Windsor Place Consulting

Over the top and disruptive: Market Power, Regulation and the App Economy

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Windsor Place Consulting

Principal Company Office
Level 2, 214 Albert Street
East Melbourne VIC 3002
AUSTRALIA
P: +61 3 9419 8166
W: www.windsor-place.com

Scott W Minehane
Managing Director
scott.minehane@windsor-place.com

Introductory remarks

- It gives me great pleasure to present to you on the occasion of the 20th anniversary of the establishment of the National Communications Authority (NCA), Ghana. I am honoured to be here and having been asked to present.

- The NCA anniversary is an important milestone which ought be celebrated. The NCA's strong presence and growing success reflect and highlights the economic growth and political development of Ghana in the past 20 years and the importance of the country in West Africa.

- ICT in a broadband world is not only an economically critical but is important socially and culturally. The NCA is therefore a critical element of the nation's soft infrastructure and polity.

Starting point

- 2006: the biggest publicly traded company in the world by market capitalisation was Exxon Mobile. Microsoft, at number three was the only technology company in the global top 10.
- 2007: Apple releases the first iPhone, thereby launching the app economy
- 2016: Apple was the biggest company in the world and Google (now Alphabet), Microsoft, Facebook and Amazon trade positions in the top 10 quarter-by-quarter.
- This is ten years of dramatic industrial change. Economic transformation of this speed and scale a rare indeed.

App economy: definition

- The app economy, over the top services, the collaborative economy and the sharing economy are all new names for a set of phenomena that represent a new episode of growth of the global ICT industry.

- This growth is based on the rapidly approaching ubiquity of handheld computing devices, increasing wireless bandwidth, the maturation of cloud computing services and the ongoing development of mobile operating systems and their associated apps.

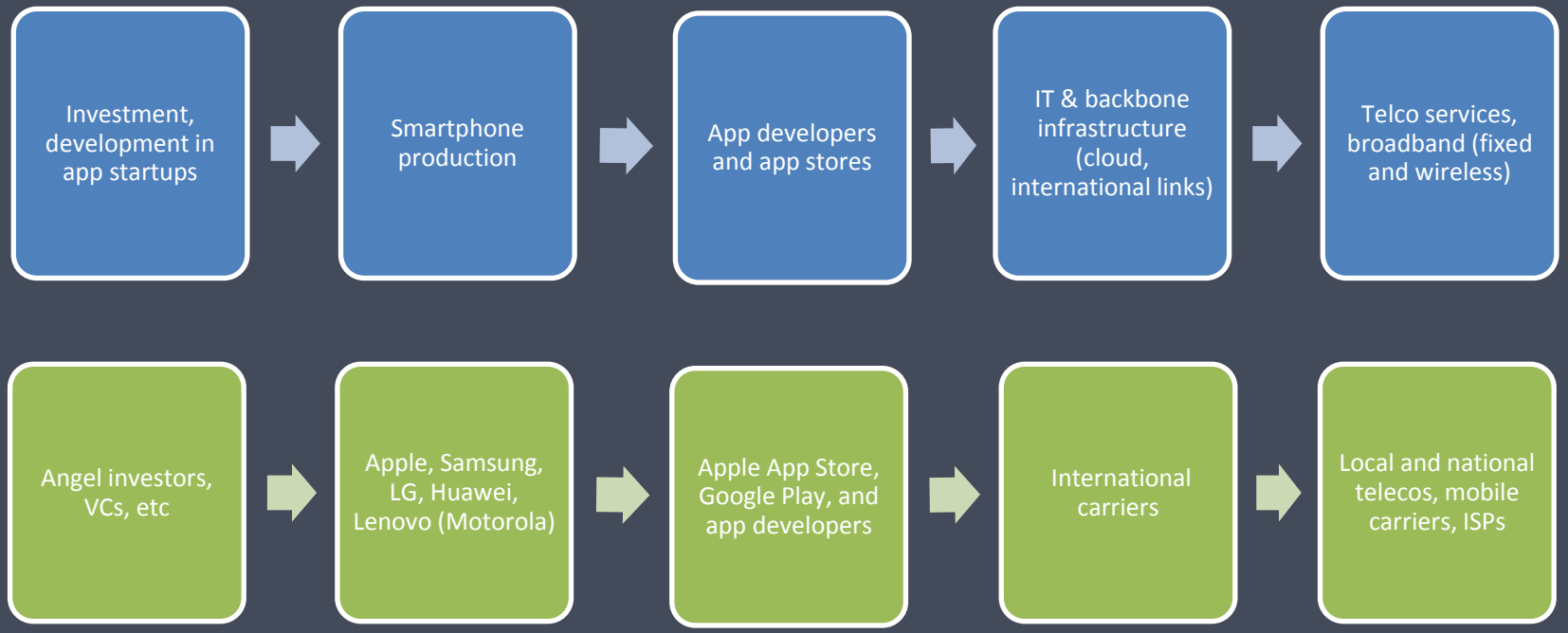
- *For the purposes of our paper, the app economy is defined as the sum of all economic activity, products and services, required to deliver app functionality to end users via mobile broadband services.*

Agenda - Today's presentation

- What is the App economy?
- How do we measure the App economy?
- What are the key questions concerning the regulation of the app economy?

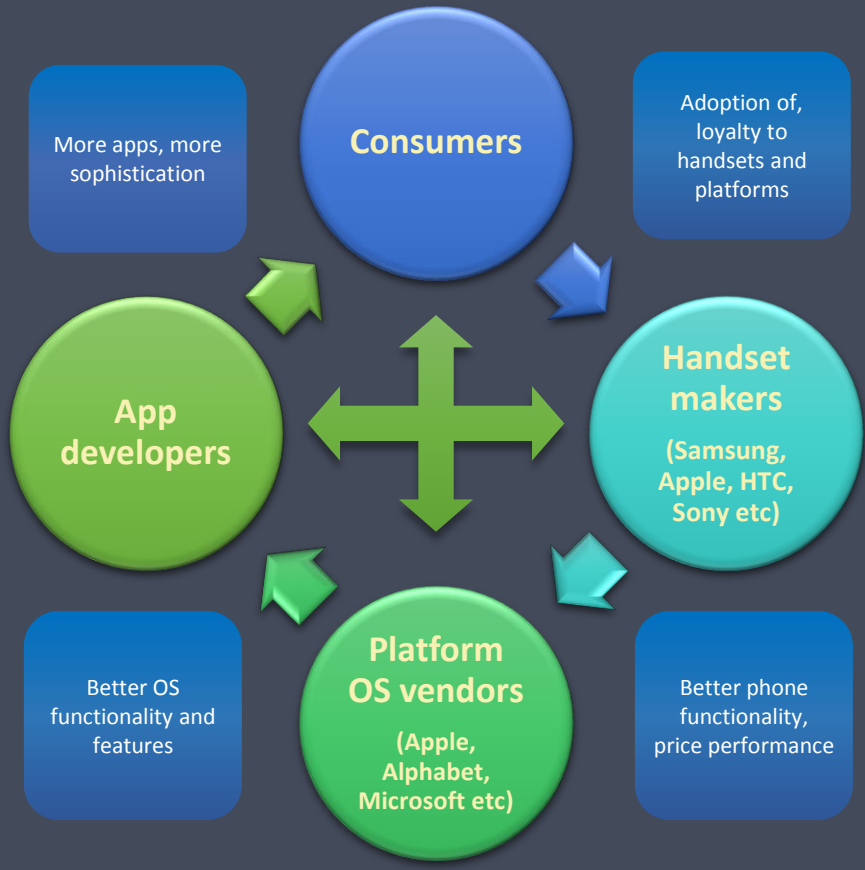
What is the App economy?
The app economy value chain

- The app economy is all the products and services required to deliver app functionality to end users via mobile broadband services.
- The app economy value chain include investors, handset producers, platform developers and communications service prpviders.



What is the App economy? The app economy ecosystem

- The app economy ecosystem is an interacting set of handset makers, platform owners, app developers and consumers in a highly competitive and dynamic technological environment
- It is characterised by interacting sets of network effects:
  - More consumers per platform, the more profitable will be app development for that platform
  - More apps and better apps will attract more consumers
  - Handset manufacturers achieving greater scale will lower unit costs, fine tune production value chains, enabling more competitive handset market
  - Better handsets mean more consumers and so on...



What is the App economy?
A global growth and productivity phenomenon

- The app economy is best understood as a new subsector of the ICT industry.
- Until recently, this revolution has been a developed world phenomenon, but now it is well established in the developing world
- This new industry segment is itself a potentially important source of economic and social development as it creates new companies and new jobs. But potentially even more importantly in emerging economies, the widespread availability of smart devices will enable greater levels of access to a wide range of services and information that would otherwise be unachievable.
- This access to services and information will create new markets and new economic opportunities and this can be expected to significantly accelerate economic development in these countries.
- The app economy will also drive ongoing productivity gains across all industries.

What is the App economy? The race for scale (1)

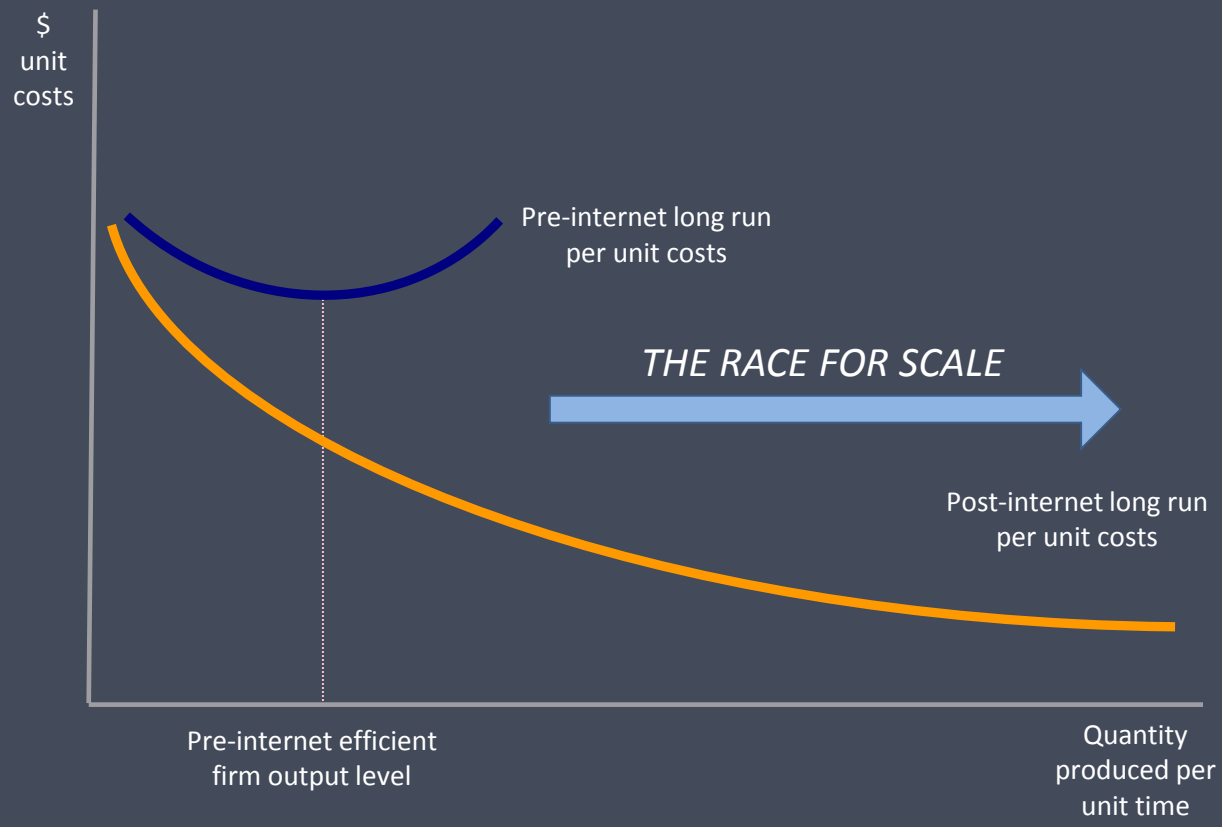
- App companies are building software and hardware systems that span nations or even the globe. As each app company acquires a new user, its costs per unit fall and its competitive position improves.

- App markets are also driven by network effects. Network effects mean that app systems become more valuable to every user when the total number of users increases – one of Facebook's greatest attraction to new users is that it has the greatest number of users.

- App systems such as Uber and Airbnb are more attractive to users the greater the number of drivers or rooms available, and more users attract more drivers and rooms.

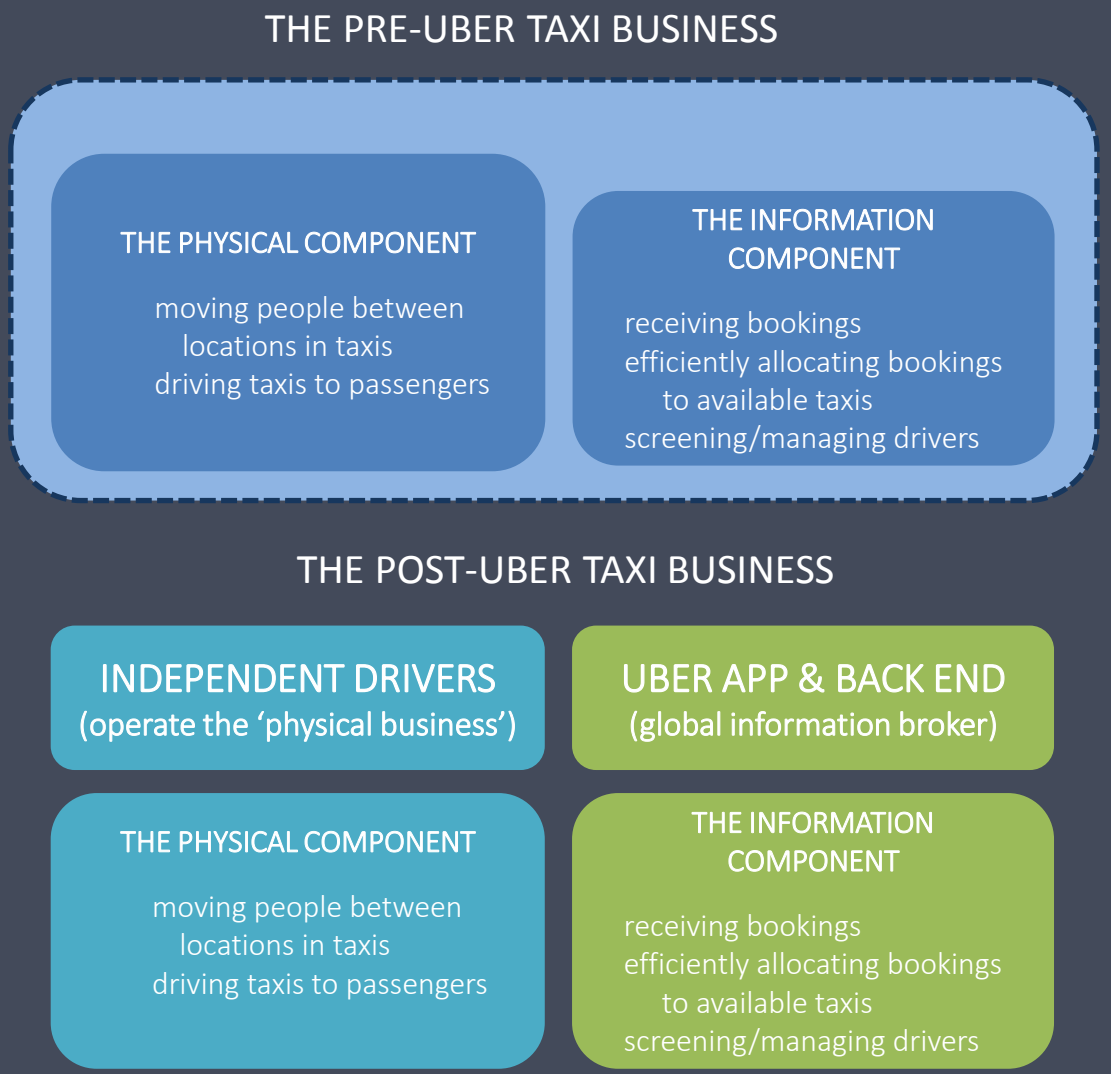
What is the App economy? The race for scale (2)

- App companies are in a ‘race for scale’ which has led (or has to the potential to lead) to a series of monopolies or near monopolies occupying various market niches. Critically, it is not only economies on the production side that drive the race for scale.
- This is a ‘virtuous circle’ that drives the growth of the biggest players.
- App economy platforms often exist in regulatory grey areas, operating outside the scope of the specific regulations that apply to their industry also making them more competitive.



What is the App economy? App disruption

- Many businesses can be thought of as being made up of two compoents:
  - an information component – 'bits'
  - a physical component – 'atoms'
- The taxi business is made up of these components:
  - 'bits' – phone calls, orders, dispatch, work rosters etc
  - 'atoms' – maintenance and operation of cars
- Uber provides 'information infrastructure' and outsources the physical component of the business.
- This is highly disruptive of traditional taxi company business models.



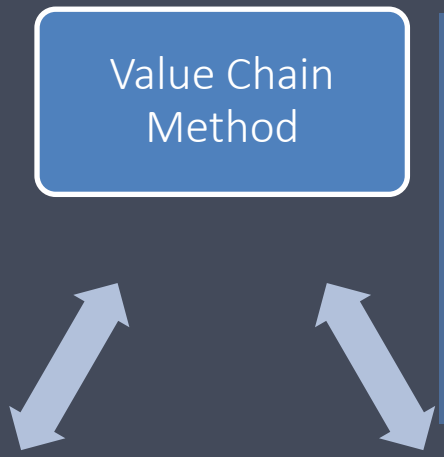
How do we measure the App economy?

- How big is the app economy? It's difficult to measure because it is intertwined with many other sectors.

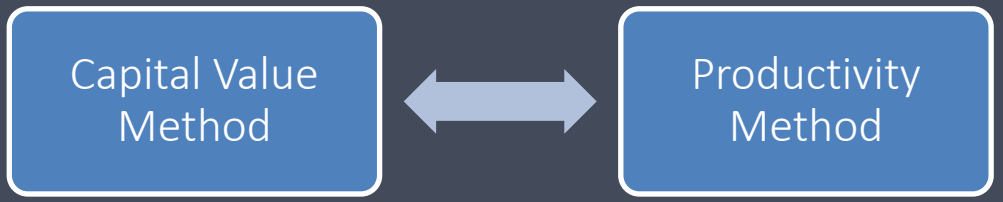
- The traditional measure of economic benefit or increases in 'social welfare' is 'value added' . The problem for measuring the app economy is that it is part a 'barter economy' – app companies offer services and functionality in return for personal information and attention. This means that valuation cannot be based on observable market prices. This does not mean value is not being created – just that it is more difficult to observe and measure.

- What approaches might help in estimating the size of the app economy:
  - **Value Chain and Consumer Surplus Method**: what is the size of the net consumer benefit from the goods and services associated with the app economy?
  - **Capital Value Method**: what is the total value of investment in the app economy and what is a reasonable estimate of the return on that investment?
  - **Productivity Method**: what is the value of increases in productivity across all industries of app economy services?

How do we measure the App economy?



The value chain method is aimed at measuring the size of a sector – e.g., how many people does it directly and indirectly employ, what incomes are generated? This is a very standard approach to measuring the contribution of a sector. It would also include an estimate of the level of value created for consumers over and above direct revenue generated also called 'consumer surplus'.



The capital value method measures the value of equity – which in turn is dependent on investors perspective of the future profit streams that the sector may generate.

The productivity method measures how the output of the app economy will influence economic activity in other areas and facilitate new industries and activities.

Regulating the App economy (1)

- For the digital economy to thrive, an inclusive dialogue is needed to discuss and define appropriate legal and regulatory provisions, and at the same time there is the recognition that the applicable body of law must not hamper the spread of innovation and progress within the digital economy.

- Regulators and policy makers must ensure consumer security, product quality and other protections in transactions, while at the same time avoiding over-regulating new collaborative business models.

- While initially it may seem that the sharing economy promotes competition against legacy providers, there is a danger, as these businesses grow, that they may be tempted to exercise their own expanding market power. Competition regulators will need to be watchful that the digital economies of scale and scope are not exploited contrary to law.

- ***Thus, central to the discussion of the growth and regulation of the sharing economy is the question of how to balance regulations for established businesses and new, innovative businesses.***

- Governments should not impose legacy regulations on new business models simply because they happen to fall outside of existing regulatory schemes. Nor should regulators give into claims by existing incumbents that merely seek to protect their own market position or the primacy of their businesses.

Regulating the App economy (2)

- The approach taken by different regulators globally to OTTs has varied thus far. However, the establishment of a 'two-track' regulatory regime for legacy telecommunication players and OTT providers in the ICT sector is also neither sustainable nor optimal.

- ***Established business models should not be punished for complying with regulations, nor should new businesses be punished for innovating.***

- Harmonizing regulations between new and old businesses is desirable and arguably necessary as all industry sectors are transformed.

- Harmonizing regulations between new and old industries should be able to preserve consumer protections without hindering innovation. The challenge is to adopt more collaborative regulatory measures where the applicable regulation on all market players is converged, coherent, promotes competition and provides incentives to invest and be innovative.

Regulating the App economy (3)

- Globally, a range of organisations are ***arguing the case for less rather than more regulation for the sharing economy. Where is the market failure we need to address?***

- Alternative approaches, which may have merit depending on the market and services concerned, are:

1. **Temporary Licensing**

- Apply temporary rules/grant licenses for a limited period in order to permit greater study.

2. **Transition Arrangements**

- Apply temporary rules/grant licenses for a limited period in order to permit greater study.

3. **Deemed class licensing**

- Another alternative approach which has been used in Singapore and has been debated in Malaysia and Indonesia is to use deemed class licensing for say web content such that services while not being located in the jurisdiction may be subject to a country's classification regime (eg with respect to nudity, violence etc.).

Regulating the App economy (4)

RECOMMENDATIONS (1)

- **Undertake a review of the regulations applicable to network operators and OTT players:** Assess whether such regulations are appropriate, whether forbearance should be applied to network operators, whether additional rules should apply to OTT providers and map how regulation of market participants – especially for substitute/competing services - should converge over time.
- **Update the licence conditions and as required provide deeming provisions for non-resident OTT providers etc.**
- **Assess and continually monitor the state of competition in the market.** It is critical to assess and critically monitor the state of competition in ICT markets. Ensure there are no gaps in regulation between telecommunications regulators and general competition regulators including where services are offered from outside the jurisdiction. Promote competition whilst recognising that ICT services markets are no longer national and that there is a range of competing services which are domiciled domestically.
- **Collaborate with tax authorities:** Ensure that there is, to the extent possible a level playing field for competing services. Such analysis should include the applicable income and value added taxes applicable to competing services.
- **Promote and facilitate ubiquitous broadband (especially wireless broadband).**

Regulating the App economy (5)

RECOMMENDATIONS (2)

- **Ensure adequate and up to date data protection, privacy and cyber security legislation based on global exemplars:** The scope of such legislation should be wide and include legacy and new systems including the Internet of Things ('IoT'). It is also critical to enact digital identification ('digital ID) legislation.

- **Establish co-ordination procedures between regulators:** Establish co-ordination procedures between communications sector regulators and regulators of broadcasting/content (if separate), competition, financial services and privacy/data protection to ensure consistent regulation and comprehensive inter-working arrangements.

- **Engage in greater public awareness and advocacy campaigns in relation to digital/ICT services:** It is important that the public including all sections and age groups in society are well-informed as to their digital rights and responsibilities.

- **Regulators must engage more broadly with education and training sector:** Ministries, universities, tertiary institutions, schools and other places of learning to ensure that curriculum and syllabus reflect the app economy and the move to a digital society.

Concluding remarks (1)

- As part of this process of regulatory revision it will be **necessary to consider explicitly and carefully the original motivations for traditional regulatory intervention** and the ways in which new technologies can potentially provide new mechanisms to address these original motivations.
- It is **unlikely that any policy maker or regulator will get app/sharing economy regulation right on the first try.** The relevant markets are still evolving rapidly and the regulatory targets are moving.
- **Alternative approaches that may have merit** depending on the market and services concerned include temporary licensing or putting in place transition arrangements where legacy industry players are compensated for changes.
- Consequently, **regulating OTT services as incumbent operators is not viable; nor is the continuation of current regulation on operators possible without change**. The challenge is to adopt more collaborative regulatory measures where the regulation applying to market players is converged, coherent, promotes competition and provides incentives to invest and be innovative.

Concluding remarks (2)

- A conservative approach **adopting only as much regulation as is obviously necessary** and giving markets the opportunity to both innovate an attempt to find solutions to meet consumer needs, would seem to have considerable merit.
- Lastly I want to return the NCA and the challenges of next 20 years. If you thought that challenges in the past were huge, the future holds much more of the same. The pace of the technology innovation continues to accelerate as does the democratisation of ICT (and mobile) communications.
- **It is important to highlight that "business of regulation" (ie what regulators like the NCA need to do) is also being disrupted** such that traditional telecoms regulation is widening to include *inter alia* privacy and data protection, financial services, taxation issues etc. At the same time **well-accepted regulatory models are changing or will need to change**. These include the growing emphasis on mobile regulation, and spectrum management, the end of circuit switched interconnection and current models of cost based interconnection, the deprecation of legacy USO mechanisms, and the rise of wearables, IOT, eSIMS etc
- I am confident that the NCA and its quality staff is up for such challenges and I wish it in well going forward!

Thank you

I am happy to answer any questions

A full copy of the ITU paper can be found @

http://www.itu.int/en/ITU-D/Conferences/GSR/Documents/ITU_AppEconomy_GSR16.pdf

Should OTT players be regulated? Regulatory imbalances between traditional and OTT operators (1)

	Areas of Regulation	Network Operators	OTT Players
1.	**Applicable laws**	Domestic law or in Europe EU regulations	Home jurisdiction maybe; many gaps in applicable laws
2.	**Taxes**	Local and domestic taxes	Located in low cost locations and tax havens
3.	**Licensing**	Must be granted or acquire licence from national Governments	Mostly exempt
4.	**Operating Area**	Only serve customers within the jurisdiction	Serve any user globally
5.	**Infrastructure/ Network**	Investing in new technology networks to deliver services to end users	No investments in networks that reach end users while telcos must deliver competitors services
6.	**Competition**	Strict rules applying including ex ante & per se rules, M&A restrictions	Mostly exempt except M&A if OTT subject to domestic competition law
7.	**Fees**	Customers' charges contribute to the costs of network provisioning	• Services offered without any relationship to the underlying costs; two sided markets
8.	**Quality of Service**	License requirements include SLAs and/or mandatory QoS standards	• No QoS guarantee • QoS issues blamed on network provider
9.	**Interconnection**	• Required as part of regulatory regime Additional costs	OTTs have no interconnection requirements for calling or messaging

Should OTT players be regulated? Regulatory imbalances between traditional and OTT operators (2)

	Areas of Regulation	Network Operators	OTT Players
10.	**Net neutrality**	• If applicable, best effort data transport without discrimination, independent of source or nature of data. • Only typically traffic management permitted	No obligations (control over content and freedom of choice concerning customers)
11.	**Emergency services**	Mandatory provisioning as part of licence conditions	Typically no such obligations
12.	**Interception**	Strict regimes with costs borne by operator	Typically no such obligation
13.	**Retail Prices**	Regulators' approval is typically needed in advance	No need for approval and maybe free for users
14.	**Universal Service**	• Mandated • USO contributions as a percentage or network revenues	No contribution
15.	**Spectrum fees**	Required to acquire in an auction or pay market based fees for usage	No additional costs for OTT
16.	**Privacy**	Strict data protection and privacy requirements for users	Practiced on a limited and generally voluntary basis
17.	**Number Portability**	Obligation to offer number portability between providers	OTT service independent from mobile number

Source: Moktar Mnakri, Regulating "Over-The-Top", Services - Need and Efficiency, Arab Regional Forum on "Future Networks: Regulatory and Policy Aspects in Converged Networks". 19-20 May 2015 as augmented and modified by WPC