms in industries dependent on more external finance.³

231. Another study evaluates the innovation impacts on R&D firms during the Great Depression. This analysis by Nanda and Nicholas demonstrates negative effects of bank and stock market distress on innovation, in both quantitative and qualitative terms.⁴ During that period, the severe constraints on the ability to raise public equity and debt finance not only stunted the rate of innovation, but also negatively impacted the type of R&D undertaken, with a move from greater risk to more conservative projects in those countries with higher economic distress. The authors conclude that the financial sector impacts both the immediate amount of innovation by individual firms as well as a "longer run effect on the trajectory of innovation that firms choose to undertake". And with economic recovery in the 1930s, came innovation recovery as well.⁵

The Nature of Innovation Financing

232. While financing impacts innovation positively, what is the nature of investment in innovative firms? Generally speaking, such firms, especially young R&D-intensive start-ups, are particularly reliant on financing and have unique demands beyond other entrepreneurs. For Hall and Lerner, R&D investment is different than ordinary investment in at least three key ways:

- that approximately half of R&D spending is on the wages and salaries of highly-educated scientists and engineers;
- that there can be a high degree of uncertainty associated with the output of R&D firms; and
- that there is often asymmetrical information between the innovator and investor.⁶

233. These factors were confirmed by several of the speakers at today's side event on "The Role of IP in Financing Innovation" sponsored by the EU, Switzerland and the United States. Kerr and Nanda highlight additional innovation-specific factors with respect to the R&D financing paradigm. In addition to uncertainty and information asymmetries, these include:

- the skewed nature of innovation returns, which makes evaluation difficult; and
- the high percentage of intangible assets, including intellectual property, held by innovative firms.⁷

234. The nature of innovation financing, therefore, can impact the capital structure of such investment. The relatively higher nature of risk involved in financing innovation coupled with the expertise required for valuation and management of innovative firms, often impacts the source and staging of capital. Debt and equity financing are both used to infuse much needed capital into the innovative process. However, while debt financing is available, innovators can be constrained in their ability or interest to use debt finance for R&D investment. This is because of the relatively lower risk tolerance and expertise of banks coupled with the higher cost of capital and challenges of debt serving faced by innovators, particularly young R&D intensive SMEs.⁸

235. Regarding equity financing, venture capital, angel investors, public and private equity, and hedge funds all play a role in financing innovation. We heard from two angel investors at today's

² Kerr, W. and Nanda, R., "Financing Innovation", Working Paper 20676, National Bureau of Economic Research, November 2014, p.14.

³ Archarya, V. and Xu, Z., "Financial Dependence and Innovation: The Case for Public Versus Private Firms", National Bureau of Economic Research, 2013, page 45.

⁴ Nanda, R. and Nicholas, T., "Did Bank Distress Stifle Innovation During the Great Depression", Working Paper, Harvard Business School, 12-106, 2013, pages 24-25.

⁵ Nanda, R. and Nicholas, T., "Did Bank Distress Stifle Innovation During the Great Depression", Working Paper, Harvard Business School, 12-106, 2013, pages 24-25.

⁶ Hall, B. and Lerner, J., "The Financing of Innovation", *National Bureau of Economic Research*, Working Paper, 2009, pages 5-7.

⁷ Kerr, W. and Nanda, R., "Financing Innovation", *National Bureau of Economic Research*, Working Paper 20676, Working Paper 20676, 2014, pages 3-4.

⁸ Hall, B. and Lerner, J., "The Financing of Innovation", *National Bureau of Economic Research*, Working Paper, 2009, pages 14 and 34.

side event, and will return to the significance of venture capital to innovation shortly. Before we do, it is important to note that investors may change at different stages. For example, in their intensive analysis of clean tech venture capital in 31 countries from 1996-2010, Cumming, Henriques and Sadorsky, identify four stages of clean tech innovation and financing:

- Stage 1 covers research and involves government funding as well as venture capital and private equity;
- Stage 2 covers development, where venture capital and private equity predominate;
- Stage 3 covers manufacturing and scale-up, where venture capital and private equity as well as public equity markets and mergers and acquisitions all provide financing; and
- Stage 4 covers roll out, where public equity markets, mergers and acquisitions, and debt markets finance clean tech commercialization.⁹

236. In addition, capital structures differ by country and region. Hall and Lerner, for example, identify distinctions by country in terms of the type of debt and equity financing, including data on the percentage of venture investments by GDP in 36 countries and a country-by-country share of worldwide seed and startup venture capital funding.¹⁰

237. Likewise, Groh, Liechtenstein and Lieser, rate the top ten countries for venture capital and private equity activity.¹¹

Venture Capital and Innovation Financing

238. Turning specifically to venture capital, there is extensive analysis demonstrating the strong and positive impact of venture financing on innovation.¹² For example, Hellmann and Puri evaluated 170 Silicon Valley innovative firms, including firms that were VC-backed and those that were not. They concluded that where a firm is engaging in an "inventor strategy" that firm was more likely to receive venture capital, to obtain it more quickly, and to experience significant time reductions in bringing its innovations to market.¹³

239. Generally, venture capital firms often serve as "specialized financial intermediaries" that intensively and expertly scrutinize innovative firms prior to providing capital and monitoring such investments thereafter.¹⁴ Critically, venture capital also plays a vital role in assisting innovative companies, including clean tech startups, through the "Valley of Death", where there is a shortage of R&D and commercialization funding.¹⁵

240. Beyond financing, the research shows that venture capital provides additional added value. In their extensive review of 98 countries from 200-2011, Safari, Cumming and Cozzarin, identify a lengthy list of contributions made by venture intermediaries to innovative firms.

⁹ Cumming, D., Henriques, Irene, and Sadorsky, P., "'Cleantech' Venture Capital Around the World", Draft Paper, September 21, 2004.

¹⁰ Hall, B. and Lerner, J., "The Financing of Innovation", *National Bureau of Economic Research*, Working Paper, 2009, pages 13, 54 (Figure 4), and 55 (Figure 5).

¹¹ Groh, A., Lichtenstein, H., and Lieser, K., "The European Venture Capital and Private Equity Country Attractiveness Indices," *Journal of Corporate Finance*, 16(2), 2010, pages 205-224.

¹² See Kortum, S., and Lerner, J., "Assessing the Contribution of Venture Capital to Innovation", *The RAND Journal of Economics*, 31(4), 2000, pages 674-692, 675; Caselli, S., Gatti, S., and Perrini, F, "Are Venture a Catalyst for Innovation or Do they Simply Exploit It?", *European Financial Management Journal*, 5(1), 2009; Hirukawa, M., and Ueda, M., "Venture Capital and Innovation: Which is First?", *Pacific Economic Review*, 16(4), 421-465; and Hall, B. and Lerner, J., "The Financing of Innovation", *National Bureau of Economic Research*, Working Paper, 2009, page 35.

¹³ Hellman, T., and Puri, M., "The Interaction Between Product Market and Financing Strategy: The Role of Venture Capital", *Review of Financing Studies*, 13, 2000, pages 959-984.

¹⁴ Hall, B. and Lerner, J., "The Financing of Innovation", *National Bureau of Economic Research*, Working Paper, 2009, page 26.

¹⁵ Cumming, D., Henriques, Irene, and Sadorsky, P., "'Cleantech' Venture Capital Around the World", Draft Paper, September 21, 2004, page 23.

241. These important contributions include: board Membership and firm leadership; strategic business plan involvement; organizational and design assistance; internal process execution and improvement; internationalization advice; and the list goes on.¹⁶

IPR is Critical Factor in Innovation Financing

242. There is also growing research with respect to the positive impact of venture capital and the protection and diffusion of the innovation with intellectual property rights. Kortum and Lerner, for instance, survey 20 US industries over 30 years, and find that venture capital activities significantly increase patenting rates.¹⁷ They also show that VC firms do not only promote patent protection, but other forms of IP as well, including trade secrets, as ways to protect important intangible assets.¹⁸

243. If, as the literature demonstrates, financing is critical to innovation, then IPR is critical to financing. IP is an important asset and value driver; and widely regarded as the sixth asset class after cash, real estate, stock, fixed income and private equity. Beyond sale and licensing, IP can also serve as collateral and can be securitized.¹⁹ IP, from patents to trade secrets, copyright to trademarks, provides a basis for investors to risk their resources.²⁰

244. Regarding collateralization, according to one commentator, "higher [IP] asset values may also help in negotiations with a company's bank and facilitates access to credit, or help to negotiate cheaper interest rates on credit".²¹ Where IP is pledged, the size of the collateral pool grows in value and the possibility of a successful loan increases. In fact, Thomas Edison collateralized his patent on the incandescent electric light bulb to obtain financing for his startup – General Electric.

245. Turning to securitization, IP is an amenable asset because it can have great value and has the potential to generate stable cash flows.²² For example, David Bowie as well as Ashford and Simpson respectively issued copyright-backed bonds. Other forms of IP, including patents, are also securitized.²³

Governments, Innovation Financing and IP

246. Finally, governments can play an important and positive role in the financing of innovation.²⁴ In some countries, for some sectors, public venture capital can be prevalent. Beyond direct financing, studies show that governance indicators are positively correlated with innovation financing.

247. For example, Cummings, Henriques, and Sadorsky, conclude that factors such as government effectiveness, regulatory quality, accountability, and rule of law have a positive and significant impact on clean tech venture capital activity. Likewise, increased contract enforcement,

¹⁶ Safari, A., Cumming, D., and Cozzarin, B., "Venture Capital and Innovation around the World", pages 7, available at: http://www.law.northwestern.edu/research-faculty/searlecenter/events/entrepreneur/documents/Safari_Venture_Capital_and_Innovation.pdf

¹⁷ See Kortum, S., and Lerner, J., "Assessing the Contribution of Venture Capital to Innovation", *The RAND Journal of Economics*, 31(4), 2000, pages 674-692, 675; and Safari, A., Cumming, D., and Cozzarin, B., "Venture Capital and Innovation around the World", pages 29, available at: http://www.law.northwestern.edu/research-faculty/searlecenter/events/entrepreneur/documents/Safari_Venture_Capital_and_Innovation.pdf

¹⁸ See Kortum, S., and Lerner, J., "Assessing the Contribution of Venture Capital to Innovation", *The RAND Journal of Economics*, 31(4), 2000, pages 674-692, 675;

¹⁹ WIPO, "Intellectual Property Financing; An Introduction", *WIPO Magazine*, 2008.

²⁰ Cardullo, M., "Intellectual Property: The Basis for Venture Capital Investments", WIPO,

²¹ WIPO, "Intellectual Property Financing; An Introduction", *WIPO Magazine*, 2008.

²² Clarke, A., and Guedj, I., "Is Intellectual Property Amendable to Securitization", *Law360*, May 23, 2014.

²³ WIPO, "Intellectual Property Financing; An Introduction", *WIPO Magazine*, 2008.

²⁴ See Jeng, L., and Wells, P., "The Determinants of Venture Funding: Evidence Across Countries", *Journal of Corporate Finance*, 6, 2000, 241-289;

property right policing and effective judicial systems are found to be important determinants of VC financing in the clean tech sector.²⁵

248. In short, financing increases where risk diminishes. While not the only driver of financing, IP can play a powerful role in attracting critical investment. Likewise, increased respect for IP, through protection and enforcement, can in turn, increase access to financing, while lowering the cost of such investment, particularly for capital-intensive innovative startups.²⁶

249. To conclude, IP, Innovation and Finance form a virtuous triangle. Each begets the other, and governments can play a critical role in facilitating the necessary incentives to allow them to increase economic prosperity and development.

10.2 Switzerland

250. My delegation is pleased to co-sponsor this agenda item together with the Delegations of Singapore, the US and the EU. In previous TRIPS Council meetings we have looked at a number of factors which matter in a countries innovation landscape

251. Today, we propose to look at the important role that intellectual property plays in attracting capital to stimulate innovation. And yes, what is true for so many areas, is also true for the field of innovation: money makes the world go round! (Whether one likes it or not) In this particular case, financing helps to lubricate the various stages of the innovation cycle:

- 1 - Allowing an ingenious idea to be developed into an invention
- 2 - Making an innovative product out of this invention
- 3 - Bringing the innovative product to the market and make it a financial success
- 4 - Remunerating both the inventor and the investor for their efforts
- 5 - Allowing the financial reward to be invested in new inventive activity, thereby concluding – and restarting – the innovation cycle.

252. At a panel event over lunchtime we heard some fascinating insights by experts who showed us that IP can be highly relevant for an investor's decision to support the development of innovative products and services. The necessary funding can be decisive particularly for an innovation to take the final hurdle of entering the market successfully. The presentations demonstrated that IP can mean capital. Or in other words, as the WIPO summarises well on its website: IP turns intangible assets into property rights; it enables to claim ownership over the intangible assets and exploit them. As a result, IP assets of an enterprise regularly are worth more than its physical assets. The value of some of the international brands is estimated in value in the billions. To take a Swiss example, the brand *Nescafé* was estimated to be worth US\$11 billion in 2014. Let me emphasize, in this context, the myriad of SMEs in Switzerland that make active use of IP for their economic development.

253. An example of such a small start-up company is the Zurich-based "Doodle", an Internet calendar tool for time management and arranging meeting dates. The tool was developed in 2003 by a Swiss software engineer who was looking for an easy solution to arrange a meeting date for a dinner with a number of friends. In 2007, Doodle was registered as a trademark and thereafter several investors engaged with substantial investments. Today, Doodle is one of the world's most successful online meeting date arrangement tools, available in 17 languages.

254. So, why does capital like intellectual property? Intellectual property rights constitute a first available guarantee and value that the investor can calculate in. Intellectual property allows innovators to approach investors in a position of power, knowing that they have a substantive case that the investor is able to calculate with. They have a protected asset which can be included in a business plan.

255. It is not only for the bigger venture capitalists that IP matters for their investment decisions, but it represents an incentive to invest also for private individuals who consider investing their own money in a start-up, and have a particular interest in looking for securing the return on their

²⁵ Cumming, D., Henriques, Irene, and Sadorsky, P., "'Cleantech' Venture Capital Around the World", Draft Paper, September 21, 2004, page 21-22.

²⁶ Cardullo, M., "Intellectual Property: The Basis for Venture Capital Investments", WIPO.

investment. This may even apply to the recently become fashionable crowd-funding via internet-based platforms.

Case study: Innovative Medicine for the Tuberculosis Foundation - iM4TB

256. We would like to take up the case of a project discussed at the panel over lunchtime. The project spearheaded by the Swiss Federal Institute of Technology in Lausanne, EPFL, is about fighting new forms of tuberculosis. The project is called - Innovative Medicine for Tuberculosis (or in short: iM4TB TB).

257. There are several forms of drug-resistant tuberculosis bacteria which have changed over time so that they can no longer be killed by the two best known antibiotics, isoniazid and rifampin. Usually, these antibiotics would be used to cure tuberculosis. The main reason for the bacteria to change and adapt is inconsistent use of TB antibiotics. One of the forms of drug-resistant tuberculosis is the so-called Multi-Drug Resistant Tuberculosis (MDR TB). Studies have shown that in 2013 more than half of the global burden of MDR TB cases was carried by the three countries of China, India and the Russian Federation.

258. The EPFL's iM4TB Foundation, founded in March 2014, is working on the development of a new antibiotic, carrying the name of PBTZ169, which is designed to kill drug resistant TB bacteria in a - compared to conventional therapies - shortened therapy. The medicine works by destroying the bacterium's cell wall that shields it against the immune system and antibiotics.

259. A US patent filed in 2011 was granted in 2014; further patent applications are pending at the European and at the Eurasian Patent Organisations, as well as in China, and the foundation is considering filing further patent applications.

260. In its search for a powerful new drug that would substantially diminish the risk of failure of a TB treatment, the EPFL was able to enter into a collaboration with Nearmedic, a Russian pharmaceutical, biotechnology and medical company. The cooperation was preceded by negotiations and an audit into the strength of the patent application filed. The terms and conditions transferred IP rights to Nearmedic for countries covered by the Eurasian Patent Organisation, and thereby allowed the EPFL to obtain, via the venture capital paid by Nearmedic, its return on investment. Apart from the financial aspect, the main terms between the parties stipulated a co-sharing of the drug's test results and exchange of experience in order to facilitate the further development and distribution of iM4TB in other countries.

261. It was thanks to iM4TB Foundation's patent portfolio and the data generated that the project could be developed to the advanced stage at which it has arrived today. The intellectual property, in conjunction with quality results of the research and development, triggered the interest of companies to further invest in the project. Eventually, those were also the major factors for Nearmedic's decision to embark upon cooperation and participate in the development of that new treatment of tuberculosis.

262. Testing of the compound is in the pre-clinical phase and studies have shown PBTZ169 to be effective and quicker than the current TB drugs recommended by the World Health Organization. According to the pre-clinical studies, the chemical structure of the new compound and high specific activity provides a significantly higher safety profile than existing drugs which are associated with toxicity problems. The low toxicity of the new substance is essential for patients, taking into account the long duration of TB treatment.

263. This case study and other examples of projects mentioned in the lunch panel today show how innovators are able to turn their ideas into real inventions with the support of funding received from investors. In many of these cases, securing IPRs will be a key consideration for such investors to whether or not to engage in a start-up.

10.3 Singapore

264. Thank you for the opportunity to share Singapore's perspective on the positive impact that our intellectual property (IP) regime has had on our national innovation efforts. For knowledge-based economies like Singapore, IP is a key driver of business performance and economic growth.

With a credible IP regime in place, businesses have the peace of mind to develop innovative technologies and ideas, as they know that their IP rights will be protected.

What Singapore has done in the realm of IP to help businesses and build a conducive environment for innovation

265. In Singapore, we have focused our efforts on building a conducive IP environment to facilitate innovation. Businesses are able to acquire a range of IP rights such as patents, trademarks and registered designs²⁷ to protect their products. We have tried to make the IP protection process as smooth and efficient as possible. For instance, businesses can make filings online through an integrated system called IP²SG, which is a one-stop portal that facilitates patent, trademark and design related transactions and searches. Soon, businesses and innovators will also be able to tap on the quality search services and patent analytics offered by our multilingual patent search and examination team. Singapore was appointed as a WIPO Patent and Cooperation Treaty International Search Authority/International Preliminary Examining Authority last year, and we expect to be fully operational by September. Given the small size of our domestic market, we have also established international patent work-sharing arrangements to facilitate Singapore-based companies' expansion to other markets.

266. One good example is the ASEAN Patent Examination Cooperation (ASPEC), which is a regional arrangement among 9 ASEAN Member states for sharing search and examination results between IP offices. Under ASPEC, companies are able to fast-track patent applications in the ASEAN region using an initial examination report from any Member country's patent office. A patent application that used to take more than five years in some countries to process can now be completed in under two years. The establishment of such regional IP infrastructure plays an important role in supporting and spurring innovation efforts throughout ASEAN, as new products and services flow through the region.

Public-Private Partnership

267. We also have public-private partnerships in place to spur IP and innovation. For example, our Agency for Science, Technology and Research (A*STAR), encourages small and medium enterprises to leverage on emerging technologies, participate in research and development, and create their own novel products and solutions. Our two public universities have programmes to link their research with the relevant industries as well.

268. The Singapore government has also established an agency known as the IP Intermediary, which works with companies to market their technologies to overseas partners. IP Intermediary also helps companies search for the best available innovation tools and partners to boost business growth.

Case study – Razer

269. Razer, an entertainment devices and software company, is one of numerous businesses in Singapore that have used IP protection to propel their growth. Razer has grown from its early days as a gaming peripherals start-up to become an established company selling computer peripherals, laptops, wearables and software platforms in over 60 markets around the world.

270. Razer's products are protected by a range of IP rights, including patents, registered designs, trademarks, trade secrets and copyrights. To supplement their in-house engineering and design work, they have put in place formal innovation processes and strategies for filing and enforcement. In this way, Razer has been able to use IP protection as a tool for marketing its products and defending its share in major consumer markets.

Outcomes

271. We have tried to create a virtuous cycle, where R&D is followed through by patenting activity to protect innovations. These efforts have borne some fruit. Between 2003 and 2013, there was a

²⁷ These are just a few examples – the whole range of IP covered in Singapore include patents, trademarks, copyright, registered designs, geographical indications, plant varieties protection, trade secrets and layout-design of integrated circuits.

7.3% year-on-year growth rate for the total number of patents first granted as a result of R&D in Singapore²⁸.

272. Singapore was ranked as the leading economy in Asia in the 2014 Global Innovation Index and the top Asia-Pacific economy in the World Economic Forum's Global Competitiveness Report for 2014-2015.

Conclusion

273. These are some of the steps that Singapore has taken to boost IP and innovation. We are continually strengthening our IP regime, and refining the support programmes so that the best possible environment can be in place to spur innovation and growth.

274. We hope that our sharing today has been useful, and we look forward to further discussions at the TRIPS Council on how Members, particularly developing countries, can successfully develop innovative economies by boosting their IP regimes.

10.4 European Union

275. It is our pleasure to participate once more in this series of debates on intellectual property and innovation and to co-sponsor it. Today I will present out of the wealth of studies and papers and work that has been done in financing by the European Union in this area, mainly two studies. You will see that these studies address a lot of the issues that were discussed during the lunchtime presentation except that they will not be illustrated by comics, so the presentation may be a little more boring but we hope it will still have interesting content, and it will only highlight a couple of points. I will provide the links to these studies. We also did not manage to squeeze in any examples with David Bowie, but that is us Eurocrats. But these are valuable studies that give a very extensive detailed and precise picture of the role of intellectual property in financing innovation in Europe.

276. Intellectual property rights play an increasingly important role in corporate strategy. The intangible assets created through the processes of innovation represent a major share of the value of today's businesses. The IP rights associated with those assets are the legal underpinning for potential returns on investment in that innovation.

European Expert Group on Intellectual Property Valuation

277. The European Expert Group on Intellectual Property Valuation assessed the commercialisation of innovative ideas, with the value of the IP asset acting as collateral. They looked especially at small and medium-sized enterprises. They found the role of IP in the financing process is often an indirect one. IP plays a supporting part in the bigger picture for the provision of loans and equity investments. In the regular banking, venture capital or private equity sectors IP is generally evaluated but not formally valued.

278. Equity investors typically invest into companies as a unit, but not into IP assets as such. In return for their investment investors receive an equity stake of a company which owns IP and intends to exploit the IP. Therefore, investors using this model are indirectly financing based on IP. The equity finance community considers the importance of IP when financing companies, but the actual value of IP assets per se is rarely considered important.

279. However, low quality IP can be a deal breaker for investors. An IP audit is considered by some Venture Capitalists as an important tool to assist the investment process by signalling the quality of the IP in possession of the investee. IPR may especially be of interest to a Venture Capitalist at exit if the buyer is a company. Investors may consider formal IP valuation to be fruitless in the case of SMEs as validity can be challenged when companies are still nascent and small companies find it difficult financially to defend their position.

²⁸ Source: A*STAR's 2013 National Survey of Research & Development in Singapore

280. The Expert Group notes that an issue that influences a company's decision to protect its IP, especially in the case of SMEs, is to what extent such rights are enforceable, the time and costs involved in litigation, and the foreseeable economic results. The quality of the enforcement system has an important impact in IP protection. SMEs, and large companies, need to be assured an accessible justice system for infringement, validity and other cases.

281. Large investment banks and private equity firms alike have raised and invested funds targeted at IP and other intangible assets. Rather than looking for entrepreneurs and start-up companies, these firms are looking to invest in IP and IA for development and commercialization purposes. These enterprises work with companies to either buy the IP/IA or invest in the company for commercialization of the IP/IA.

PATLICE Survey

282. The PATLICE Survey enquired about European firms patent licensing activities and found financial use is very important for SMEs. It looked at out-licensing and other use. The most important motive for SMEs to out-license is revenue-generating, especially from newly developed, core technologies. SMEs are also looking to earn revenue from non-core or mature technologies and to use out-licensing as an enabler for 'joint R&D and innovation'. Large firms out-license more to ensure Freedom-to-Operate and stop infringement.

283. In the pharma sector both SMEs and large firms are particularly motivated by earning revenue from core/newly developed technology. Patents are a currency for doing business with other firms and licensing is hence more commonplace. The health care sector puts also more emphasis on the motive to enable joint R&D and innovation.

284. The importance of licensing has increased over the years. Most firms report an increasing number of licensing deals and increasing licensing revenues over time. Out-licensing agreements usually cover more than just the patents and are more technology licensing. Growth in the number of licensing deals can be observed across all industries. Hence, the growing significance of licensing is not due to sectorial effects.

285. The most important other use of patents for all firms is to negotiate R&D collaboration agreements. There is a significant difference in the use of patents to obtain funding and finance by small and medium-sized enterprises and start-ups compared with larger firms. All types of finance uses are much more important for SMEs than for large firms. SMEs particularly use patents more for raising capital through private investors and venture capital and private equity.

10.5 India

286. My delegation would like to thank the delegations of the United States, Switzerland, the European Union and Singapore for tabling an agenda item on "Intellectual Property and Innovation: The Role of Intellectual Property in Financing Innovation".

287. Let me just recall our intervention when the agenda item on Intellectual Property and Innovation was first introduced in the TRIPS Council. Our statement is still relevant when we are discussing 'the Role of Intellectual Property in Financing Innovation' under the broad theme of Intellectual Property and Innovation. In that meeting India pointed out that the word "innovation" appeared just once in the TRIPS Agreement, in Article 7, which states that Intellectual Property Rights (IPRs) "should contribute to the promotion of technological innovation and to the transfer and dissemination of technology," and not for the sake of innovation itself, but "to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations." Thus the TRIPS Agreement makes it very clear that the purpose of the Intellectual Property system is not solely to protect the commercial interests of the Intellectual Property holder but it is one of the many tools available to society to achieve technological development, social and economic welfare and innovation.

288. According to Petra Moser, faculty at Stanford University, U.S.A.:²⁹

²⁹ "Patents and Innovation: Evidence from Economic History", *Journal of Economic Perspectives*, Volume 27, Number 1—Winter 2013—Pages 23–44

"Overall, the weight of the existing historical evidence suggests that patent policies, which grant strong intellectual property rights to early generations of inventors, may discourage innovation. On the contrary, policies that encourage the diffusion of ideas and modify patent laws to facilitate entry and encourage competition may be an effective mechanism to encourage innovation."

289. Innovation should not be viewed within the narrow prism of intellectual property monopolies but framed within a holistic, knowledge ecosystem that includes open innovation, open knowledge approaches and de-linkage of R&D costs from product prices. According to the Trilateral Study by WTO, WHO and WIPO on "Promoting Access to Medical Technologies and Innovation: Intersections between public health, intellectual property and trade (2013)"(Page 126),

"Patent law is not a stand-alone innovation system. It is only one element of the innovation process, and one which can be deployed differently in diverse innovation scenarios. Patent law has little bearing on many other factors that lead to the successful development of technologies, e.g. the nature and extent of demand, commercial advantages gained by marketing and ancillary services and support, commercial and technical viability of production processes, and compliance with regulatory requirements, including through effective management of clinical trials data."

290. The trilateral study also highlights that innovation in medical technologies for neglected diseases suffers from market failure as conventional IP-based incentives do not correspond with the nature of demand for treatments of these diseases. To overcome the market failure of the IP system for neglected diseases, the trilateral study mentions open innovation structures such as the Open Source Drug Discovery (OSDD) model of India's Council of Scientific and Industrial Research (CSIR), and collaborative research such as WIPO Re:Search - Sharing Innovation in the Fight against Neglected Tropical Diseases. The study also talks about the concept of delinking price of the final product from the costs of R&D by 'push' mechanisms such as grant funding and tax credits for investment in R&D and by 'pull' mechanisms that offer rewards for the final outcome of R&D of certain products like milestone or end prizes. The trilateral study also talks about the emergence of Product Development Partnerships (PDPs), which are constituted usually with the involvement of non-profit organizations, foundations and industry, to focus R & D towards diseases that disproportionately affect low- and middle-income countries (LMICs). Examples of Product Development Partnerships are Medicines for Malaria Venture (MMV), the international AIDS Vaccine Initiative (IAVI), the Aeras Global TB Vaccine Foundation, etc.,

291. The World Health Organisation (WHO) at the recently concluded 68th World Health Assembly (WHA) has adopted the '*Global Action Plan on antimicrobial resistance*'. The action plan, inter alia, states that most pharmaceutical companies have stopped research and development of new antibiotics and calls it as a "serious market failure" and a "particular cause of concern". The action plan also suggests that "the cost of investment in research and development may need to be de-linked from price and the volume of sales to facilitate equitable and affordable access to new medicines, diagnostic tools, vaccines and other results from research and development in all countries". The G-7 countries yesterday came out in full support of the WHO Global Action Plan on anti-microbial resistance.

292. The Report to the President on Combating Antibiotic Resistance in September 2014, which was prepared by the United States President's Council of Advisors on Science and Technology (PCAST), while stating that market failure is the reason for the inadequate state of antibiotic development, it also talks about new mechanisms to incentivize the development of antibiotics, like 'push mechanisms (federal funding, subsidies etc.)' and 'pull' mechanisms (user licenses, lump sum prizes, patent buy-outs etc.).

293. India declared the decade of 2011-2020 as the Decade of Innovation. The spirit of innovation has to permeate all sectors of economy from universities, business and government to people at all levels. The future prosperity of India in the new knowledge economy would increasingly depend on its ability to generate new ideas, processes and solutions, and the process of innovation would convert knowledge into social good and economic wealth.

294. With regard to financing of innovation in India, there are many ways, but due to paucity of time, I would limit myself to few initiatives of the Government and private sector in India. CSIR-Tech Private Limited works with laboratories across India to commercialize their technologies and

intellectual property; Grassroots Technological Innovations Acquisition Fund (GTIAF), which is operated by the National Innovation Foundation of India, is to obtain the rights of technologies from grass root innovators after compensating them for the same with the purpose to disseminate/diffuse them at low cost or no cost for the larger benefit of the society. Global Innovation and Technology Alliance (GITA), promoted jointly by Confederation of Indian Industry (CII) and Department of Science & Technology, Government of India, inter alia, has a mandate of professional management of Government Fund for the industry through flexible modes of funding support like grant, loan and equity. Some private sector initiatives that invest mainly in technology-led innovations include India Innovation Fund, a venture capital fund promoted by National Association of Software and Services Companies (NASSCOM) and IKP Knowledge Park, and Tata Capital Innovation Fund.

295. I would like to conclude by requesting the WTO to organize a symposium on "New Business Models for Fostering Innovation and Access: Innovation Inducement Prizes and Open Source Development Models." This could be organized by the WTO along with the WHO and the WIPO as part of their trilateral cooperation on intellectual property and public health.

10.6 Bangladesh, on behalf of the LDC Group

296. I am taking the floor on behalf of the LDC Group. We thank the proponents US, Switzerland, EU and Singapore for presenting this item for discussion and sharing their ideas to increase resources for innovation. We agree broadly with the general premise of the proposal, but we would caution against any one-size fits all approach, as the situation in developed and technologically advanced resource rich countries and the situation in LDCs are completely different. For example, availability of venture capital in LDCs and availability of venture capital in developed countries will be completely different unless the developed countries decide to provide to the LDCs. Since they have lots of priorities and very little resources and facilities, they do not have adequate allocation for any venture or adventure. We all know that innovation plays a vital role in the development of the socio economic scenario and the living standard of the people and we agree with the proponents on this premise and proposal.

297. However international standards and long-standing terms of intellectual property law do not always foster innovation everywhere in today's technologically advanced and interconnected world and they did not also play a similar role in the past. We consider that a strict intellectual property regime is not an essential prerequisite to promote innovation and technological diffusion when we examine and analyze the past history of development of the present developed countries. Intellectual property regimes and innovation propels the world to move further to a higher level of development, but unfortunately according to our experience, not all the countries of the world benefited from intellectual property and innovation in the same way. Less than expected growth, the process of globalization, and competition have raised the stakes for IP policy to overcome this adverse situation for LDCs. LDCs need to have a flexible policy and ambiance for promoting innovation as the promotion of innovation has become a key growth strategy for all nations irrespective of the level of development. However, availability of money or resources does not necessarily guarantee innovation, as we have seen that great innovations in history actually derived from human genius rather than availability of vast resources. So we feel that there is no natural inevitable correlation between IP and financing innovation, rather encouraging and flexible rules, regulation and ambiance and availability of proper facilities will largely contribute towards innovation and development.

298. We again thank the proponents for drawing our attention to a very important issue and we hope that all of us will gain from this free discussion on how to increase allocation for innovation without depleting scant resources that we have at our disposal.

10.7 Chile

299. Firstly, I would like to thank the proponents of this proposal and note that, as demonstrated by the presentations given during the lunch break, the use of intellectual property as an intangible asset tends to be of great benefit to major enterprises. The development of this idea at national level is consistent with Chile's national public agenda for innovation, which seeks to transform our production structure from one that is commodity-based into one that is more diverse and innovation-oriented.

300. In order to achieve this, not only do innovators need to be directly empowered, but an ecosystem that indirectly promotes and facilitates innovative processes implemented by enterprises also needs to be created. The elements required for the successful development of the national innovation system include the use of intellectual property as collateral for the granting of funding to enterprises.

301. Intellectual property rights are intangible assets that allow for the ownership and value of innovations to be determined. The correct valuation of these assets should enable innovators to use them as collateral for funding from financial institutions.

302. Nevertheless, in Chile the valuation of intellectual property rights is not recognized, and there is a general lack of trust in the use of IP rights as collateral for such funding. Consequently, many entrepreneurs who become established as a result of their efforts and government funding for innovation face a financing problem when they want to expand their business.

303. This is why the necessary mechanisms should be developed to enable intellectual property rights to be assimilated as an additional asset, and not only in the case of large enterprises, but also for small- and medium-sized enterprises. This requires the provision of training for accountants, bank employees, entrepreneurs, venture capitalists and other actors in the market to enable them to duly consider and value this type of asset, which opens up opportunities and effectively contributes to the implementation of the country's innovation plans.

10.8 Chinese Taipei

304. My delegation would first like to join others in thanking the United States, Singapore, European Union and Switzerland for adding this important, newly-emerging item to the Agenda, and for their introduction to the subject.

305. We are very pleased to have the opportunity of sharing with fellow-Members the experiences we have had with our own policies in this area, and of learning from the experiences of other countries at the same time.

306. We fully identify with the observation made by several Members that corporations are only just beginning to tap into the potential of IP, and that recent multi-billion dollar deals on patent and trademark portfolios, as well as IP assets-backed financing, have kick-started what looks like being a sustainable trend. This innovative approach to IP - which could turn into a new pillar of cooperate finance - is a growing trend that will surely consolidate and give Members a distinctive edge.

Small- and Medium-sized Enterprise Credit Guarantee Fund (SMEG) .

307. As you may be aware, the main focus of our policy on local industrial development is to assist SMEs - which account for nearly 98% of all local companies - with using intellectual properties in their financing arrangements. Being an intangible asset, the actual value of an intellectual property is very difficult to measure, so banks tend to place a relatively higher level of risk on loans provided to SMEs using IPs as collateral. Our government, therefore, has set up a special organization, the SMEG, (Small- and Medium-sized Enterprise Credit Guarantee Fund), to help SMEs engaged in innovation and R&D to secure loan finance from banks and to facilitate risk diversification for the banks themselves.

308. When assessing loan applications from SMEs using IPs as collateral, the SMEG would place much more emphasis on evaluating the future business potential and profit outlook for the intellectual property/ies in the market, rather than focusing solely on an estimate of the current value of the IP being proposed as loan collateral. In addition to that, the SMEG would carry out comprehensive reviews of both the enterprise and its IPs, including assessment of the management teams, future prospects in the industry, its business models and the feasibility of its programmes.

309. Since the start of 2013 up to April of this year (2015) the SMEG has facilitated the completion of 235 cases, resulting in loans to the value of US\$3.86 billion in total.

Government assistance to financial institutions in their evaluation of an intangible asset.

310. Intellectual properties such as patents, trademarks, copyrights, and other IPRs are intangible assets, and a range of specialist professional skills and expertise are required in the areas of industrial know-how, legal compliance, market forecasting, etc. in order to properly assess their true and potential value. Our government quickly realized that enhancing the skills and expertise of financial institutions in evaluating IPs would be a vital factor in helping enterprises to secure loans from banks. Thus, the Ministry of Economic Affairs and the Financial Supervisory Commission (the FSC) have launched a series of relevant training programmes for financial institutions to upgrade their capabilities in the evaluation of intangible assets.

311. One of these is our *International Certified Valuation Specialist (ICVS) Programme*, and there are *other training programmes* as well, aimed at enhancing skills and expertise in this area.

312. The Ministry of Economic Affairs introduced the ICVS (International Certified Valuation Specialist) training programme on intangible asset valuation in 2006, and since then a total of 174 valuation specialists have been trained, of which 58 have obtained the International Association of Consultants, Valuators and Analysts (IACVA) credentials.

313. The FSC also launched a plan for financial sectors to support the creative industries from January, 2014. The plan consists of a training programme, a fundraising programme, a consultation platform and corresponding measures. In this training programme, by the end of April 2015, the FSC had already hosted more than 58 seminars and courses for a total of 3,279 people.

314. Concerning the fundraising aspect, the FSC has been actively encouraging the generation of funds through various channels from bank financing and insurance funding, to the "Go Incubation Board for Start-up and Acceleration Firms". By the end of April, 2015, the Incubation Board, for example, had successfully assisted 13 companies from the creative industries in raising funds of US\$26.71 million and had cooperated with the SMEG in raising the loan-to-value ceiling from 80% to 90%.

315. As for corresponding measures, the FSC has a programme to encourage local banks to provide loans to enterprises in the creative industries with sound risk management practices. By end-April 2015, the outstanding balance of loans to enterprises of the creative industries from local banks was NT\$285.7 billion. In addition, on 3 January 2014, the FSC gave its approval to the Financial Asset Services Corporation to launch intangible asset valuation services for the creative industries. The Financial Asset Services Corporation has already succeeded in establishing a database for 15 different industries, including the film-making and TV programme-making industries, as well as the music, advertising and digital content industries.

316. Today, there are still some challenges to be faced. For example, fraudulent and misleading valuation reporting, such as overestimating the software turnover and growth rates, leads to overpricing. When the investment being considered is in an intangible asset with no active market there will always be some difficulty in making a true and fair value assessment. Valuations based on the subjective judgement of so-called specialists and valuers are easily doubted as well. For these reasons, we believe we must continue to enhance the knowledge and expertise of our valuation specialists in all types of intangible assets, such as patents, trademarks, copyrights and other forms of IPR, as well as improve the quality of the appraisal operations and the credibility of appraisal reports.

317. I would also like to raise some questions here, if I may, for Members' further discussion and reflection.

- How can patents secure a stable banking infrastructure?
- How can we convert an asset or a stream of cash flows into marketable securities?
- How can we achieve win-win situations for both the IP owners and the investors?

318. So, as I hope I have shown you, my delegation attaches great importance to this item, as we assume all WTO Members do. We very much look forward to hearing about other Members' policies and their experiences with various practices and programmes.

10.9 Korea, Republic of

319. This delegation thanks the proponents of this important and interesting agenda item. Korea also recognizes the importance of innovation in productivity, job creation, new market creation and economic development as a whole. In this regard, Korea adopted a series of policies to promote innovation under the new policy initiative of creative economy which is based on innovative science and technology.

320. In line with new national agenda, Korea has established a new value chain that extends from the inception of an idea to its eventual commercialization in order to protect fledgling invention and encourage its commercialization.

321. Korea established a financing system in which companies possessing outstanding patents technologies can access to bank loan even without other assets for collateral. In the past practices, banks usually requested other collaterals in addition to patents.

322. When such company applies for loan, the bank asks one of the Korean Intellectual Property Office (KIPO)-designated organizations to estimate the value of outstanding patent and technologies. Then the bank provides loan based on the value estimation. This system allows SMEs and start-ups to access to bank loan which is essential to commercialize patents and ideas.

323. To make IP-based financing operational, KIPO concluded a MOU with Korea Development Bank, Korea Credit Guarantee Fund in 2013 and Industrial Bank of Korea in 2014. These financial entities provided 303 companies with US\$150.7 million loan during the year 2014.

324. KIPO also established the Korea Institute of Intellectual Property Evaluation & Transaction (KIPET) in January 2014 with a view to sophisticate IP valuation system which is an essential factor for IP-based financing. And KIPO is making efforts to make more companies eligible for the IP-based financing.

10.10 Japan

325. This delegation would like to express its gratitude to the United States, Switzerland, the European Union and Singapore for proposing this interesting agenda item. Japan fully recognizes the importance of the role of intellectual property in financing innovation. Japan appreciates this opportunity to share its experience on how we have been promoting the use of intellectual property to finance innovation. We believe that our experience is useful for other Members.

326. Firstly, since 2014, the Japan Patent Office, or JPO, has been providing an assessment report on small and medium-sized companies that utilize intellectual property. This report, which is free upon request by any financial institution, assesses how the companies' intellectual properties and technologies contribute to their business. It can help financial institutions make informed decisions on whether to issue loans and financing for companies.

327. So far 22 institutions used this service. One of them provided funding to a plastics manufacturing company to develop beads cushion products, taking advantage of the assessment report made by the JPO. As stated by the financial institution, the objective analysis in the report facilitated the evaluation of the company's competitive edge over others in the same industry from different perspectives. It also outlined the growth potential of the business. Successful cases like this will result in an increasing number of financial institutions using this service and vitalizing local economies through innovation.

328. Another initiative this delegation believes worth sharing with other Members is an initiative taken by the Ministry of Economy, Trade and Industry, or METI. Since 2005, the METI has focused its attention on the importance of "Intellectual Asset-Based Management" and promoted assistance to raise public awareness on it, especially for small-medium enterprises. Under "Intellectual Asset-Based Management," enterprises recognize and value their intellectual properties for generating revenue. The disclosure of such management principle based on recognition and valuation of their intellectual properties gives them an advantage when it comes to receiving funding. This is because they are able to show financial institutions the appeal of their enhanced credibility and certainty, based on the value of their intellectual properties. The METI operates a portal site to provide financial institutions and small-medium enterprises with wide-

ranging information on intellectual asset-based management. The portal site includes different guidelines and manuals the Japanese Government has produced on this subject, as well as reports on relevant seminars. This one-stop service also raises awareness on intellectual asset-based management.

329. As an example, the METI holds an "Intellectual Asset - Based Management Week" every year. This initiative is recognized as a valuable opportunity to share best practices and to develop cooperative relations among stakeholders from industry, academy and government.

330. Finally, this delegation would like to touch upon one case demonstrating the important role of intellectual property in financing innovation. A Japanese metal fabrication company, SEKI Press, developed a new technology called "Warisaki" in 2011. The technology allowed complex and three dimensional-shaped metal products to be manufactured with higher productivity at lower costs. In this field, technologies were generally protected as know-how rather than as patents. However, since the company was convinced that the new technology could be a key to their global business development, they obtained patents for the technology worldwide.

331. With regard to this case, this delegation would like to bring one thing to your attention. The Company, SEKI Press, took part in a competition called "business award 2012", organized by a local financial institution in order for local companies to obtain financing to further develop their technologies and expand their businesses overseas, the objective of which was to encourage local companies to develop new industries and to vitalize the local economy by creating an innovative business plan. And the company won the highest award in this competition, because the local financial institution gave high recognition not only to SEKI Press' original technology itself but also to the fact that the technology was protected by patents globally. The local financial institution group said that it would support commercialization of this new technology.

332. In summary, Japan, which attaches great importance to the use of intellectual property in financing innovation, is undertaking a number of initiatives to further advance such financing targeted for innovation through the use of intellectual property. Japan continues to develop new initiatives in the hope that they can contribute to further promoting innovation and economic growth. We would welcome other Members' insightful comments on this issue.

10.11 Brazil

333. We would like to thank the delegations of US, Switzerland, EU and Singapore for proposing this discussion item "IP and financing of innovation". Brazil welcomes the discussion. This theme is clearly described in the objectives of TRIPS. In article 7, objectives, the legal text states that the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation. The rationale behind this objective is that intellectual property is capable of fostering investment through the legal certainty provided by the IP protection.

334. Beyond this, it is important to recall that the mere existence of IP rights, by itself, is not sufficient to promote technological innovation. As it was mentioned in one of the presentations in a parallel event held today, "IP is only one part in a package" when we discuss financing innovation. In fact, deficient financing for innovation, based only in IP rights, can also generate anticompetitive practices or deprive research areas from necessary and sometimes essential resources. Research on basic science and on pharmaceuticals for the treatment of neglected diseases are examples of intangibles that cannot be satisfactorily financed through the monopolies provided by the IP system.

335. In a nutshell, Brazil understands that all elements related to an optimal innovation system should be taken into account when building a balanced national innovation system. In the same way as Bangladesh, Brazil does not favor interpretations that suggest that "one size fits all" approaches can be applied to national innovation systems.

336. As a last remark, we would only like to recall a point that we have made in previous TRIPS Council sessions when discussing IP and Innovation: An IP system that provides good quality patents is an important element to foster innovation, since it can provide the guarantee to entrepreneurs and their financiers that innovative businesses would not be a target of frivolous litigation based on low quality patents.

10.12 Pakistan

337. Pakistan wishes to join others in thanking the co-sponsors of the side event on the Role of IP in Financing Innovation, indeed an innovative tool for knowledge creation and management. It was useful, yet we wish to have a closer look at what we heard today. At the same time due diligence with respect to market failure owing to information asymmetry and moral hazard issues ought to be addressed, especially when it comes to IP along with the unknown externalities because we do not exactly know at this point in time. Although financing innovation and technological developments are crucial and we deem them to be critical, it raises several cross-cutting legal and public health issues as well. It raises a lot of important things and elements which are difficult to address at the moment. I wish in the room we had one personality by the name of Ben Bernanke that we remember still today.

10.13 Canada

338. Canada is pleased to take the floor to offer food for thought on the role of IP and financing innovation and we wish to thank the co-sponsors for having proposed a discussion of these important issues. Canada believes that these issues are as much about awareness of and accessibility to IP rights by entrepreneurs and small business that may not necessarily realize that they are creators and innovators and that their creations and innovations hold value, as they are about the importance of those rights themselves. In a way the innovation ecosystem has at its core a sort of positive feedback loop, that is, innovation can lead to the acquisition of IP rights, the acquisition of IP rights can lead to new sources of funding through both the sale of products or services and the credit opportunities that both the new IP realized value and the related income create and funding allows investment in further innovation, promoting growth and so on. While this is admittedly a very simplified outline, Canada believes this process can apply to and benefit businesses of all sizes, including micro, small and medium-sized enterprises. It can help launch small business and enhance the competitiveness of existing ones.

339. But particularly for enterprises at the smaller end of that scale, this feedback loop can only really be positive in Canada's view if three key ingredients are present. Foremost is access to IP rights through the provision by governments of easily-accessible affordable, effective and small business friendly IP services. IP rights nurture and support creative and innovative entrepreneurs by providing them with the certainty that they will be able to protect and monetize their investments, enhance value, create jobs and opportunities, attract investment and grow.

340. Second is a general awareness of IP itself and of its benefits and value, including an appreciation of the monetary and non-monetary value of the intangible assets imbedded in creative and innovative products and services. Third is access to credit and finance, including at the smallest scale such as micro finance. Here awareness of the value of IP by lending institutions and investors of all sizes can be instrumental in getting even the smallest innovative business off the ground and is necessary for leveraging IP assets for financing and growth and ultimately attract inward foreign investment, further expanding the loop.

341. Of course, these are complex issues that are the subject of intensive and widespread research. Canada is certainly not pretending to hold any answers, but we thought that we could offer a few thoughts for discussions and further reflection.

10.14 European Union

342. Apologies for taking the floor a second time, I would like to say how much we have appreciated this discussion today, and we note that other Members of the TRIPS Council are also recognizing the importance of intellectual property for financing innovation. Because we have a close relation with one of these Members in the area of research and technological development and also because in the European Union we have a new competence in the area of investment, I would like to call attention to an important and interesting document called Investment Opportunities in India- Make in India. The "Make in India" strategy aims to create a conducive environment for the protection of intellectual property rights of innovators and creators by bringing about changes at legislative and policy level. The plan highlights the importance of IP in many sectors. It notes one of the main reasons to invest in Biotechnology is that India adopted the product patent regime in 2005.

343. On space it notes the Indian Space Research Organization has forged a strong relationship with a large number of industrial enterprises to implement its space projects and that it licensed a number of technologies for commercialisation. The Make in India strategy notes that Semiconductor Wafer Fabrication (FAB) manufacturing facilities are being set up in India with a total investment of US\$10.5 billion. This is only possible with solid IPR rules and enforcement, as the World Semiconductor Council, the body of the world's leading semiconductor industry associations noted at its May 2015 meeting in China. Effective protection of intellectual property is crucial to protect semiconductor investments and promote further innovation.

The plan highlights the Indian film industry is expected to reach US\$3.5 billion by 2018, up from US\$2 billion in 2013 with an increasing number of digital screens and 3D films. The music industry is expected to grow to US\$284 million by 2018 whereby Mobile Internet and the arrival of 3G is likely to lead to a surge in paid digital downloads. All this would not have been possible without good copyright rules and enforcement.

10.15 Australia

344. Australia thanks the cosponsors for bringing this item to the agenda. The Australian Government is taking an active interest in the role that intellectual property can play in securing finance for businesses seeking to develop, commercialise and market their innovations.

345. It is well recognised that access to finance can be made more challenging when the main asset of a business is an intangible asset, such as an intellectual property right.

346. Traditional models of lending and debt finance are not always suited to such businesses. This is because of the difficulties in valuing, securing and liquidating such assets and in understanding the risks involved in successfully commercialising innovating intellectual property. Australia, therefore, welcomes the contributions from WTO Members today, which will enrich consideration of policy options in this area.

347. We have been interested to hear about case studies and initiatives that have assisted innovative businesses secure finance on the basis of the value held in their intellectual property rights.